

The consequences of using advanced assessment  
skills in medical and surgical nursing:  
Keeping patients safe

Shelaine I. Zambas  
2013

A thesis submitted to Auckland University of Technology  
in partial fulfilment of the requirements for the degree of  
Doctor of Health Science

School of Health Care Practice  
Primary Supervisor: Dr Liz Smythe

## Table of Contents

<b>Attestation of Authorship .....</b>	<b>iv</b>
<b>Acknowledgements.....</b>	<b>v</b>
<b>Abstract.....</b>	<b>vii</b>
<b>Chapter 1: Introduction .....</b>	<b>1</b>
Background .....	2
Identifying pre-understandings .....	6
Overview of chapters .....	9
Summary .....	10
<b>Chapter 2: Literature Re-view.....</b>	<b>11</b>
Physical assessment skills .....	12
Skills used .....	13
Factors influencing skill use .....	14
Impact of education and training on skill use .....	15
The context of practice.....	16
Purpose influences skill selection and use .....	17
Patient outcomes research .....	19
Defining a competent nursing assessment .....	21
The doctor-nurse game and legal responsibility .....	23
Summary .....	25
<b>Chapter 3: Research methodology .....</b>	<b>26</b>
A pragmatic question .....	27
Finding the way.....	28
Hermeneutically sensitive pragmatism .....	30
The ‘text’ of practice.....	31
Practical judgements .....	32
Summary .....	32
<b>Chapter 4: Research Method .....</b>	<b>34</b>
Approval for the study .....	34
Recruiting and selecting participants .....	35
The study participants .....	38
Consent, confidentiality and anonymity .....	40
Collecting the data.....	41
The interview .....	41
Researcher considerations.....	42
Transcription and re-crafting into narratives .....	44
Working with the data.....	45
Establishing trustworthiness.....	47
Is the research an understandable and appreciable product? .....	48
Is the process of inquiry understandable? .....	49
Is the research a useful product? .....	49

Is the research approach appropriate? .....	50
Summary .....	50
<b>Chapter 5: Consequence as looking for and seeing the salient .....</b>	<b>51</b>
Looking and seeing .....	53
Habit shapes ‘looking’ .....	56
Experience shapes seeing .....	59
Concern emerges out of recognising what is seen .....	62
Towards consequences .....	67
<b>Chapter 6: Consequence as thinking differently .....</b>	<b>70</b>
Interpretation of the part .....	71
Interpretation of the whole .....	75
Contributing to diagnosis and treatment decisions .....	80
Thinking differently .....	84
Towards consequences .....	86
<b>Chapter 7: Consequence as action .....</b>	<b>88</b>
Looking and seeing initiates ‘inquiry’ .....	89
Seeing stimulates further looking .....	90
Interpretation of the part .....	91
Interpretation of the whole .....	94
Prerequisites for Inquiry .....	98
Directness .....	98
Open-mindedness .....	100
Single-mindedness .....	101
Responsibility .....	102
Summary .....	105
<b>Chapter 8: Discussion: Assessment ‘habit’ keeps patients safe .....</b>	<b>107</b>
Keeping patients safe .....	108
Interpretation is the advanced skill .....	109
Nursing role in diagnostic reasoning and patient safety .....	109
Implications for practice .....	110
Implications for education .....	112
Implications for research .....	114
Limitations .....	115
Conclusion .....	116
<b>References .....</b>	<b>118</b>
<b>Appendix 1: HDC and HPDT Case Review .....</b>	<b>130</b>
<b>Appendix 2: Regional Ethics Approval .....</b>	<b>131</b>
<b>Appendix 3: AUTEK approval .....</b>	<b>133</b>
<b>Appendix 4: Kawa Whakaruruhau Komiti Approval .....</b>	<b>134</b>
<b>Appendix 5: WDHB Maori Research Committee Approval .....</b>	<b>135</b>
<b>Appendix 6: Participant Information Sheet .....</b>	<b>136</b>

**Appendix 7: Consent Form ..... 138**  
**Appendix 8: Transcriber Confidentiality ..... 139**  
**Appendix 9: Sample re-crafted narrative ..... 140**

## Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.



Shelaine Zambas

10/03/14

Date

## Acknowledgements

A thesis cannot be completed without the support of others; it is never a solo journey. I wish to acknowledge the support I have received in completing this journey, and in so doing, thank those individuals and organisations who have assisted me in making this goal a reality.

I would like to thank the nurse participants who gave their time in order to share stories of practice with me. Your passion for your patients, and wanting to do good for them, shone through in the stories you told. You affirmed the need for this study and showcased the significant role nurses can play in keeping patients safe. This study would not have been possible without you. Thank you.

I would also like to thank the many nurses, students and colleagues, who have shared their understanding and experience of advanced assessment practice with me. You were not afraid to question and challenge. You set me on the way to my own questioning as I considered the role of advanced assessment skill in improving outcomes for patients. Your questioning made me question my own assumptions, and for that I am grateful.

I wish to express a heartfelt thank you to my supervisors, Dr Liz Smythe and Dr Jane Koziol-McLain, for sharing this journey with me. Jane, you were with me from the beginning; always thoughtful, questioning, and encouraging. You taught me the value of doing a good job. Liz, you helped me find the way and kept me on the path even when the journey felt most uncertain. You have walked alongside me, letting this thesis come in its own time and in its own way. I feel immensely privileged to have had such wise nurse scholars as my supervisors. Thank you.

This research has been supported by a number of other organisations and individuals. AUT University has made this thesis possible through the provision of supervision, conference attendance and writing retreats, payment of tuition fees and a Vice-Chancellor Doctoral Completion Scholarship. I also received the support of the Waitemata District Health Board in providing access to key individuals for the recruitment of some of the nurse participants. Thank you for your generosity in enabling this research.

The support and encouragement from colleagues and friends has sustained me throughout this journey. Your interest in the project and efforts to ease the journey with friendship, laughter, invitations, and necessary study breaks has kept me whole.

Finally, I wish to thank my family. Mom and Dad, you set the groundwork for this journey, always encouraging even from a distance. My darling husband Xen, you have truly lived this thesis with me. Your unwavering support and faith in my ability to complete this project has sustained me throughout the journey. While writing the thesis has at times felt like a long slow process, you managed to keep it from disrupting our lives too greatly, and for that I am eternally grateful. Yes, we CAN go for a ride on Sunday!

This study was approved by the Auckland University of Technology Ethics Committee (ref no: 10/165, August 2010) and the Northern Y Regional Ethics Committee of New Zealand (NTY/10/04/033).

I dedicate this thesis to the memory of my dear friend and mentor Professor Kimmy Eldridge OBE [1947-2010]. You taught me how to teach, how to connect with students, and the joy of doing good for patients through the medium of the classroom.

## Abstract

My aim in this study was to explore the consequences of advanced assessment skill use by nurses through their stories of using the skills with patients on medical and surgical wards. Appropriate, accurate and timely patient assessment by nurses is the cornerstone of maintaining patient safety and wellbeing in hospitals. In order to ensure nursing assessment meets patient needs, a wide range of physical assessment skills, including auscultation, palpation and percussion, have been included in nurses' educational preparation. The inclusion of these skills is thought to better prepare nurses for complex patient presentations within a wide range of clinical situations, however, very little is known about how, or if, use of these skills improves patient outcomes. Linking specific actions to outcomes in the health care setting is challenging. Patient outcomes are varied and influenced by a myriad of factors, and always involve a wider team than any one nurse. It is difficult to control for a single action or set of actions of a particular nurse. Furthermore, practice is seldom about any 'one' action, for one thing leads to another, all within a complex interplay of influencing factors. Health care practitioners are, however, able to tell stories of patients they cared for, what they did and how they believe their individual actions influenced care, treatment decisions and ultimately patient outcomes.

The hermeneutic tradition of Gadamer and the pragmatic tradition of Dewey provide the philosophical underpinnings for the study. Both philosophers emphasize action as a way of interpreting experience. A pragmatic hermeneutic study allows for recognition of the experience of consequences of an individual's actions by interpreting stories of practice. This methodological approach allowed the complex interplay of influences to be revealed in the unfolding story. Experienced medical and surgical nurses who are considered expert at assessment were asked to tell stories of practice in which they believed their assessment made a difference to the outcome for a patient. Twelve interviews were conducted with 5 nurses from paediatric and adult medical and surgical wards in a large urban city in New Zealand. Multiple interviews were used to obtain a variety of stories, and to capture the insights gained from reflection on practice. The stories were analyzed to identify the consequences as reflected in and through the nurses' actions and perceived outcomes for patients.

The stories of actual practice reveal that consequences are strongly integrated with the character and disposition of the nurse and together lead to tangible

consequences for patients. The use of advanced assessment skills sets up 'habits' within the nurse which direct what she looks for, what she sees, and how she responds.

Advanced assessment skills enable the nurse to not only recognise problems, but also to identify what needs to be done, do what she has the authority to do, or work to ensure those who do have authority respond appropriately. Advanced assessment habit is a predisposition to certain ways of thinking and acting which keeps patients safe.

## Chapter 1: Introduction

That physical assessment is good for nursing is the overwhelming impression gained from textbooks and the literature on nursing assessment (Coombs & Morse, 2002; Giddens, 2006). Indeed, physical assessment is considered an essential skill for all nurses (Jarvis, 2004; Weber & Kelley, 2007), with a wide range of skills being taught as basic preparation for nursing practice (Secrest, Norwood, & duMont, 2005). In an effort to prepare nurses for the future, the focus over the past few decades has been on teaching advanced physical assessment skills in the belief that nurses will then be more ably equipped to respond to the increased demands of sicker patients receiving complex technological treatments in rapidly changing health care systems. But several authors have begun to question the wide range of physical assessment skills taught (Fennessey & Wittmann-Price, 2011; Giddens, 2007). Little is known about the value or impact of these skills on the outcome of nursing care in the everyday practice of the acute medical and surgical ward. The purpose of this study is to explore the consequences for the patient when the nurse uses advanced physical assessment skills in these settings. The specific question that I pose is, ‘What are the consequences of nurses using advanced physical assessment skills with patients within acute medical and surgical settings?’

The hermeneutic tradition of Gadamer [1900-2002] and the pragmatic tradition of Dewey [1859-1952] provide the philosophical underpinnings for this study into the consequences of using advanced physical assessment skills. Both philosophers emphasized action as a way of interpreting experience. Gadamer’s philosophical hermeneutics (1975/1989) focused on the role of experience in shaping understanding and how that in turn informs action. Dewey’s focus was on the consequences of an individual’s understanding as demonstrated by their actions (1916/2010, 1922/2007). Both Gadamer and Dewey believed that most action conducted in order to achieve goals drew on the person’s background understanding and on their personal experience (Polkinghorne, 2000). Gadamer and Dewey treated science as a form of human culture in which background, theory and praxis work together in succession in order to inform action (Heelan & Schulkin, 1998). Hermeneutics directed the method of this research, which was to explore the understanding that comes from the nurse’s experience of using the skills. Pragmatism was used to maintain the focus of the research on the consequences of using the skills.

## Background

I teach advanced assessment skills to beginning and experienced registered nurses as part of a postgraduate qualification at a New Zealand university. When I began teaching assessment skills to student nurses in the undergraduate programme, I believed that the skills needed for an advanced assessment should be included in all nurses' training and practice. When I moved on to teach advanced assessment skills to registered nurses within the postgraduate programme however, I found I was often asked to justify their use. These nurses, some quite experienced, questioned the relevance of 'advanced' physical assessment skills to their nursing assessment and management of patients. At times I felt I had to sell the benefits of using advanced assessment skills to the nurses I was teaching. There was general agreement that use of advanced assessment skills was essential in settings where nurses worked autonomously and were required to make medical diagnoses or prescribe treatment, but not all the nurses I taught worked in these settings. They recognised that physical assessment was important, but many of the new skills they were learning seemed to them to be more appropriate for medical diagnoses than nursing care and management. A majority of these nurses worked in settings such as acute medical and surgical wards, clinical areas where a medical diagnosis had usually already been made. In addition, within these settings advanced assessment skills were not an expected role of the nurse, at least not overtly. Students voiced other concerns as well, such as the skills being repeated by a doctor in order to make a diagnostic or treatment decision after the nurse had performed them. In the busy hospital setting where nurses are already time pressured, the use of advanced skills which would need to be repeated by the doctor seemed a waste of the nurse's time and an unnecessary repetition for patients. It was also seen as taking valuable time away from other patient care. I was forced to consider how advanced assessment skills contributed to the practice of nurses working in these settings.

My interest in the topic of advanced assessment triggered informal discussions with experienced acute care nurses and managers who also questioned the benefits to patient care. I recall a conversation with a nurse manager who could not see a difference in ward practice or patient outcomes as a result of sending the nurses from her ward off to learn advanced physical assessment skills. What was going on here? If the use of advanced assessment skills was as beneficial to nursing practice and patient outcomes as I believed, then surely other nurses should be able to see this. More importantly, their practice would reflect this. Another nurse manager complained about a nurse who was always sending her patients to ICU. The manager thought the problem was with the

nurse; that she could not manage her patients. I knew the nurse and the level of assessment skill she had through her work as a preceptor for undergraduate students assigned to me. I believed that the reason her patients were transferred to ICU was not because she could not cope, but because she was able to recognise when they had deteriorated sufficiently to need transfer. Her assessment skills resulted in early action which I interpreted quite differently from her senior manager. When I shared my interpretation of the situation, the manager acknowledged that he had not considered this possibility. Despite the requirement for nurses to assess well, there seemed to be little understanding of how this might affect subsequent actions.

I reflected on my own practice. As a Canadian baccalaureate trained nurse, I had learned the skills necessary for an advanced assessment early in my undergraduate degree, and had used a majority of the skills I now taught in various contexts in my practice as a nurse. They had become an integral part of my nursing practice, although I had a sense that I had used them less in the acute hospital setting than in a semi-autonomous practice in northern (remote) Canada. As I contemplated this apparent lack of recognition of the value of advanced assessment skills within acute care settings, I realised that I had never looked critically at the role of advanced physical assessment skills in hospital nursing practice, or more significantly, at how they benefited patients in the acute hospital setting where doctors were generally available.

As I began to question the role that advanced assessment by nurses played in improving patient outcomes, I found little published research on the topic. The majority of research around advanced physical assessment skills seemed to be based on the assumption that advanced assessments were beneficial for patients. Early research into the use of advanced physical assessment skills within nursing focused on how best to teach the skills and identifying barriers to their use (Barbarito, Carney, & Lynch, 1997; Brown, Brown, & Bayer, 1987). More recent research had identified the limited number of physical assessment skills being used in practice compared to the many that were being taught (Giddens, 2007; Secrest, et al., 2005). It appeared that nurses were using a small subset of assessment skills, particularly those related to identifying cardio-respiratory status, suggesting these were the skills considered by nurses to be most beneficial to patient outcomes. The lack of inclusion of a wider repertoire of skills into a nurse's practice despite having learned them made me wonder if these nurses knew something about the skills which were relevant to their practice and led to improved outcomes. That is, that their own experience of practice demonstrated to them which skills were beneficial.

When a practice is not what we expect or anticipate, we often look to the reasons why from a negative stance. We ask ourselves why nurses are not using these skills, rather than questioning the original assumptions or theories themselves. Thus, researchers and academics focus on the barriers which are impeding practice, such as inadequate training, lack of confidence and support, deficiencies in ward culture, and systems failures. I saw this same tendency in myself and in my academic colleagues. Discussions with non-nurses helped me to begin to consider the problem from a more appreciative stance; that nurses in practice might actually know what real difference these skills make to patients and as a consequence make choices as to which skills to use and when.

According to Polkinghorne practitioners of care such as nurses “act and then react upon observing responses to their actions” (2004, p. 119). They learn which choices are more likely to work by trial and error. Previous successes and failures influence this process. This lens suggests that when nurses work with patients, they use skills learned, past experiences and their understanding of the context to determine what is best in a particular situation for a particular person. Nurses will have learned through their experience of using the skills which ones are most likely to make a difference to their patients. Understanding the integration of advanced physical assessment skills (or lack of them) into a nurse’s practice as a logical response to their experience of the benefits for patients was enlightening.

Doane and Varcoe (2005) argue that theory is already practice; that theory is developed out of our practice, and reinforced by practice. Practice influences beliefs in the same way that it influences theory. As practice shapes beliefs, those beliefs will then influence our tendency to continue to act. The practice of using advanced assessment skills in acute care settings is not a matter of following a pre-arranged script or set of procedures. It is a thoughtful, purposeful response to an often complex patient situation. The wise nurse is one who conducts specific assessments when cues are noticed that require further exploration. Doane and Varcoe would support that we can learn from the wise nurse who conducts these purposeful assessments within specific practice contexts.

Acute care nurses are frequently described as the eyes and ears of the hospital, with their assessments considered critical to patient care and safety (Health and Disability Commissioner, 2009; Jacobs, Apatov, & Gleib, 2007; Meyer & Lavin, 2005). They are expected to notice and recognise change and deterioration, to monitor treatment response and to summon the appropriate resources necessary for optimal patient care. Yet little is known about how specific skills, in particular the advanced

assessment skills of inspection, auscultation, palpation and percussion contribute to enhancing patient outcomes in the context of medical and surgical nursing. If educators are to prepare nurses appropriately for their role in contributing to improved patient outcomes, then a clear understanding of the consequences of using specific skills is necessary.

The care patients in hospital receive is the result of a multidisciplinary team. Assessments by a variety of practitioners will often come together at any one time to result in direct actions on behalf of the patient. Separating out assessment information gained by the nurse from that of other practitioners is a challenging task. While it might seem appropriate to ask patients what the benefits have been for them following a nurse's assessment, the patient may not have been cared for by a nurse using these skills. In addition, patients may not have recognised when or whether the nurse was using advanced assessment skills, or been aware of which specific practitioner's assessment and actions (consequence of the assessment) influenced their care, management and outcome. Nurses, however, would be able to describe the assessments they conduct on individual patients, their immediate actions and the consequences of those actions from their perspective.

Nurses are defined as health care practitioners registered to practice as a registered nurse in New Zealand (Nursing Council of New Zealand [NCNZ], 2012b), and for this study are currently practicing within the acute care settings of general medicine and surgery. The medical and surgical practice settings were chosen as they are thought to most closely reflect the everyday enactment of nursing practice within acute care hospitals. Medical and surgical nurses make up roughly 22 per cent of the total New Zealand nursing workforce (NCNZ, 2012a), and provide a significant portion of care received by hospitalised patients. This study excludes nurses practicing in advanced roles such as nurse specialists and nurse practitioners. While nurses working in advanced roles and using these skills routinely with patients might provide useful insights, their wider scope of practice enables them to act on their assessment findings with more autonomy than is normally ascribed to the ward level registered nurse working alongside a multidisciplinary team composed of both junior and senior doctors. The study also excluded nurses working in specialist clinical areas such as ICU and Emergency Care as again the scope and expectations within the role are often beyond that of the nurse working on a general medical or surgical ward.

The skills of inspection, auscultation, palpation and percussion are thought essential to the skill set of nurses working in advanced roles and are therefore often

referred to as ‘advanced’ assessment skills (Davidson, Bennett, Hamera, & Raines, 2004). Other authors make no distinction between the physical assessment skills needed for advanced roles versus those needed for general nursing practice, thus the identification of these skills as advanced is ambiguous within the literature. This ambiguity is further compounded by the interchangeable use of the terms ‘health assessment’, ‘nursing assessment’, ‘clinical assessment’ and ‘patient assessment’ to describe the type of assessments conducted by nurses. For the purpose of this study, advanced assessment will include detailed physical assessments of body systems using the skills of inspection, auscultation, palpation and percussion. The role of history taking in the assessment can be assumed since it is an integral part of the patient assessment.

### **Identifying pre-understandings**

If we accept that all knowledge and understanding develop historically, then all participants, including the researcher, bring certain assumptions to the research inquiry. Hermeneutic reflection, pre-understandings, interpretation and understanding are involved in every step the researcher takes in the process of research. Even at the introductory stage, the researcher’s pre-understandings are exposed as the process of defining the research question begins. My pre-understandings were revealed early in my search to define my question when a non-nurse commented on my use of the term *should* in relation to the role of advanced assessment skills in nursing practice. When the researcher is engaging with the phenomenon of concern she or he must be prepared to engage in open and honest dialogue in order to arrive at some agreement about the whole experience (Holroyd, 2008). Awakening to my own language around the nursing assessment helped me to engage more openly in dialogue. I began to really listen to the voices around me, and to pay attention to the literature. There were times on this journey when I truly did not know whether using advanced skills on surgical or medical wards, where nurses had little power to act on their findings, really made a difference to patients. I found this quite unsettling, particularly as I again entered a classroom to teach the skills to a new set of nurses.

In my pre-understanding work I also reflected on my use of advanced assessment skills. I had worked in acute surgical and medical wards, postoperative recovery and emergency care in both large and medium hospitals, and in a nurse practitioner type role in northern Canada. Using the skills early in my practice was not without error. I have felt pulses where none existed. Having a surgeon suggest I must be

pregnant quickly taught me to position my hand differently and to compare the pulse I was feeling with my own pulse to not make that error again.

I also learned that proficiency in using the skills demanded attention to more than just the physical skill. I had a patient collapse on me because I paid too little attention to the history and medical diagnosis. I had been taught the elements of a full systematic assessment with a purpose of recognising change, but this proved insufficient to keep all patients safe. I was in the process of admitting a patient to the surgical ward. He had arrived via stretcher and I had obtained his history and vital signs. Because his vital signs were 'stable', I had walked him down the hallway to the scales. What I had not appreciated was the significance of his admission diagnosis of gastrointestinal bleed. He promptly collapsed on the way back to his bed space. His blood pressure was stable while lying flat but his recent blood loss caused it to drop drastically when standing. Suddenly, the patient's medical diagnosis was significant to my assessment actions and interpretation.

As I recalled stories of particular assessment experiences with patients, I began to realise that the different contexts in which I had practiced had influenced both the purpose of my assessment and the type of assessment skills I used. Two similar patient experiences, one in a small community in Northern Canada and one on a medical ward in a hospital, come to mind. Both patients had collapsed as a result of hypoglycaemia. The first patient required an assessment to identify the cause of the collapse, hypoglycaemia, but also to explore the primary cause so that it could be treated. A detailed history and physical exam revealed gastroenteritis as the cause of the patient's hypoglycaemia<sup>1</sup>. In the second patient, my assessment identified the cause of the collapse as hypoglycaemia and directed my response, which was to administer glucose. The doctor then assessed the patient to identify the primary cause of the hypoglycaemia. When I was the first point of contact in remote settlements in northern Canada my assessments were conducted for the purpose of diagnosis and illness management. I used the skills to make medical diagnoses, and to determine appropriate diagnostic tests and treatment. Advanced assessment skills were an essential part of my practice in this advanced practice role. In settings where doctors were readily available, I was no longer required to determine medical diagnosis and treatment.

Later, when working on a medical ward I recall feeling less than adequate as I compared my assessment practice to a colleague. She always seemed able to include

---

<sup>1</sup> Hypoglycaemia is a medical emergency resulting from an abnormally low blood sugar (glucose) level.

auscultation of lung and heart sounds in her initial patient round. I held her practice as the level that I strived for. While I used the skills of inspection and palpation daily in my practice, I have little recall of the frequency with which I listened to heart and lung sounds. It certainly was not daily. I began to consider the possibility that my previous experience in an advanced role had shaped my understanding of the circumstances in which extra skills such as auscultation were required.

Examining my pre-understandings and reflecting on my experience of using advanced assessment skills enabled me to see that I had been making choices about the assessments and nursing actions most relevant for the patients I was caring for, in the time I had available. While lung and heart auscultation at the start of every shift might seem appropriate for patients on a medical ward, I do not know how not doing them affected my patient's 'outcomes'. In fact, I do not think I was conscious of thinking about patient benefit or outcomes at the time, but rather was just doing what I thought was most appropriate for each of my patients, given the constraints of time, skill level, knowledge and ward structures and processes.

If I had not thought about the benefits of using specific skills, then it is also likely other nurses had not thought about the benefits either. When I think about the purpose of the assessments I conducted in contexts where doctors were present, they served to direct my nursing actions. They helped me recognise when a patient had become hypoglycaemic. This information was used to increase the speed with which help was sought and to guide immediate actions in relation to reviving the person. Unlike in my previous role in northern Canada, I worked in a team alongside doctors and therefore did not have responsibility for making a final diagnosis or prescribing treatment. Instead, the purpose of my assessment in this setting was to monitor and identify deterioration and to plan specific nursing actions for both in-hospital care and discharge. Yet I still carried with me the belief that advanced assessment skills were important.

Identifying pre-understandings helped me recognise the influences education, experience and the literature had on my beliefs about the benefits of using advanced physical assessment skills. My initial understanding of nursing assessment practice was that if nurses were not using the skills it was because they did not know how, lacked confidence in using the skills, or were not supported to use them. But, believing that nurses want to do good and will incorporate skills into their practice which they feel benefit patients, made me begin to question this assumption. The role they played in improving patient outcomes in the setting of general medical and surgical nursing

practice was not clearly understood. What were the consequences for patients when nurses used advanced physical assessment skills? This thesis attempts to address that question.

## **Overview of chapters**

This thesis is presented in eight chapters. Chapter one, the introduction, has set the scene for the study and outlined pre-understandings that I bring to the topic. Chapter two, the literature review, contextualises the study and presents a synthesis of existing literature on the nurse's use of advanced assessment skills. Chapter three presents my journey to finding research and philosophical frameworks with which to explore the research question. I drew on the work of Gadamer and Dewey in designing a hermeneutic study with a pragmatic focus. Chapter four describes the methods used in conducting this study.

I present my findings in chapters five through seven. All three data chapters examine the nature of consequence as described by the participants. Chapter five explores consequence as what is seen or noticed when the nurse uses advanced assessment skills to assess a patient. Chapter six explores consequence as the interpretation of what is seen, and chapter seven explores consequence as the actions that result from the interpretation of what is seen. While there seems to be a linear movement from 'seeing' through to 'interpretation' and culminating in 'action', the actual process of seeing through to action is not linear. The movement between each of these consequences is fluid. This will become clear as these chapters unfold.

The final chapter provides a synthesis of the consequences of the nurse's use of advanced assessment skill, and situates the findings within both theory and practice. In seeing practice as an important test (and shaper) of theory, the findings from this study will enable nurse educators to more clearly articulate the purpose of advanced assessment skills in acute medical and surgical settings, and reinforce for nurses the role of advanced assessment in 'keeping patients safe'.

There are a couple of issues with which I grappled as I conducted this study. The first, and most significant, relates to the vulnerability of nurses in telling stories of practice. In telling stories, there is the potential to judge their own lack of skill and knowledge, as well as that of other members of the interdisciplinary team. There were times when I felt concern at some of the stories told by my participants. One story was particularly worrying, as hindsight suggested that the nurse should have escalated her concern sooner than she did. But it is easy to be wise in hindsight. My role as a

researcher dictated that I accept each story without valuing or judging. My goal was to explore the consequences of the nurse's assessment and actions resulting from the assessment, rather than dwell on apparent errors or omissions. My primary concern as a researcher was to keep the nurses who participated in this study safe by taking the positive from the stories they offered. I ask that the reader do the same. The participants' willingness to expose their practice to scrutiny in this way is a hallmark of their commitment to improving practice.

The second issue is that some nurses had the gift of capturing the complex nature of their assessment practice in an exemplary manner. As a result, the stories told by particular nurses have been used more than others to explore and describe the complex nature of their assessment practice. This is not a devaluation of other stories, but rather the recognition of the role of exemplary stories in helping us see what lies within. The story itself is more important than 'who' told it. I ask that the reader listen to the individual stories of practice, since they are the focus of this study.

The nurse participants in this study were all female. This is a reflection of the predominantly female nursing population in New Zealand and internationally. Because of this predominance of nurses as female I have used the pronouns 'she' and 'her' when referring to the general population of nurses. Within specific chapters and specific stories, however, I have used the pronoun that applied to the individual concerned. Thus occasionally a doctor or other health professional will be referred to as he or she, depending on the actual gender as described by the participant in her story.

## **Summary**

This study seeks to explore the consequences when nurses use advanced physical assessment skills with patients they are caring for on medical and surgical wards in hospital settings. This chapter has outlined the context and justification for the study, and my pre-understandings as a nurse educator teaching advanced skills to nurses. This is a pragmatic inquiry. Within these pages I will explore the difference these skills make through the interpretation of the stories nurses tell of their actual assessment practice. Chapter one has begun this journey.

## Chapter 2: Literature Re-view

This chapter explores the literature which was significant to my understanding of what is currently known about the use of advanced assessment skills in acute medical and surgical nursing. I do not seek to outline everything that is known, for that would overwhelm, but rather to draw the reader to the particular literature which stood out as being meaningful as I grappled with the initial topic and came to understand a specific concern evident within contemporary nursing practice. My reading and interpretation of the literature revealed a gap in the relationship between the theory and practice of advanced physical assessment within a specific context as initially described in the introduction, and it is this gap that I wish to explicate here.

In writing this review, I acknowledge the role that my own history brings to both my selection of the literature and its interpretation (Gadamer, 1975/1989). As an example, my experience of listening to lung sounds shaped my interpretation of the literature that advocates auscultation as necessary for detecting deterioration in patients (Wheeldon, 2005). Listening to lung sounds helped me to identify the cause of the deterioration; my understanding was that other assessment parameters such as changes in respiratory rate were better signals of deterioration. The tension I felt when I read this initial piece about auscultation shaped further reading and interpretation. In questioning, I began to see similar assumptions in other literature on the topic of auscultation by nurses. Smythe and Spence (2012) describe the special nature of the literature reviewing process within a hermeneutic study as a process of question and answer with the literature, resulting in new understanding of the topic. They argue the purpose of the literature review within a hermeneutic study is to “provoke thinking” (p. 12) as the research is planned and carried out. The literature that is reviewed not only describes the context of the study and supports the research question, it also shapes the analysis and interpretation of the research findings. Thus it “comes-along as a dialogical partner, supporting, building, challenging, showing” (p. 21) throughout the research process. The approach that Smythe and Spence (2012) advocate is congruent with the methodology of this study. It is also congruent with other understandings of the role of the literature review from within the social sciences and humanities. Boell and Cecez-Kecmanovic (2010) argue that in reviewing the literature “there is no final understanding of *the* relevant literature, but a constant re-interpretation leading (ideally) to deeper and more comprehensive understanding of relevant publications” (p. 2). They advocate a literature searching and review process which follows the hermeneutic circle.

That is, a continuous open-ended process where increased understanding of the research topic and of the research question informs each other in a circular manner. This open-ended process also informs the analysis and interpretation of the research findings, as the initial literature is reread to gain further insight and understanding.

In writing this review I have attempted to present the big picture, the flavours and the meanings that I have gleaned from the research, opinion articles, and reviews of practice detailed within practitioner tribunal reports that drew me to this research (Smythe & Spence, 2012). It is presented in two parts. Initially I explore the literature that helped to situate the concept of advanced assessment within the context of general nursing practice. The research question emerged from this initial review of what was currently known about the topic. I then go on to analyse the literature and related texts that shaped my understanding of the significance of the research question for current nursing practice through the lens of *consequence* for patients. As a hermeneutic study of an essentially pragmatic question, the interpretation of consequence was open to consideration from many viewpoints. I have purposefully kept the focus of this re-view, and of the research, on the consequences that have significance for the patient and family rather than for the nurse, doctor or other health care workers.

### **Physical assessment skills**

My initial interest was the use of the physical assessment skills of inspection, auscultation, palpation and percussion in routine nursing practice. Thus my search of the literature began with a particular focus on physical assessment. Physical assessment is defined by Jarvis (2004) as the collection of objective data about a patient using the skills of inspection, auscultation, palpation, and percussion. While it is generally accepted that the measurement of height, weight, pulse, blood pressure, temperature and respiratory rate are also fundamental to any physical assessment of a patient, they are considered basic assessment skills and have not been included within this review of relevant literature. My specific purpose was to determine the role that advanced physical assessment plays in benefiting patients.

Very few empirical studies were located which explored the general topic of physical assessment by nurses. The vast majority of published literature on the topic is made up of literature reviews or opinion articles which attempt to provide the rationale and theory underpinning the benefits of a more advanced physical assessment for nursing practice (Duff, Gardiner, & Barnes, 2007; Fennessey & Wittmann-Price, 2011;

Lesa & Dixon, 2007; West, 2006). The following main themes were identified in the review of empirical research studies: skills used, factors influencing skill use, and impact of courses on skill use. While there was research exploring the link between nursing assessment and admission to ICU (Cioffi, Conway, Everist, Scott, & Senior, 2009; Endacott, Kidd, Chaboyer, & Edington, 2007), no research was located which explored the role that nurses' use of advanced physical assessment skills play in improving patient outcomes.

### **Skills used**

Numerous studies, primarily using survey questionnaires, have attempted to identify the specific skills nurses use in their practice, as well as the frequency of skill use. Studies conducted during the past 25 years on physical assessment skill usage by nurses have consistently found that a significant number of physical assessment skills taught to nurses are seldom or never used in practice (Colwell & Smith, 1985; Lont, 1992; Reaby, 1991; Yamauchi, 2001). Secrest, Norwood and duMont (2005) compared the skills taught in undergraduate programmes, as reported by 12 nurse educators, with those 21 practicing nurses said they actually used. Although the sample size was small, the findings are consistent with previous studies. Nurse educators confirmed they taught 92% of a potential 120 assessment skills; of these only 29% were used daily or weekly, and 37% were never used. There was a clear dichotomy between the physical assessment skills “valued by educators and what nurses in practice actually use” (p. 117). They conclude that fewer skills should be taught, and those that are should be related to nursing specific actions such as turning patients and suctioning tracheal secretions rather than medical diagnosis.

Giddens (2007) completed a similar survey with nurse participants who provided direct patient care in both inpatient and outpatient setting. 250 questionnaires were distributed with a response rate of 80%. The survey was developed using two undergraduate nursing physical examination textbooks (Jarvis, 2004; Wilson & Giddens, 2000). Of the 126 skills surveyed, 30 were identified as being performed either frequently (every 2 to 5 times worked) or regularly (every time worked). These skills were described by the authors as core nursing skills and included inspection, palpation and auscultation. Approximately one third of the core skills involved assessment of cardiovascular and respiratory status, suggesting that these are the skills considered by nurses to be most beneficial to patient outcomes. This is a telling analysis coming from Giddens as she reflects on the skills presented in her own textbook. She

suggests that nurses need more skill in observation and recognition of cues indicative of changes in patient status rather than the current wide range of physical assessment skills taught.

The evidence is consistent. Many of the physical assessment skills routinely taught to undergraduate nurses are never used in practice. This is despite the recognition that some rarely used skills will be used more frequently in specialty settings. Skills that are taught mimic those taught to medical students, with many contributing little to nursing care. Kitson (1996) suggests that an image is being presented of contemporary nurses as advanced practitioners. She argued in 1996 that not all nurses need or want these advanced skills. Her argument seems to be supported in contemporary nursing practice.

### **Factors influencing skill use**

The integration of physical assessment skills within nurses' practice has been the focus of some research. The factors influencing physical assessment skill use have been referred to as barriers because of the predominant view that the skills are essential to nursing practice. As an example, lack of confidence and competence in performing physical assessment skills has been identified as a barrier to skill use (Reaby, 1990; Skillen, Anderson, & Knight, 2001; Sony, 1992). Other factors associated with poor use of physical assessment skills include lack of resources, high workloads and lack of time (Skillen, et al., 2001; Sony, 1992). Some studies identified reasons related to the perceived purpose of the physical assessment. For example, some nurses were reluctant to perform a skill if they believed it would need to be repeated by the doctor in order to arrive at a diagnosis (Sony, 1992). The link between physical assessment and diagnosis was present in other studies where nurses stated they did not feel physical assessment was necessary if the patient had already been diagnosed or the problem did not require a diagnosis (Colwell & Smith, 1985; O'Farrell, Ford-Gilboe, & Wong, 2000). Thus barriers include educational preparation, systems and processes within the hospital environment, as well as the nurse's belief about the specific purpose of the physical assessment.

Interestingly, the way in which studies are conducted reveals some understanding of how the notion of barriers was framed by the authors. Reaby (1990) conducted a pre and post evaluation of a physical assessment course offered in a degree conversion nursing programme. She included six suggested barriers to including physical assessment skills in practice, with a yes/no response set. No explanation was

given for how the barriers were chosen. Four of the six barriers focused on support: from employers, nursing colleagues, nursing supervisors and doctors. The other two barriers tested were patient acceptance and confidence in performing the skill. While the number of respondents was small (n=17), lack of confidence in performing the skills (23%) and lack of support from colleagues (18%) were identified as the main barriers. There does not appear to be any opportunity provided for respondents to cite other potential barriers encountered. This is similar to other studies (Brown, et al., 1987) in which the potential barriers to performing skills were suggested by the researcher rather than coming directly from the nurses.

The values or beliefs an individual nurse holds about a particular condition influence use of assessment skills. McCarthy (1991, 2003) explored the role that beliefs, or philosophical orientations, play in a nurse's assessment and clinical decision making regarding confusion in elderly patients. Nurses who believed that confusion was a normal process of aging were least likely to recognise acute confused states in the older person while those who felt that confusion was not a normal process were most likely to recognise acute confusion and undertake specific assessments to identify a cause. McCarthy's study suggests personal beliefs play a significant role in assessment skill use.

The factors that influence individual beliefs and practice are complex. Despite the role of individual personal beliefs, ward culture also influences beliefs and practice. For example, pain assessment has been demonstrated to be significantly influenced by the social context of the unit in which it occurs. Lauzon Clabo (2004, 2008) found that nurses on two general surgical wards exhibited a pattern of thinking about pain assessment that was specific to their ward. On one ward, pain assessment favoured objective pain features alongside knowledge, or beliefs, about expected pain patterns, or typologies, such as that following abdominal surgery. On the second ward, pain assessment favoured the patient's subjective experience of pain rather than specific typologies of pain. Participant's suggested that when beliefs did not fit with the ward culture around pain assessment, nurses either left the ward or changed their practice to fit in. These findings highlight the impact of the collective beliefs and practices of the ward on the assessment practice and skill use of individual nurses.

### **Impact of education and training on skill use**

Some researchers have explored the use of assessment skills following instruction in physical assessment skills (Neville, Gillon, & Milligan, 2006; O'Farrell, et

al., 2000; Reaby, 1990). Although some of these studies have had short follow up periods, just one to six months of finishing a specialist course, they have contributed to our understanding of the potential role of education in changing practice. Specifically, nurses report increased confidence in using the skills after undertaking a course in advanced physical assessment (Brown, et al., 1987; Reaby, 1990). They also report increased feelings of collegiality with other health care practitioners and initiating nursing specific interactions more often. The studies do not identify what nursing interactions were initiated, or what effects increased confidence and collegiality has on patient outcomes. The assumption inherent in these findings is that increasing the nurse's confidence will enhance patient care and outcomes.

Giddens (2006) explored the role of education and experience on the frequency of physical assessment skill use. She found that neither education (Associate versus Baccalaureate Degree) nor years of experience influenced the frequency of skill use. She suggested that similar content across programmes and exposure to staff development education might account for the similarities in skills used. She also suggests, however, that many of the skills taught may not be needed for non-advanced clinical practice roles, thus making a link between skill use and the context of nursing practice. She raises the possibility of redundancy between the skills nurses are taught, and those performed by junior doctors within the setting of a teaching hospital.

### **The context of practice**

An association between practice context and assessment skill use was evident in some of the research studies. Reed and Watson (1994) compared nursing assessments of older adult patients on one acute care/rehabilitation ward and two long term care wards. They looked at assessment of patients' mobility, and found that nurses conducted much more thorough assessments of patients on the acute care rehabilitation ward. On the acute rehabilitation ward, the assessment was frequent, purposeful and seen as contributing to recovery and discharge home. On the long term care wards, assessment of mobility was infrequent, casual and ad hoc and seen as an irrelevant task with little benefit for the patient. For the nurses on the long term care wards, they saw formal assessment of mobility as a single activity which had already been conducted on the acute ward. Thus, the perceived purpose of the ward, care versus cure, influenced assessment skill use.

The relationship between ward function and assessment skill use is supported by other studies. In the specialist area of the emergency department (ED) the specific ward

function of quickly identifying patient acuity and treatment priority affects the assessment data collected. Gerdtz and Bucknall (2001) conducted an observational study of assessment data obtained during triage and found that there was a limited amount of objective physiological data collected. In their analysis, triage decisions were affected more by subjective than objective findings. They identified an inverse relationship between the amount of assessment data collected and time to treatment. The type and quality of assessment data collected in this acute setting has the potential to impact on patient outcomes; the more detailed the assessment, the longer it took to triage the patient and begin treatment. Assessments examined in the study by Gerdtz and Bucknall were restricted to clearly observable behaviours, thus the assessment skill of inspection would potentially have been omitted. Despite this, their observations provide insights into the use of assessment skills which are significant to other patient settings. These research findings suggest that physical assessment is a situated activity, and that nurses conduct assessments according to their beliefs about ward function and its purpose.

### **Purpose influences skill selection and use**

The literature reflects numerous views of the purpose of advanced physical assessment. The majority of nursing textbooks on physical assessment describe a full or 'comprehensive' physical assessment consistent with a medical model. Although there are links to nursing diagnoses, the main emphasis is on medical diagnoses, that is, the conditions which would cause the abnormal assessment findings described. Some researchers have questioned the focus on medical diagnoses. Lillibridge and Wilson (1999) explored nurses' descriptions of their health assessment practices. They identified ambivalence by nurses as to the purpose of advanced physical assessment, with some nurses questioning the benefits to patient care from what appears to be a medical assessment.

In the hospital setting, advanced physical assessment skills such as auscultation are often discussed in relation to early recognition of potential or actual deterioration (Considine, 2005; Considine & Botti, 2004; Wheeldon, 2005). However early signs of deterioration can also be identified without the use of advanced skills. Wheeldon (2005) comments on the role that monitoring and responding to increased respiratory rate plays in the early recognition of cardiopulmonary arrest. He then goes on to suggest that earlier auscultation may result in earlier referral. As a nurse who has listened to lung sounds, I believe this to be a hypothesis which is not clearly evident in practice. My

experience is that auscultation plays a role in identifying cause and treatment rather than identifying deterioration and the need for review. Deterioration is most frequently identified through changing vital signs and observation of behaviour change (Tait, 2010). The increased physical contact and presence at the bedside that occurs when listening to lung sounds may, however, provide an opportunity to pay more attention to other cues such as increased effort to breathe. Continuous observation of subtle change over time plays a significant role in the early detection of deterioration (Peden-McAlpine, 2000) and is likely to be more valuable than intermittent auscultation of lung sounds.

The study by Reed and Watson (1994) mentioned earlier identified the role that ward function and the perceived purpose of physical assessment plays in assessment practices, with cure having more of an influence than care. In their study, physical assessments conducted on the long term care wards were less frequent, casual, ad hoc and purposeless, whereas the ones conducted on the acute/rehabilitation ward were planned and purposeful. Explicit links were made between assessment and discharge. If there was no hope of discharge, then the assessments were not seen as serving a purpose.

Latimer (1998) explored the assessment practices of nurses working in acute medical units, specifically the ways in which nurses conducted patient assessments on people aged over 75 years admitted as acute medical emergencies. Assessments were seen as an organising device for moving the patient through the hospital. Assessment was used to judge whether the patient was in the appropriate treatment place, and if not, to move them on quickly and free the space for a more appropriate patient. Assessment in this setting seemed to serve the needs of the hospital and an economic imperative rather than the needs of the patient.

The study by Gerdtz and Bucknall (2001) on assessment practices of triage nurses also demonstrates the role that purpose plays in assessment. When the purpose of assessment is triage, the time it takes to complete the assessment has the potential to affect outcomes more significantly than the comprehensiveness of the assessment. For patients who require urgent intervention, a briefer assessment is called for. The purpose of the assessment, and the need for more advanced skills, is likely to be different for non-critical patients in this context.

It is clear that the purpose and context of the assessment both have a role to play in determining those skills considered most useful by nurses to assess and manage patients. While much of the research has focused on what nurses are doing, some

authors have recognised that little is known about the role of advanced physical assessment in improving outcomes (Giddens, 2007; Reilly, 2003). There is a clear gap in the literature which needs to be addressed in order to support the continued inclusion of advanced physical assessment skills into the skill set of nurses in generalist or medical and surgical settings.

### **Patient outcomes research**

In the health care environment of the twenty-first century, patient outcomes have gained increasing importance as a measure of success in meeting the health care needs of the population. However, defining and identifying patient outcomes resulting from individual nursing actions is challenging. Outcomes are multifaceted and reflect what preceded them. They are affected by the treatment and care provided, factors related to the patient, interpersonal aspects of care and the setting or environment in which care is provided (Irvine, Sidani, & McGillis Hall, 1998; O'Connell, 2001). Because of the complexity of linking outcomes to specific nursing actions, the majority of research into the relationship between nursing and patient outcomes has explored the relationship between nursing staff levels (as an indicator of nursing care) and nurse sensitive outcomes such as pressure sores and falls. The most noted of these is the work done by Aiken and Needleman and colleagues (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002). Although this research has been useful at an organisational level, Clarke (2006) points out that it says little about the direct effects of specific nursing actions on patient outcomes.

Patient outcomes can be identified from multiple perspectives including those of the patient and the organisation. Potential indicators (outcomes) of advanced assessment include decreased length of hospital stay, admission to ICU and frequency of adverse events. Considine (2005) advocates for more detailed respiratory assessments, linking these to increased prevention of adverse events. Although specific assessment skills might be important, the relationship between skill use and patient outcomes is complex. Mariani et al. (2006) evaluated the effectiveness of frequent routine vital sign monitoring on survival rates and transfer to ICU of patients with community acquired pneumonia. They found that frequent measurement did not result in more favourable outcomes such as decreased length of stay. Recognising when to assess and the responses made in light of assessment findings are equally important. Simply using the skills more frequently is not sufficient to improve patient outcomes.

Defining patient outcomes is challenging. Donabedian (1966/2005, 2003) defined outcomes as changes in an individual's health attributable to the care they received. Measurable health outcomes such as length of hospital stay, readmission rates and frequency of adverse events are useful as 'proxies' for individual patient outcomes. But while it is often assumed that measures such as decreased length of stay and readmission rates are positive health outcomes, this is not always the case. Occasionally patients are discharged home or into the community before they are ready. Early discharge from hospital may be interpreted as a positive outcome for a service, but it may not be a positive outcome for the patient. As an example, Fealy et al. (2009) conducted a systematic review of research to identify the effectiveness of assessment and interventions targeted at older adults presenting to the ED. They concluded that "while nursing assessment and referral interventions can lead to reduced service use, perhaps unsurprisingly, they can also lead to increased service use" (p. 944). Frequency of service use or length of stay does not seem to be an appropriate measurement in terms of long term health outcomes for this population. This is a revealing finding and confirms Donabedian's view that particular outcomes may be irrelevant and must be interpreted with discrimination. If other health issues apart from the presenting complaint are identified and addressed as a result of an advanced physical assessment, would this not be the best outcome for the patient regardless of time spent in hospital?

As I looked for evidence of the relationship between advanced assessment skill use and patient outcomes, I began to understand that the relationship was poorly understood. Despite this, much of the literature was critical of nurses not using the skills, and contained arguments for why nurses should be integrating the skills into their practice. The language suggested an unquestioned belief in the benefits of advanced physical assessment. I began to notice that words such as *should* and *why don't* were used in many of the articles written about physical assessment skills (Armitage, 1999; Considine, 2005; Hogan, 2006; Schroyen, George, Hylton, & Scobie, 2005). While a direct relationship between use of the skills and improved patient outcomes was frequently stated, no research was cited to support this relationship. I wondered if the assumptions of benefit had led to a rhetoric which was not seen in actual practice. Although the theory of a comprehensive or more detailed physical assessment benefiting patients seemed logical, the complexities of actual nursing practice left its purpose ambiguous for a majority of nursing situations.

There is an inherent danger in searching the literature too early in a hermeneutic study, and yet it is considered an essential part of the application to conduct the research

as it often justifies both the question and the method. Reading the literature critically, listening to other voices including those of my students, and listening to my own belief that health practitioners want to do good, helped me to take a more appreciative stance when designing this research. I began to wonder what the consequences were of nurses using these skills in the everyday practice settings of medical and surgical wards.

The literature that I explored initially helped me to define my research question and gain a better understanding of how academics, at least, viewed the potential benefits of incorporating advanced assessment into nursing practice. Initial reading of both advanced assessment textbooks and scholarly articles suggested that the consequences were obvious. Repeated reading, however, revealed the extent to which the scholarly literature reflected opinions of consequences and benefits rather than actual evidence (Zambas, 2010). As Smythe and Spence (2012) acknowledge, the literature often presents a more 'black and white' picture than is actually the case. Were the consequences and benefits obvious in practice?

### **Defining a competent nursing assessment**

As a part of the journey through the Doctor of Health Sciences qualification I was encouraged to look at advanced assessment use within nursing from a wider perspective, that of the New Zealand health system as a whole. My reading and thinking led me to explore the consequences of inadequate assessments by nurses, or at least presumed bad outcomes, through complaints made by family members to the Health and Disability Commissioner (HDC) of New Zealand. It is often only once an adverse event occurs that a health professional's assessment skills are examined. The scrutiny of actual practice by the HDC is published as a tribunal report of individual cases (see [hdc.org.nz](http://hdc.org.nz)). Each case report describes the events that occurred from each participant's perspective as well as the consequence for the patient and often reveals the standard of practice expected. Thus the report itself represents the story of what occurred from multiple perspectives.

I reviewed all of the nurse related cases reported in New Zealand by both the HDC and the Health Practitioner's Disciplinary Tribunal (HPDT) between 1999 and the end of 2007 to identify those which included comment on the nursing assessment. Each of these were then scrutinised to identify the context and scope of the nursing assessment expected. A total of 36 cases included a nurse in the complaint. Of these, ten included specific discussion and judgements about the adequacy of the assessment conducted by the nurse. The table in appendix 1 summarises the content analysis of the

comments made by the Commissioner or expert witness in relation to the types of assessment skills undertaken or expected, the timing and frequency of assessments, and the recommended follow up of assessment findings.

Across the HDC and HPDT decisions, it was evident that nursing assessments were considered critical to the maintenance of patient safety. The Commissioner stated, “Nurses represent the primary surveillance in hospitals 24 hours a day... Early recognition of potential and actual deterioration (often subtle) in the patient’s condition is crucial.” (HDC, 2003a, p 13). Nurses are expected to use their assessment to monitor and identify deterioration, to know when to use these skills, and to act on any changes considered detrimental to the safety of the patient. It appears from this analysis that these are the primary purposes of the nurse assessment, particularly as viewed from the perspective of patients’ rights to safe and appropriate health care.

The majority of expected assessment skills described in the HDC and HPDT reports included vital sign and pain monitoring, fluid and nutritional intake monitoring, and skin colour, temperature and integrity. These are considered basic nursing observations. There was no expectation that nurses would auscultate the chest of a patient with respiratory distress in an acute medical ward. The only references to more advanced assessment skills (chest auscultation and percussion, abdominal palpation and leg length measurement and position) were made in relation to nursing assessments in rest homes, and in emergency departments. This suggests that more advanced skills are needed in critical care areas such as the emergency department and ICU and areas such as rest homes where doctors are not routinely present. In a case involving assessment of testicular torsion (HDC, 2005a), testes examination was considered important but it was decided that this was not a necessary assessment for the nurse to have performed as it was assumed the doctor would perform this examination within the allotted triage time of one hour. The expert witness identified the testes assessment as a difficult and potentially embarrassing assessment for a female nurse to make on an adolescent male. Instead, the need to include the diagnosis of testicular torsion in the differential list when communicating with the doctor, and the need to communicate the urgency and reason for the medical review and triage classification was considered more important in this particular case.

Following my initial review of a cohort of HDC and HPDT reports I continued to monitor the reports as they emerged. I was looking specifically for evidence of both the use by nurses and relevance of advanced assessment skills on medical and surgical wards. One report was particularly significant to my understanding of the role of

advanced assessment in medical and surgical nursing practice (HDC, 2009). The case involved the respiratory arrest and subsequent death of a child with asthma. A review by an independent paediatrician concluded that it was “probable that [the patient] had a fairly prolonged period of severe hypoxia and respiratory failure leading up to his arrest that was unrecognised by the [overnight paediatric house officer] but hinted at by nursing staff in their notes” (p.10). The junior doctor mistook quietening breath sounds as improvement. The report holds the nurses partly responsible for what happened, stating “Experienced senior nurses who are concerned about a patient should feel able to discuss that patient’s care directly with a consultant if they are uncomfortable with the appropriateness of junior doctor management” (p. 24). Surprisingly, the senior nurses’ assessment of the patient and situation was not included in the investigation. Instead they were chastised for not reporting their concern, or escalating it, to more senior medical colleagues. For me, this case highlighted the challenge of escalating concern without adequate assessment data. There was little evidence that the nurses assessed this patient once the junior doctor arrived on the ward. Without their own assessment of the child’s respiratory status, they had little information on which to base concern about treatment. They raised their concern with the junior doctor, and were reassured that he was communicating with the paediatrician; they did not know he was communicating an incorrect interpretation of the situation.

A lack of attention to the nurse’s assessment in the above case reflects the view that nurses contribute little to actual diagnosis and treatment decisions; these are the responsibility of the doctor. Chiarella (2000), in a review of legal cases involving patient harm in the US, acknowledged that doctors are not required to heed the clinical concerns of nurses. In the cases she examined, nurses were considered peripheral or invisible, suggesting a lower level of responsibility and accountability for patient outcomes. Manias and Street’s (2001) ethnographic research of the relationships between doctors and nurses in the intensive care unit found that nurses felt doctors did not always listen to them during ward rounds. Benner, Tanner and Chesla’s (2009) research concurs, finding that nurses needed to present their assessment information in particular ways in order to be heard. If nurses are not listened to, what role can their use of advanced assessment skills play?

### **The doctor-nurse game and legal responsibility**

The observation that the nurses “hinted” at a problem in their notes in the HDC (2009) case explored in the previous section suggests the continued presence of the

doctor-nurse game described by Stein (1968; Stein, Watts, & Howell, 1990). The doctor-nurse game is one in which the nurse makes recommendations about treatment or management but does so in a passive voice. A passive voice is used so as to not upset the normal hierarchy of physician dominated decision making. Wicks (1995) however suggests that the interactions between doctors and nurses are not a game, but instead an exercise in knowledge and power in the interests of the client. Willis and Parish (1997) explored the nurse-doctor game in relation to the management of pain. They argue that the game is a consequence of education and training which leaves nurses feeling that their knowledge base is inferior to that of doctors. Their research found that contradictory assessments and poor documentation account for much of the tension that exists between doctors and nurses in managing patient's pain. When nurses are not confident in their knowledge base, or perceive their skills to be inferior, they are unlikely to exercise the assertive communication needed to advocate for the patient. Assertiveness is based on power, and knowledge is one form of power.

The decisions nurses make about patients within the hospital setting are not considered independently from the doctor, since ideas about appropriate care and treatment are generally the legal responsibility of the doctor. Thus, when we explore consequences it is not only related to the interactions between the nurse and patient, but also between the nurse and doctor. Role boundaries support the doctor as the one who makes the diagnosis and prescribes treatment, and that the nurse's role is to alert the doctor to new or altered assessment findings and to carry out the required treatment and management plan (Powell & Davies, 2012). The doctor uses physical assessment skills to support diagnostic decision making. The role of nurses in diagnostic and treatment decisions is poorly recognised, at least within the literature. Price, Han and Rutherford (2000) wrote, "The role of the nurse undertaking physical assessment is not to make a nursing diagnosis or a medical diagnosis. It is to facilitate and enhance the care of a patient by collecting information in a standard fashion and communicating it to other members of the clinical team" (p. 2292). Unfortunately, nurses' use of physical assessments, while considered important, is still often viewed as supporting the role of the doctor. The literature is not clear on the contribution of advanced physical assessment skills to patient outcomes, and thus nurses themselves remain uncertain as to the purpose of these skills within their practice.

## Summary

In conclusion, much of the literature on the inclusion of advanced physical assessment skills into the nursing skill set is based on the belief that a more detailed physical assessment will improve patient outcomes (Crighton & Winter, 1997; Lesa & Dixon, 2007; West, 2006). This assumption seems to apply to all nurses in all settings, not just to those for whom advanced assessment and diagnosis is a recognised part of their role description. While the inclusion of advanced physical assessment skills into everyday nursing practice is supported in principle, little research has been conducted to date to identify its role in improving patient outcomes. This represents a significant gap in nursing practice knowledge. With increasing demands on nursing resources and time, not to mention curriculum overload, the benefits and outcomes for patients of nurses learning and using these skills needs to be demonstrated. Thus the research question which emerged from the review of the literature was, “What are the consequences of nurses using advanced physical assessment skills with acute medical and surgical patients?” The assessment of medical and surgical patients reflects everyday nursing practice in the hospital setting, and therefore represents the context chosen for this research study.

Smythe and Spence (2012) argue that the starting point of a literature review within a hermeneutic study is the reviewer. “He or she stands at the crossroads of all their fore-understanding” (p. 16). My own understanding of advanced assessment influenced the literature I explored as I began to think about my research topic and define the research question. Uncovering assumptions both within myself and explicit within the literature around the supposed benefits of advanced assessment within nursing practice shaped further reading, and influenced both the design of the study and interpretation of the findings. Smythe and Spence acknowledge that “it is the philosophical insights, and the thoughts stumbled across, that can most powerfully call one into thinking and thus shape the analysis and findings of the research” (2012, p. 21). My exploration of the literature left me questioning the specific role advanced physical assessment played in improving patient outcomes on medical and surgical wards. It felt like it was time to go back to practice to find some answers.

### Chapter 3: Research methodology

As I grappled with how to approach this research project, I was aware that I needed to let the question determine the methodology. However I was not yet certain how to phrase the question. I was aware that nurse researchers are often accused of navel gazing and felt that the focus needed to be on the outcomes of practice, rather than the actual practice itself. How could I ask a question that explored more than nursing practice; a question that could encompass the outcomes of that practice? I kept going back to the question asked by the nurse manager of a medical ward; “What difference does advanced physical assessment make in this context?” I considered a number of methodologies, including ethnography and case study. I was intrigued by the work of Annette Street, both her ethnographic case study of the work of nurses, *Inside Nursing* (1992) and her classic discussion on the theory-practice gap, *Nursing practice: high, hard ground, messy swamps and the pathways in between* (1990). I wondered if what I was seeing was a theory/practice gap.

Reading the work of Polkinghorne (2004) on judgement-based practice and discovering a fit between pragmatism and hermeneutics provided the philosophical underpinnings I was looking for to research the practice of advanced assessment skills. Polkinghorne provides a clear argument for identifying caring practices such as nursing as being ‘judgement based’. He believes that the traditional model of practice, in which research-developed general knowledge is applied to a specific situation, does not reflect how health practitioners work with patients. Instead he describes a process he has called phronetic reasoning which directs the actions of practitioners in praxis situations.

*When engaged in [phronetic reasoning], agents draw on their values, feelings, and imagination; they incorporate their cultural understandings, personal experiences, training and applicable scientific findings. It is deliberative processing that occurs both within and outside their conscious awareness. The phronetic process makes use of all one’s sources of knowledge in reaching a decision about what should be done. Actions based on this kind of reasoning are not simply emotional displays or the performance of culturally dictated scripts; they are deliberated and reasoned responses (2004, p. 131).*

Polkinghorne’s description of phronetic reasoning resonated with my own experience of nursing practice and assessment. The assessments conducted by nurses involve practice judgement. Judgements are made about what assessments to perform on an individual patient, when, and how to act on the findings. Judgement also influences the nurse’s ability to interpret the assessment findings. Everyday assessment practice is not a matter

of following a pre-arranged script or set of procedures. Assessments are conducted when cues are noticed that require further exploration. When nurses work with patients, they use skills learned, past experiences and success to determine what is best in a particular situation for a particular person. According to Polkinghorne practitioners of care such as nurses “act and then react upon observing responses to their actions” (p. 119). They learn which choices are more likely to work by trial and error. Previous experience of success and failure influences this process. As I read Polkinghorne’s work, I came to understand that it is the actual practice of doing these skills that will demonstrate how they make a difference to patient outcomes, not the theory that says there will be a benefit. van Manen, a phenomenologist, argues that “whereas theory ‘thinks’ the world, practice ‘grasps’ the world” (2007, p. 20). I began to see a way to use the nurse’s experience of assessing individual patients, and her experience of the consequences, to understand how use of these skills could benefit patients.

### **A pragmatic question**

Pragmatism is a philosophy that has a focus on evaluating statements or ideas in terms of their usefulness or effectiveness in accomplishing a task. The connection between thinking and purpose is fundamental to pragmatism. W. C. Pierce, William James and John Dewey are regarded as the founding fathers of pragmatism. They were influenced by the work of Darwin and adopted his view of the experimental and purposive nature of thought. “The rational meaning of every proposition lies in the future...” wrote Pierce, and its meaning “is in that form in which the proposition is applicable to human conduct” (1905, pp. 173-174). Pierce identified the most striking feature of the new theory of pragmatism as “its recognition of an inseparable connection between rational cognition and rational purpose” (1905, p. 163). For pragmatism, all human inquiry is tied exclusively to experience. Dewey argued that we should consider all our knowledge as hypotheses to be tested in experience (Kloppenber, 1996). His main concern was with what happens after an action is carried out (Polkinghorne, 2004). His view was that it is the consequences of an action that give it meaning and justify its purpose. The question “what difference does it make?” is a pragmatic one.

Pragmatism directs us to focus on the practical consequences of our ideas, theories and actions. In the pursuit of inquiry, theories are used to guide action, and feedback from action is used to correct theories (Heelan & Schulkin, 1998). It is the evaluation of specific actions and their ability to bring about the desired results that is at the centre of Dewey’s pragmatism. It directs us to clarify the concept by unpacking it

with respect to its practical consequences. The role pragmatism can play in researching nursing practice is reinforced by Doane and Varcoe (2005), who maintain that all theory is already practice. “Every nursing moment is imbued with theory/practice and is thus an opportunity for theory development – for rethinking the ideas, assumptions, beliefs, and theories that govern our practice by examining the consequences of them” (2005, p. 88). Pragmatism asks us to consider the practical consequences of using advanced physical assessment skills within a particular clinical setting or context.

Gadamer (1975/1989) speaks of the importance of the question to the analysis of the hermeneutic situation. Recognizing that something is not as we thought leads us to question whether it is this or that. This questioning leads to experiencing, since we cannot have experiences without asking questions. Polkinghorne (2004) believes this is the first step in the process of reflective understanding. A reflective inquiry is only initiated once we realise that we lack knowledge; that we know what we do not know. “All questioning and desire to know presuppose a knowledge that one does not know; so much so, indeed, that a particular lack of knowledge leads to a particular question” (Gadamer, 1975/1989, p. 359). I did not know what the consequences were of using the skills in the context of medical and surgical nursing, the everyday of acute care nursing practice. I could not honestly answer the question “what difference does it make”? My interest was finally narrowed down to identifying the consequences of using advanced physical assessment skills in medical and surgical nursing practice. Thus pragmatism guided the *what* of this research; the question I wanted to answer.

### **Finding the way**

Now that I had my question, I needed to decide on the way to answer it. Conversations with colleagues helped me to recognise that the experience of using the skills could be helpful in identifying the consequences. Nurses who used the skills would be able to tell stories of their experience of using them. I was aware of my own ability in the classroom to tell stories of using the skills. Nurses who also used the skills would be able to do the same. Pragmatism helped me to recognise that nurses’ experiences were important to broadening our understanding of the difference these skills make. I turned to hermeneutics as a way of helping nurses to reveal both their conscious and unconscious use of advanced assessment skills. Assessment is an act that nurses often do instinctively. They notice things without realising they are looking; they simply do it. Hermeneutics is a method which seeks to language such ontological experience. It tries to uncover what is taken for granted.

Hermeneutics comes from the Greek word *hermeneuein*, which means ‘to interpret’ or ‘to understand’ (Crotty, 1998). “Hermeneutics is the doctrine of understanding and the art of explaining what one has understood” (Gadamer, 2007, p. 361). Common to all hermeneutic inquiry is a focus on understanding and interpretation as processes and modes of being (Reeder, 1988). Understanding comes from both past and present. Heidegger, one of the founders of modern hermeneutics, believes that meaning is already in the world before we understand; that interpretation always occurs from within a historical perspective (Allen, 1995). We are born into already existing worlds of meaning which are passed on to us through both language and socialisation. These pre-understandings are then influenced and changed by our actions and experiences in the present.

Gadamer (1975/1989) built on the work of Heidegger [1889-1976] and explored the role of interpretation in understanding and directing action. Gadamer referred to pre-understandings as *horizons*. He used the term horizon as it describes the limitations as well as the breadth of our field of vision or thought resulting from cultural and social backgrounds (Polkinghorne, 2004). Background understandings are a collection of responses to prior situations and experiences. In seeking understanding, individuals bring their horizons together in a sharing or *fusion* of understanding, with each potentially shaping the resulting background or horizon of the other. The *fusion of horizons* is thus the coming together of different vantage points. In an inquiry guided by Gadamer (1975/1989) the aim is to understand through the fusion of horizons. Fusion occurs through openness and listening to the other, so that their standpoint speaks to and influences the listener. Openness and listening are fundamental to understanding. Within a research inquiry, fusion of horizons is demonstrated by showing the way in which the researcher participates in making data, depicts the participants’ stories, and then shows how the interpreter and interpreted stories are fused. Gadamer’s notion of the fusion of horizons brings together the horizons of both the participant and the researcher, as well as the horizons of past and present (Crotty, 1998). Knowledge is derived through history, culture and language. Nurses, including the nurse researcher, have a past which includes cultural understandings of what it means to assess patients. They add to this new understanding resulting from the use of advanced assessment skills. These past and new understandings merge to produce present understandings. As a consequence, understanding is achieved through a process in which past and present are constantly mediated.

*Dialogue*, the second of Gadamer's constructs, occurs between the text (story) and the interpreter. Texts within hermeneutic philosophy include both written and unwritten or spoken sources. In human practices such as nursing, texts are often spoken (Crotty, 1998); practices are described and shared through the medium of story. These human practice stories are seen as a means of transmitting meaning – experience, beliefs and values – from one person or community to another. However, for a text to become an object of interpretation it must ask a question of the interpreter (Koch, 1996). The interpreter or researcher reads the text and asks “What is going on here? What is this story telling me? What is its underlying meaning?” Understanding occurs when the interpreter surrenders to the movement of question and answer between the text and the interpreter.

The third construct, the *hermeneutic circle*, is a metaphor taken from Heidegger to describe the experience of moving between the parts and the whole of a text to arrive at understanding. Understanding is achieved by interpreting within a circular process, in which we move from a whole to the individual parts and from the individual back to the whole. In the hermeneutic circle one does not remain in the same place but constantly acquires new knowledge. The capacity to understand comes from these circular processes of interpretation (Gadamer, 1975/1989).

### **Hermeneutically sensitive pragmatism**

Both pragmatism and hermeneutics emphasize action as a way of interpreting experience. They treat science as a form of human culture in which background, theory and praxis work together in succession (Heelan & Schulkin, 1998). Hermeneutics suggests a focus on understanding through the experience of the doing of advanced physical assessment skills. Pragmatism keeps the focus on the consequences of the doing of these skills. Thus a *hermeneutically sensitive pragmatism* would direct us to explore consequences through the nurse's experience of using advanced physical assessment skills.

Dewey believed that a person is shaped by their interactions with others as well as with their environment (1922/2007). The intelligent person consciously transforms their mostly unwitting behaviour into more thoughtful directed action. As a result, interacting with the environment changes both the environment and the individual (Eldridge, 1998). They reconstruct their experience. He also believed they are shaped by the past as well as the future.

Although Dewey and Gadamer developed their ideas independently on different continents, they both believed that a person's background understandings, their horizons, influence how they approach situations. The background sets a framework for the interpretation of human actions. Gadamer valued historical awareness as a positive condition for knowledge and understanding (Fleming, Gaidys, & Robb, 2003). This history is reflected in our values and beliefs, and how they shape our actions and understanding. Each nurse brings his or her own history in the shape of values, beliefs and past experience to their understanding of the assessments they undertake on patients. Gadamer also held that people's background understandings (horizons) do not remain static but evolve and deepen over time. This change is the result of reflection on practices that have been successful as well as those that have not (Polkinghorne, 2004).

### **The 'text' of practice**

As I have described earlier, patients are exposed to a wide variety of assessments and interventions from numerous health care practitioners while in hospital. In addition, they bring their own previous health and illness experiences, strengths and resiliencies, co-morbidities and psychosocial, political and cultural variables to each hospital stay and each assessment experience. It would be impossible to control each of these factors when attempting to measure impact on patient outcomes. Examining one small part of the situation by exploring the experiences of nurses who use these skills in their practice can help us to identify what the consequences of their use might be.

Nurses frequently tell stories of their work and the people (patients, colleagues) with whom they work. They learn from their own and others' experiences and they remember important lessons through stories they tell and hear others tell (Walton & Madjar, 1999). By telling stories of using advanced assessment skills with patients, nurses are able to reflect on the consequences of their action and how it has made a difference (or not) to patient outcomes. Stories of practice cannot capture experience completely, but it remains our major aid to shared reflection and understanding (Wright, 2007). It is through listening to and interpreting these stories that we can enhance our understanding of the use of advanced physical assessment skills in improving outcomes for patients.

Finally, practice must be interpreted within social political locations (Allen, 1995). Ricoeur (1991) argues that context is critical to interpretation and translation. When the researcher steps into the clinical context, he or she enters a context that both reveals and creates meaning (Nygren, 1982, as cited in Lindholm, Nieminen, Makela, &

Rantanen-Siljamaki, 2006). Meaning, interpretation and translation begin where we are. They are shaped not only by who we are, but also by the communities and contexts within which we know and act (Doane & Varcoe, 2008). The use of advanced physical assessment skills will likely have different meanings in different contexts. Within the context of the nurse practitioner role within primary care for example, physical assessment skills serve a specific purpose, that of identifying diagnoses, directing diagnostic and treatment plans and managing care. It is anticipated that they will have different meanings for nurses within the context of an acute hospital setting.

### **Practical judgements**

Dewey also offered insights which helped guide the analysis of the research data. He discusses the process that individuals move through as they make practical judgements. According to Dewey “practical judgements are made in the context of an incomplete situation that requires completion – something must be done. . . Second, the judgment itself is a factor in the completion of the situation, it is ‘a determining factor in the outcome’” (1916, p. 506) of the situation. Third, the subject matter of such judgements “implies that it makes a difference how the given is to be terminated. A practical judgement affects the subject matter for better or for worse” (1916, p. 507). Fourth, practical judgements involve essential reference to both means and ends. They single out the obstacles to be confronted in a specific situation, the means employed to surmount these obstacles, and the ends to be achieved in completing the specific situation. “The determination of the end-means which constitutes the content of the practical proposition is hypothetical until the course of action indicated has been tried” (1916, p. 510).

### **Summary**

Nursing research is about identifying whether particular practices make a difference to the patient (Wiedenbach, 1963 cited in Ramprogus, 2002); it is about improving practice so that it can achieve the good. Reading the work of Polkinghorne and others led me to construct a research project which would explore consequence through a hermeneutic interpretation of experience. I found a commonality between Gadamer and Dewey that resonated with my own views of how background and current understanding influence action. Much of nursing practice is based on judgements about unique situations. Nurses draw on previous experience, background knowledge and their interpretations of situations in the moment in order to know how to act. The success of their actions, however, can only be

evaluated by exploring the consequences of action. The ground has been laid for exploration of the consequences of the use of advanced assessment skills by nurses.

## Chapter 4: Research Method

Having identified hermeneutics and pragmatism as the philosophies underpinning my study, I now needed to decide how to proceed. Both Gadamer (1975/1989) and van Manen (1990) explain that a hermeneutic phenomenological approach has no specific method available from which to direct a human science investigation. Lincoln and Guba (1985) use the term ‘emergent design’ to describe the indeterminate nature of such research. Hermeneutic research is a “journey of ‘thinking’ rather than a specific, predetermined process by which ‘findings’ can be pinned down” (Smythe, Ironside, Sims, Swenson, & Spence, 2008, p. 1390). Method choices are meant to become clearer as meanings and insights emerge from the data. Similarly pragmatism does not specify a method. It is a process of continual inquiry to determine the value of different theories to a particular question in terms of its consequences (Doane & Varcoe, 2005). It directs the research by asking the question, “What difference would it make if this were true”? Pragmatism emphasizes free and open encounters while listening to as many conversations as possible as it attempts to answer the question posed (Warms & Schroeder, 1999). Pragmatism initially directed the research question; “What are the consequences of the nurse’s use of advanced physical assessment skills in acute medical and surgical hospital settings?” My goal was to listen to stories as nurses related their experience of using the skills in specific patient encounters, and then to interpret their stories of practice in order to identify consequence. This chapter outlines the specific methods that were followed to achieve this goal.

### **Approval for the study**

Ethical approval for the study was sought and granted from the Northern Y Regional Ethics Committee (Appendix 2) and Auckland University of Technology Ethics Committee (Appendix 3). Ethics approval was sought from the Regional Ethics Committee as I wished to recruit nurse participants from two of the District Health Boards (DHB) within the Auckland region. Auckland is the largest metropolitan city in New Zealand and its hospitals attract nurses from throughout the country as well as overseas. I felt recruitment from two large DHBs covering a diverse population would provide a sampling of nurses with a variety of experience relevant to medical and surgical nursing. I received approval to recruit and interview between 4 and 9 participants for 2 to 3 interviews each. Recruitment was via charge nurse managers,

clinical nurse educators and professional colleagues known to the researcher. These professionals were approved as a suitable judge of nurses' expert skill in patient assessment.

As a Pakeha<sup>2</sup> researcher I was aware of the need to consult with Maori<sup>3</sup> under the obligations of Te Tiriti o Waitangi<sup>4</sup>/The Treaty of Waitangi. Advice was sought from the Kawa Whakaruruhau Committee in the School of Health Care Practice at AUT in relation to the research. The Committee strongly supported the research and encouraged recruitment of Maori participants (Appendix 4). The Committee recommended a Maori colleague be consulted to assist with cultural interpretations of Maori participant narratives and this was arranged. Approval was also granted by the Waitemata District Health Board Maori Research Committee (Appendix 5).

I was aware of the health inequalities Maori continue to experience within New Zealand and the under-representation of Maori within the nursing workforce within New Zealand; 7 per cent relative to the total population of 15 per cent (NCNZ, 2012a, 2013). During recruitment I encouraged charge nurse managers to include Maori nurses in their identification and recommendation of potential participants. I also discussed my study and desire to include Maori participants with Maori colleagues. Despite my efforts no Maori nurses came forward to participate in the research. This is likely a reflection of the under-representation of Maori nurses, as well as the potential for people who identify as Maori to feel 'over-researched' as a vulnerable group (Wilson & Neville, 2009). There was unlikely to be a direct benefit for Maori as a result of this research, so I did not pursue Maori recruitment past my initial efforts.

## **Recruiting and selecting participants**

In order to identify the consequences of the use of advanced assessment skills, I needed to find nurses who were actively using the skills in their practice on medical and surgical wards. It was their stories of practice that I wanted to hear. Recruitment of participants was conducted formally through one DHB and informally through the second DHB and a private hospital within the Auckland region. The requirement to recruit nurses who used advanced assessment skills meant that purposeful sampling was necessary for the identification of potential participants. Purposeful sampling is defined

---

<sup>2</sup> Pakeha is a non-Maori New Zealander. This term was used to refer to people who colonized New Zealand in the 19<sup>th</sup> Century. It is now used primarily to refer to people of Caucasian origin who identify as New Zealanders.

<sup>3</sup> Maori are a member of the people living in New Zealand prior to the arrival of European settlers.

<sup>4</sup> The Treaty of Waitangi, signed in 1840 between Maori and Pakeha, underpins all political and social activity within contemporary New Zealand.

as that which occurs when the researcher selects people who have the “required status or experience or are endowed with special knowledge” (Schneider, Whitehead, Elliot, LoBiondo-Wood, & Haber, 2007, p. 124). Charge nurse managers, nurse educators and professional colleagues such as nurse specialists were used to identify those nurses considered to have expert skill in assessment. Expert practice is reflected in the consequences of what nurses do rather than what they know. Charge nurse managers, nurse educators and colleagues who observe nursing practice on a routine basis are in an ideal position to judge this. Doane and Varcoe argue that “safe, competent, theoretically informed, evidence-based nursing practice is about action” (2008, p. 283). Expert assessment practice is about what nurses do, and is reflected in practice which is considered safe, competent and theoretically informed by those in a position to judge this.

Following formal approval from one of the DHBs, I telephoned charge nurse managers and clinical nurse educators from the medical and surgical wards to introduce myself and arrange meetings to discuss the research and participant recruitment. Meetings were then arranged with individual managers and educators and on one occasion with a group of charge nurse managers from a particular service area, to clarify the purpose of the research and explain the selection criteria. Following this discussion the charge nurse managers and clinical nurse educators were provided with copies of the participant information sheet (Appendix 6) to distribute to registered nurses who they felt met the following inclusion criteria:

- Used advanced assessment skills on a routine basis
- Considered to demonstrate excellent skill in patient assessment
- Had greater than 1 year experience in their current practice setting (or similar)

The first two inclusion criteria related specifically to the research question as described previously. A minimum of one year of practice in the current clinical setting was used to ensure the nurse had become familiar with the context of medical and surgical practice, and to have acquired relevant stories of practice from that setting. It also allowed time for their assessment skill to have been judged by managers and educators as excellent.

Professional colleagues were also contacted as a potential recruitment source. In all instances managers, educators or colleagues passed the participant information sheet on to the potential participant, who then contacted me directly to discuss the study and indicate their willingness to participate. Clarification of the study requirements was done via either telephone or e-mail in the first instance, specifically to confirm that the

participant met the inclusion criteria and to allow potential participants to ask any questions.

Exclusion criteria included nurses not currently licensed as a Registered Nurse<sup>5</sup> in New Zealand and not working on a medical or surgical ward, registered nurses working with increased autonomy such as nurse specialist<sup>6</sup>, and nurses who were in their first or second year of practice since initial registration. The one year requirement was expected to be one year following the nurse's first year of practice since obtaining New Zealand registration. This was to allow for a full year of skill development following their formal new-graduate year.

During the process of recruitment I received numerous offers from nurse specialists and nurses in specialty areas such as the Emergency Department willing to participate in the research. Unfortunately I had to turn these potential participants away, as I was interested specifically in the consequences from the perspective of nurses working in the setting of medical and surgical wards. Nurse specialists and nurses working in specialised settings generally had more autonomy in decision making and use of the skills was often a requirement of the role. While there may have been some useful data from these nurses, I believed that their scope of practice was sufficiently different from nurses working on a general medical or surgical ward to warrant this exclusion.

Recruitment proved to be challenging. I was looking specifically for nurses who were using advanced assessment skills in order to identify the consequences that resulted from their use. Dewey argued that "only the man whose habits are already good can know what the good is" (1922/2007, p. 32). I believed nurses would only use advanced assessment skills if they knew how to use them and thought they made a difference for their patients. We act and then react to the consequences of our actions (Polkinghorne, 2004). If our actions are fruitful we will continue to do them. If they are not producing the results we anticipate, then we are most likely to (and should) abandon them in favour of actions that do produce the results we want. The bias within this study was unavoidable. It was only through the stories of consequence of using the skills that I could begin to understand how they might contribute to improving patient outcomes in medical and surgical settings. However, the selection of the expert nurse assessor meant that the nurse herself would need to have some sense that her assessment skills were

---

<sup>5</sup> Registered Nurse is a protected title in New Zealand and is verified by approval and renewal of certification by the Nursing Council of New Zealand.

<sup>6</sup> Nurse specialist is a title given to nurses employed into advanced nursing roles within New Zealand hospitals.

exemplary, or at the very least above average. In some ways I was reliant on the charge nurse managers and clinical nurse educators providing a convincing argument of this to potential nurse participants. One nurse chose not to participate following discussion of the study as she felt that despite recommendation by a professional colleague she did not meet all of the inclusion criteria. Fortunately a couple of nurse participants knew me through my role as an educator and thus felt more comfortable taking the initial step of responding. The other participants had a clear understanding of the purpose of the study early on and had expressed a particular interest in the importance of assessment within their practice.

The level of educational preparation, other than achieving registered nurse status, was not a factor in selecting participants. Many nurses, including those with significant years of nursing experience, learn advanced assessment skills through continuing education and postgraduate study, but this does not necessarily equate with consistent use of these skills. There are nurses who have learned the skills but who are not yet able to 'walk the talk'. That is, they have yet to incorporate the skills into their practice. This became evident during recruitment when I encountered nurses who had learned the skills, but admitted that they did not use them in practice. In addition, recruiting only from those nurses who have undertaken formal study in advanced assessment would also exclude those nurses who have learned the skills of advanced assessment through observation, self-study, or other means. Spence (1999) acknowledged the value of experientially acquired knowledge to nurses' understanding of practice. In addition, many undergraduate nursing curricula in New Zealand and abroad include the skills of advanced physical assessment, and it was feasible that nurses who learned the skills in preparation for practice had developed them to the level that would be considered expert by colleagues and managers. Thus selection was based on the manager, educator or professional colleague's recommendation in the first instance based on their knowledge of the nurse's practice, and then refined to those nurses who confirmed that they used advanced skills in their practice and believed they had stories of practice which would shed light on our understanding of the consequences of that practice.

### **The study participants**

Five experienced registered nurses consented to participate in the study, providing a total of 12 interviews and 13 stories of practice for analysis. The study participants included nurses from medical and surgical wards in public and private

hospitals, and adult and children's wards. Nurses are employed into a specific pay category in New Zealand based on their experience, level of competency from beginner to expert and availability of each pay position on the respective ward. The participants in this study ranged from level 2 nurses (competent) who were currently undergoing assessment to level 3 (proficient), through to level 4 nurses (expert). These levels reflected the nurse's current professional development, pay level and overall level of practice and not their level of practice in relation to the specific skill of advanced assessment. The nurses were all female and ranged in age from 36 to 54 at the time of interview.

Two nurses had learned and developed their advanced assessment skill through both their pre-registration training and previous work in intensive care and high dependency units. The other three nurses had recently learned and consolidated their advanced assessment skills through postgraduate study. While all participants were clearly using advanced assessment skills, three of the nurses, one level 2 and two level 4 nurses, described stories of practice that demonstrated the most consistent use of the skills and level of advanced assessment practice that I was interested in.

I had planned to interview between four and nine nurses two to three times each. This gave me a potential of 12 to 18 interviews or stories of the consequences of using advanced assessment skills in practice. My purpose was to listen to a range of diverse stories in order to have sufficient data from which to explore the consequences of practice as revealed through the experience of the nurse participants. Within hermeneutic research, the goal of sampling is to find participants that are willing and able to articulate their experience of the phenomenon (van Manen, 1990, 1997) and to seek in-depth insight rather than patterns or commonalities of experience (de Witt & Ploeg, 2006). It was clear after two interviews with two of the nurses, that the skills they used and stories they told had a similar theme to them. I did not feel that further interviews with these nurses would produce more useful data than already obtained from them, although I left the opportunity for a third interview open if they recalled or encountered another significant story.

Some participant stories of practice were very detailed while others were brief. Occasionally participants offered more than one story during a single interview to demonstrate their practice. While some stories were short, they non-the-less reflected the nurse's actions and thus the consequences of using advanced assessment skills in specific situations. As a result, it was not the number of interviews per se that was important to exploring the phenomenon but the variety and range of stories told. As reflected by the varied practice settings, the stories ranged from acute exacerbation and deterioration through

to monitoring accuracy of the diagnosis and adequacy of the treatment regime. The stories also covered acute as well as long term and palliative clinical presentations on both medical and surgical wards, and with both adult and paediatric patient groups.

### **Consent, confidentiality and anonymity**

The nature and scope of the study was reiterated at the beginning of the first interview and written consent was obtained (Appendix 7). Participants were questioned as to their understanding of the study, given an opportunity to ask questions, and then time to read through and sign the consent form. They were also asked to identify a pseudonym for themselves as an identifier. I was concerned about maintaining their privacy and confidentiality, as they would be describing their own practice and potentially that of colleagues. In addition to using a pseudonym, I was conscious of omitting details from their stories which could locate them within a specific hospital and ward. Although identifying names were sometimes used during the interview, these were replaced by the pseudonym on transcripts, and each story was then identified using the pseudonym only.

I was also aware that the participants would be describing stories of patients, and I wanted to ensure the anonymity of patients was maintained. To this effect, no specific details or patient identifiers were used. Where place names were used during the interviews, these details were omitted in the stories or altered to ensure the patient could not be identified within the story. The participants' stories were re-crafted into narratives (see page 44) which were returned to them for review and to ensure accuracy. At this stage, if there were any concerns about anonymity of themselves or the patient, details were changed within the narrative to ensure anonymity.

The interview transcripts were recorded digitally and a master copy stored electronically in a password protected computer. Each digital copy of the interviews was identified by the pseudonym and date only. Interview recordings were erased from the digital recorder and CD used for sending to the transcriber as soon as transcription was complete and the story written into a narrative. In order to further ensure confidentiality, the transcriber completed a confidentiality agreement (Appendix 8). Transcript codes were assigned to each interview and story and were known to myself and principle supervisor only. Consent forms were stored in a folder in a locked office.

## **Collecting the data**

Once each nurse had agreed to participate in the study via telephone or email, an interview time and venue was arranged that was private and mutually convenient. Interview locations included the participant's home, a small meeting room on campus, and a small conference room at one participant's workplace. Prior to each interview I asked the nurse participant to think of a story of practice in which they believed their use of advanced assessment skills made a difference to a patient they were caring for. They arrived at each interview with this story in mind.

### **The interview**

Unstructured interviews were used to collect the data in this study, and each interview was digitally recorded. Allen (1995) argues that there is no 'hermeneutic interview'. Instead, the interview process reflects the theory and questions being addressed. The researcher approaches the interview with an openness to be caught up in the play of the conversation in a manner that is in keeping with the study (Smythe, et al., 2008). It is always an interview about 'something'. van Manen reminds us that the interviewer needs to be "disciplined by the fundamental question that prompted the need for the interview in the first place" (1990, p. 66). In this study, the interviews were about the patient situation and the nurse's assessment and response. Although the emphasis within the analysis was on consequence, it was through the telling of the 'life' story as it unfolded for the nurse participant that consequence was seen. The interview was not about consequence per se, but about her experience of the assessment, thinking and action which resulted in consequence for the patient, and as the results show, for the nurse as well.

The purpose of each interview was to enable the nurse to tell the story of her assessment practice with individual patients. The interviews began with a reminder that I was interested in specific stories of using the skills. I then asked the nurse, "Tell me a story of when you think your use of advanced assessment skills made a difference for a patient you were caring for." In many ways each story was a case study, much like an informal case presentation, with the nurse describing observations and actions as they occurred over the course of the event. The interview style allowed frequent backtracking to clarify timelines and details within the case or ask the nurse to describe in more detail particular aspects of the assessment and interactions with the patient or other clinicians as a result of the assessment. The interview progressed from an informal 'case presentation' to an exploration of what the nurse did as a result of her findings. There was an emphasis on specific actions and

communication resulting from the assessment as I tried to gather the 'story' of the patient, the nurse's assessment and the consequences. In all interviews I tried to identify what the nurse knew of the consequences of her actions for the patient.

In hermeneutic research, a distinction is made between gathering experiential data and analysing it. However these acts are not totally separable and should be seen as part of the same process (van Manen, 1990). Depending on the nature of the project and stage of the research process, the conversational interview may serve to both gather experiential data such as stories, but also provide an opportunity to reflect on the stories and meaning with the participant. The interview thus takes on the form of a hermeneutic interview where the meaning of the story is reflected during the same or subsequent interviews. This occurred in the later interviews once I became conscious of the difficulty of following the consequences for patients in the context of medical and surgical nursing. I began to explore some of the concepts that were beginning to reveal themselves in the data, such as how participants were able to find out the consequences for patients they were no longer caring for. In this way, analysis shaped the gathering of future data as well as my understanding of the phenomenon.

Each participant was interviewed two or three times, with each interview focusing on a new story from practice. The purpose of multiple interviews was not only to collect further stories of assessment practice, but also to open the participants up to their own pre-understandings of physical assessment and the potential consequences for patients. Multiple interviews have the potential to stimulate a conscious process of reflection-in-action in relation to the phenomenon being investigated (Peden-McAlpine, 2000). By drawing the nurse's attention to the consequences of their assessment, it was anticipated that they would view subsequent assessments differently, and notice potentially different consequences. This process was evident with at least two of the nurses recognising after a particular patient encounter that they were paying more attention to what they were noticing and the consequences of their actions. The idea of change, or development of understanding resulting from previous discussion, is referred to as fusion within the hermeneutic circle (Gadamer, 1975/1989).

### **Researcher considerations**

Gadamer (1975/1989) cautions that interviews which are too directed may miss hidden meanings in the unfolding of a story. Thus the interview dialogue was kept open and participants were encouraged to tell their stories in whichever way they wished (Koch, 1996). The intention was to allow the participant to take me with them in telling the story. This process of leaving the story to unfold as the participant decided became easier with

subsequent interviews. As a nurse myself, and perhaps because of my focus on teaching advanced assessment skills, I sometimes found myself asking questions and probing to flesh out the details of the patient assessment in a way that went beyond what the nurse had noticed herself. I worried that I was too focused on the actual assessment and patient features, and not sufficiently focused on the consequences or the nurse's understanding of her actions. In retrospect this focus was useful as it gave me a sense of the scope of the assessments the nurse was conducting, and the strength of the assessment evidence she was using to support her actions. Without this I could not be certain of the assessment information that had been noticed and which had influenced her interpretation and actions. Because I was interested in the consequences of using advanced assessment skills, the detail of the types of skills that were used became important to my interpretation of the stories of practice. As an example, it was clear in some instances that the nurse would not have included in her telling of the story what the skin looked or felt like had I not asked for this specific detail.

As a teacher of advanced assessment skills, I was aware of the potential for my own values to overshadow this research. Thus, in setting out to interview nurses for this study, I knew that I needed to be mindful of how I asked questions or sought clarity. While I wanted to be able to identify the value of these skills, I was conscious that my own understanding could influence how I interviewed participants, and explored their experience of the consequences. Asking participants to tell stories of their experience of using the skills with individual patients was a way in which my own biases could be kept to a minimum; it was a way to keep me quiet, listening. As I began interviewing I also became aware of the difficulty of separating my need to teach from my desire to just 'listen' to the story. Once I recognised this in myself I settled into the role of knowledgeable listener. Having insider knowledge made the stories easier to understand and to direct clarification. Participants were able to use abbreviations, acronyms and detailed clinical language without having to stop and explain the meaning of these.

Some of the participants had been taught the skills of advanced assessment formally as part of their postgraduate studies. As I interviewed them I realised that their views on the consequences of using the skills were likely to have been influenced by their education as well as their experience of using the skills. Asking them to relate stories of their practice was a way to move them away from telling me what they thought I wanted to hear, and describing their actual practice of using the skills. Regardless of what had shaped these participants' practice, what mattered in this research study were the consequences of their use of advanced assessment skills.

### **Transcription and re-crafting into narratives**

Each interview was digitally recorded and then transcribed by either myself or a paid transcriber. Verbatim transcripts of interviews are often messy however, since no one speaks in correct prose in conversation. The messiness of the verbatim transcripts can act to conceal its essence (Caelli, 2001). Thus each interview was rewritten or 're-crafted' into narratives which represent the story derived from each interview. A sample narrative is presented in Appendix 9. Caelli's process of constructing narratives from the original transcripts was followed. This process included:

1. Reading to establish a sense of the data.
2. Modified coding to identify data that moved away from the topic.
3. Deleting irrelevant material.
4. Deleting the questions, prompts or clarifying statements.
5. Reconstructing the story in chronological and/or logical order using the participants own words as far as possible.

I transcribed the first interview. After working through this process with the first interview and re-crafting the narrative, I realised that the process of crafting the narrative was sufficient to immerse myself in the data prior to in-depth analysis. Crafting the story took time and effort as I re-wrote each story into chronological order, while trying to maintain the participant's own words and emphasis. Where different themes were discussed in relation to a particular event within the story, a logical order was used to integrate this into the story. All but one of the remaining interviews was transcribed by a paid transcriber. The verbatim transcripts were read through and constructed into narratives. These became the texts used in the analysis.

Following transcription and re-crafting, the narratives were returned to the participants for further clarification and to ensure accuracy and completeness. The re-reading of the narrative by the participant provided an auditing function to ensure that in constructing the narrative I had stayed true to the original story as told by the participant. One participant was concerned about the negativity revealed within a particular story. Minor adjustments were made to reflect the relevant material and omit the team dynamics that had come forth in the interview. In addition to ensuring accuracy, returning the narratives to the participants served to assist with reflection and deeper understanding of the nurse's use of advanced assessment skills in supporting subsequent nursing actions (Peden-McAlpine, 2000).

## **Working with the data**

Analysis of the narratives was guided by van Manen who suggests that interpreting meaning is a “process of insightful invention, discovery or disclosure – grasping and formulating a thematic understanding is not a rule-bound process but a free act of ‘seeing’ meaning” (1990, p. 79). The thematic understandings that emerge from the data are not necessarily multiple occurrences of the same thing, but rather an awareness of something that matters (Smythe, et al., 2008). They come from reading and re-reading in order to see the meaning. It is through reading the text (narrative) that ‘listening’ to the data occurs.

Analysis of each of the re-crafted narratives was undertaken to identify themes or ‘meaning’ using van Manen’s (1990) approach to analysis. van Manen’s approach includes the following 6 steps: turning to the phenomenon, reflecting on thematic understanding, describing the phenomenon through writing and re-writing, remaining orientated to the question and considering the parts and the whole. I began the analysis by reading the text as a whole to capture its fundamental meaning or main significance. I recorded this initial analysis alongside the original text, writing out in my own words what I understood the participant to be describing. I then went back and read the original text again to identify the statements or phrases that seemed particularly significant to the meaning of the nurse’s actions. As I read through the narratives I also recorded the assessment skills that were used, and the specific actions carried out by the nurse. Finally, each part was looked at to identify what it revealed about the consequences of using advanced assessment skills. In this stage I had a sense that I was focused on “reading between the lines” (Koch, 1999, p. 27) as I sought to grasp what the stories of practice meant in terms of consequence.

Following Gadamer, I expected my own background understandings to shape how I interpreted the narratives, and that my own understanding would be fused into the analysis (Koch, 1999). I was conscious of the need to let thinking ‘come’ as I read and reread the stories of my participants. While reading the narratives and literature that I was dipping into as I went through the process of analysing my data, I would move between my own understandings of advanced assessment and how this influenced my teaching and my research. As I prepared sessions for my students, reading the literature pertinent to diagnostic reasoning revealed insights which shaped how I thought about the research data. This was very much a ‘living with’ the research data as my study progressed alongside my professional role.

At times I struggled with staying focused on my question. My emersion in teaching assessment skills meant that I was continually seeing the consequences of these nurses just knowing how to use the skills. I recognised that they took more detailed histories and linked risk factors to their impression of what was causing the patient's current problem. They 'looked at things differently'. Their use of the skills influenced what they looked for. While these were consequences, I did not initially see these actions as the consequences that I was looking for. I kept looking, and kept returning to my research question. Significant ideas and insights were pencilled in the margins of the narratives or recorded in a journal, in mind maps and in early drafts of the data chapters. Mind maps helped me to get my thoughts about the assessments conducted within the narratives down on paper, and then to look for the consequences resulting from those assessments. Writing helped me see what was visible in the actions described by the nurse participants.

Writing and re-writing as a part of drafting the data chapters consolidated the analysis. It was through writing and ordering my thoughts alongside the narratives that my understanding emerged. Merleau-Ponty says, "When I speak I discover what I wished to say" (1973, p. 142). When I wrote I discovered what I wished to say. It was through writing and re-writing, ordering data chapters this way and that, which helped the analysis to slowly emerge. I went back to the question to ensure that I was not getting side-tracked. Reading occurred alongside the writing. I moved back and forth between the two, dipping into different texts to see what it might reveal about the impressions I was gaining from the data. For example, it was not until I immersed myself in the work of Dewey, specifically *Human Nature and Conduct* that I was able to see the very thing I was exploring, assessment actions, as a consequence of using the skills. Writing helped me to reflect on meanings as they emerged from my reading of the data in conjunction with the theoretical literature. My propensity to want to read literature from beginning to end presented a challenge for me, as 'dipping into the literature' left me wondering what I might have missed. I still wonder. However that is the nature of a hermeneutic inquiry and the unending hermeneutic circle.

In a hermeneutic analysis there is no final interpretation or ending as each re-reading will present new insights. The fusion of horizons means that with the passage of time, experience and new encounters, the interpreter's horizon changes. "Cycles of understanding, interpretation and critique" continue (Benner, 1994, p. 116). I eventually reached the point where I felt I had identified the essential messages the data was conveying. I had worked through the cycles of "reading, writing, talking, mulling, re-

reading, re-writing and keeping new insights in play” (Smythe, et al., 2008, p. 1393). My analysis of the data at this time and for the purposes of this thesis had finished.

### **Establishing trustworthiness**

The issue of rigour is important in qualitative research, just as it is in every other type of research methodology. For the purposes of evaluating qualitative hermeneutic research however, the term rigour has been replaced by trustworthiness and refers to a study’s ability to provoke thinking and understanding of the phenomenon in new ways (Smythe, et al., 2008). A study’s rigour or trustworthiness relies upon its integrity. Koch (1996, 2006) believes that it is up to the researcher to show the way in which the study addresses the issues of trustworthiness. Trustworthiness is achieved by recording the way in which the study is conducted. Clearly described procedures, methodological decisions, plans for analysis and interpretive frameworks are an essential part of establishing trustworthiness. Theoretical, philosophical and methodological decisions made during the research process are integrated into the final product. Readers may not share the interpretation, but there should be enough information in which to follow the way in which the author came to it (Koch, 2006). Describing what is going on in the research process enables readers to decide for themselves if the research product is believable, plausible, and trustworthy.

Trustworthiness is also established by the researcher testing out thinking in everyday conversations with those who share an interest in the topic (Smythe, et al., 2008). A trustworthy study resonates with the reader. Resonance, the ability of others to connect with what is being said, is considered the hallmark of trustworthiness. The process of establishing trustworthiness was begun through conversations with supervisors, colleagues and clinicians, looking for ‘the nod’ which suggests understanding and resonance with the ideas presented. These conversations continued throughout the research process with supervisors, academic colleagues and clinicians, and during formal presentations of preliminary data to an international audience (Zambas, 2012, October) as well as to colleagues and fellow nurse academics.

When searching for criteria with which to judge the rigour or trustworthiness of this study, a variety of frameworks were explored (de Witt & Ploeg, 2006; Koch, 1996, 2006; Lincoln & Guba, 1985; Madison, 1988; Maggs-Rapport, 2001; Sandelowski, 1993; Whitehead, 2004). Koch (1996) argues that it is up to the researcher to determine the appropriate criteria for ensuring the rigour of a study, while de Witt and Ploeg (2006), Rolfe (2006) and Sandelowski (2006) agree that generic criteria are not

sufficient to fully express the rigour needed in qualitative research. I was initially attracted to the specific criteria for establishing rigour within hermeneutic research developed by de Witt and Ploeg. They based their criteria on the work of van Manen (1997), Madison (1988) and the theoretical hermeneutic phenomenological nursing literature. However, their work suffers from misrepresentation of the authors they critique (Sandelowski, 2006) and uses terminology which is at times more obscure than those they sought to replace. Rather than use a generic criteria for establishing rigour, Rolfe (2006) recommends individual judgement of individual studies. Where does that leave the hermeneutic researcher in establishing rigour and trustworthiness? Following Koch's recommendation that "each inquiry determine its own criteria" (1996, p. 174), and in keeping with the pragmatist philosophy shaping this study, I have chosen what feels like pragmatic criteria. Annels (1999) criteria for establishing the quality of phenomenological research resonated with the purpose this study. Annels explored the specific nature of phenomenological research in an attempt to identify criteria for judging the quality of studies using this approach. She argues that nurse phenomenologists tend to study human experiences. This study uses stories of practice to examine the human experience of using advanced assessment skills. Annels' criteria for judging qualitative research are:

- Is the research an understandable and appreciable product?
- Is the process of inquiry understandable?
- Is the research a useful product?
- Is the research approach appropriate?

Each of these four criteria will be explored as a way of establishing the trustworthiness and integrity of this research project.

### **Is the research an understandable and appreciable product?**

Annells (1999) suggests that the research findings, the bulk of the report, should be presented in a way which is understandable and interesting to the reader. The readers of this thesis are likely to include fellow researchers, nurse educators, managers and clinicians. In attempting to make this research report easy to read and comprehensible, I have used the participants own words as much as possible to reflect the data I was interpreting and to support my interpretation and the theoretical discussion. Key narratives have been presented in such a way as to allow the reader to follow individual stories from beginning to end. The stories themselves are captivating. They reflect the real world, the messy swamps (Street, 1990), of practice. In sharing excerpts of the

narratives and conclusions from this research with academic colleagues, nurses and other health care practitioners at conferences and informally, the ‘phenomenological nod’ has confirmed that there is a connection with the data (Smythe, et al., 2008). Although I have dwelled with these stories for some time, they continue to evoke emotions within myself which cause me to pause, to reflect, and to appreciate that this research matters for patients. I can only trust that they do the same for the reader.

### **Is the process of inquiry understandable?**

There should be a “plainly written and discernible trail of methodological decisions” (Annells, 1999, p. 10) which enable the reader to understand the process of inquiry. The report needs to show what was done, how, and why. It should include not only the strategies used to collect and work with the data, but also the processes through which the interpretations were made. This chapter and the findings chapters present the processes used within this research.

### **Is the research a useful product?**

The third criterion is a reflection of the project’s potential to inform nursing practice and benefit patients. It is a pragmatic question, since it draws attention to the potential consequences of the research. Expecting the research product to be useful is an obvious criterion; however research which has been undertaken as part of a formal qualification, such as this, needs to take seriously the question of usefulness. This specific question was what attracted me to Annells’ discussion document (1999) and her criteria for judging the value of phenomenological research. As a pragmatic inquiry, the research question itself pertained to usefulness. The exploration of consequence provides insight into usefulness and paves the way for particular ways of working with and for patients. However, this can only be judged once the findings are applied. Application provides the final judgement on whether “the project is worthy and of quality” (p. 11). As the well-known saying goes, the ‘proof of the pudding is in the eating’. The findings from this study have influenced the questions I now pose in the classroom when teaching nurses the skills of advanced assessment. Encouraging nurses to reflect on the consequences of their assessments has helped broaden their view of the role of advanced assessment skills in keeping patients safe. Also, attempts to incorporate supervised practice with real patients during the course have had some success, with students returning to the classroom and sharing with others the consequences of specific assessment actions.

### **Is the research approach appropriate?**

The fourth criterion asks specifically how appropriate or congruent the research approach was to the purpose of the inquiry and the research question. Annells (1999) links this question specifically to phenomenological research. First, she asks if the research inquires about the meaning or the experience of the phenomenon. Second, she asks if there is a meaning or experience of the phenomenon which can be 'found'. The research question, "What are the consequences of using advanced assessment skills?" suggests that a response can be found. There needs to be congruence between the research question, philosophical frameworks and the research approach. In this study I combined two philosophical frameworks, hermeneutics and pragmatism. I have shown in the previous chapter the similarities between Gadamer and Dewey. They both advocated a process of inquiry which attempts to deepen and broaden our understanding of the world in order to increase effectiveness (Polkinghorne, 2000). Examining how people respond in practice situations reflects an emphasis on effective functioning. Dewey's philosophical notions directed the question and much of the analysis. Gadamer's philosophical notions shaped how the inquiry was conducted and also contributed to the analysis. Was this approach appropriate? Ultimately it is up to the reader to judge for themselves.

### **Summary**

The intent of this chapter has been to show the relationship between the research methodologies and the process of inquiry; how I conducted this research. It shows the research processes and approaches taken. In each of the following three findings chapters I attempt to show the interpretations as I saw them revealed within the data. It is within these three chapters that the reader will decide if the interpretations, insights and conclusions drawn reflect the data contained within the narratives, and determine if this is an understandable, appreciable and most importantly, a useful product.

## Chapter 5: Consequence as looking for and seeing the salient

*One can seek only when one knows what one is looking for.  
(Gadamer, 1987, p. 59)*

This first of three data chapters explores how the habit of advanced assessment enables nurses to look for specific signs and symptoms in a patient who for some reason requires more attention. This study moves beyond the common assumption of nursing assessment as a one-off practice, an evaluation at one point in time, such as might occur on admission to a ward. Rather it focuses on assessment as it is played out throughout the course of an 8 or 12 hour shift. The nurse has the opportunity, indeed obligation, to assess each time she is in visual contact with the patient, whether she is actively pursuing such a task, or simply notices something is not quite right.

Patient assessments on each shift within a medical or surgical ward will usually include the initial assessment a nurse does when she begins working with the patient, as well as opportunistic and on-going assessments that occur during the constant to and fro between nursing station, medication and treatment rooms, and other patient rooms. While there may be particular times when a nurse goes into a patient's room to perform an assessment, such as at the beginning of a shift, or when particular 'assessment' parameters are needed, there are other times when the nurse is in the room or with the patient without formal assessment as her reason for being there. It is expected that the nurse is assessing even at these other, less formal times. The non-formal assessment necessitates a continual process of looking and noticing. For some of the nurses in this study, it was the initial assessment which caused them to be concerned; for others it was one of the on-going assessments which alerted the nurse to a problem. No distinction will be made between these types of assessment as it is the assessment itself that is important to the examination of consequences.

As I began my analysis of the data, I struggled at times to stay focused on the consequences of each nurse's assessment actions. I began this study thinking of consequences as specific observable actions or 'outcomes' resulting from the nurse's assessment of the patient; that is, what her assessment caused her to do *to* or *for* the patient. But during the interviews and as I worked with the data, I could not help but notice the signs and symptoms that the nurses I interviewed were describing. As I read through the data, I developed a list of assessments they had done as well as the specific findings or assessment data recalled about each patient. Partly this seemed to be an

attempt to identify the skills these nurses were using; to situate and justify their narratives as being about advanced assessment. But the list also reflected *what* they noticed. I had a feeling that these nurses were able to notice and comment on certain features *because* of their assessment skills. They included detail which I do not think all nurses would notice; particularly if they did not have the skill level the nurses in this study demonstrated within their practice. When I came back to my question “what are the consequences?” the list of skills initially did not seem to fit. Instead the list appeared to answer the question, “what assessments are being done here?” I re-read the data and made notes which to my mind more adequately addressed the real consequences of their assessment actions: the urgent request for the doctor to review, the increase in thrombolytic dosage, or insertion of a nasogastric tube. But what these nurses were noticing as they told their story kept playing at the back of my mind. What was this information telling me?

I began to get the sense that knowing what to look for, ask about, and pay attention to, was a consequence of the nurse’s use of advanced assessment skills. My own experience of assessing patients and teaching assessment skills had left me believing that knowing what to look for or ask about was not inherently intuitive. Intuition is frequently used within the nursing and medical literature to describe the initial gut feeling of the nurse or doctor (Benner & Tanner, 1987; Dreyfus & Dreyfus, 1986). Dewey describes intuition as preceding conception (1931). Intuition helps us grasp the qualities of a situation. It might tell us that something does not fit in a general sense, that we need to pay more attention, but it does not tell us what to look for to find out why we have this feeling. Experience and knowledge may tell a nurse that one episode of vomiting is not gastroenteritis or that hiccoughing is a sign of an ileus, and thus might be the stimulus for looking and questioning further. But it is the knowledge of what the nurse might find that helps her know what to look for in specific situations, and what it is important to pay attention towards (Gobet & Chassy, 2008).

Initially though, I could not see how the nurses’ observations and descriptions of signs and symptoms fitted with my research question which was to identify the consequences of their use of advanced assessment skills. As I struggled with staying focused on the consequences Dewey’s (1922/2007) writing drew my attention to the relationship between means and ends. He argued that means and ends are two names for the same reality. Dewey advised us to do away with:

the ordinary dualism of means and ends. The ‘end’ is merely a series of acts viewed at a remote stage; and a means is merely a series viewed at an earlier one. The distinction of means and ends arises in surveying the course of a

proposed line of action, a connected series in time. The 'end' is the last act thought of; the means are the acts to be performed prior to it in time. To reach an end we must take our mind off from it and attend to the act which is next to be performed. We must make that the end. (p. 34)

Dewey argued that in order to identify the consequences of an action or actions, we need to examine the actions taken or 'means', as well as the 'end' in view of each of the actions taken. He described means as an 'end-in-view'. Means are simply an end, a consequence, at an earlier point in time.

Dewey's discussion of means, ends and ends-in-view resonated with me. I could see that my interpretation of each assessment action, for example inspecting leg swelling, culminated in an end which became the means to a further action such as measuring the swelling and comparing it with the opposite leg. I realized that I needed to look at each act individually, since each act had the potential to be both an end in itself as well as a means to the next action. My noticing what these nurses were noticing was not in vain. Thus the concept of means and ends became central to my analysis of the consequences of advanced assessment skill use, for the nurse cannot act until she has noticed.

## Looking and seeing

For Dewey, the first act is that of seeing; it is looking (1896). Dewey talks about seeing and acting working together, with each reinforcing or helping each other out. "The ability of the hand to do its work will depend, either directly or indirectly, upon its control, as well as its stimulation, by the act of vision" (p. 357). Tara provides a clear example of this first act of looking and seeing as she describes her assessment of a 78 year old patient one week after surgical repair of a fractured neck of femur (NOF):

*She had started mobilising a little but not much. I came back on and wanted to mobilize her. She complained of pain. I gave pain relief but it didn't help much. The patient was quiet and didn't want to bother us or tell us what was wrong. I assessed her leg and realised it was quite swollen, which is quite normal after a NOF operation, but it can be from other things. I compared both her legs and measured them. I thought maybe she had a DVT [deep vein thrombosis]. The doctor was around and I asked him to assess her. He looked and said that it was normal after the operation.*

*I tried to find out how much the pain was and I realised that it was increasing. I then went back to her file and was reminded that she had a history of cancer. That along with her age and other risk factors made me certain this needed to be explored further. I contacted the doctor again and explained that I was suspicious of a DVT. The doctor explained that she was*

*on clexane<sup>7</sup>, which I knew, but I said the dose was just prophylactic and maybe not enough for her. So I insisted they do an ultrasound which they did, and they found a DVT in two veins. It was major.*

In this short excerpt, Tara demonstrates the act of looking and seeing almost continually. She notices, sees, that her patient is not mobilising, and that this is because of pain. Once she has given pain relief she sees that it is not helpful. She also sees that the patient is quiet, reluctant to bother the nurses. She looks at the leg and sees swelling out of proportion to what she would expect. Each looking is the means to seeing, and each seeing is the means to further looking. In acting she opens herself up to seeing more. She looks in the patient's file and sees the elements of the history that increase this patient's risk for a DVT. She looks for and sees that the clexane dose is only prophylactic. She sees that the pain is increasing, not decreasing as she would expect. All of this looking and seeing cause her to go back to the doctor and insist an ultrasound is done to rule out a DVT.

In two brief paragraphs Tara takes us quickly from initial recognition of a problem through to final diagnosis. But this process of moving from means to ends took time. Hindsight and retrospective telling make her assessment obvious, difficult to miss even. We begin to wonder how the doctor could not see what she saw. But Tara's looking and seeing occurred over time and during other less obvious interactions with the patient. In exploring her assessment actions further, she reveals the more subtle observations she made which contributed to her evaluation of this patient's leg swelling:

*The thigh area was quite swollen, but she also had increased pain from the day before. She didn't complain but I could tell from the body language. She wouldn't mobilize as much. Previously when I gave her pain relief she would look better and comfortable, but she was no longer looking like that. She also wasn't eating as much as the day before so I knew something was going on. And I also looked at the history. And I looked at the clexane dose. Often they give it but not the correct dose according to weight. They do not always calculate the dose properly, and this patient had not been weighed... For this patient, cancer, age, immobility, not eating and drinking, dehydration, inadequate clexane dose, all these made me think DVT.*

Tara considers all of the information she has about the patient and reports her concern to the doctor. When she does not get the response she expected she searches for more information. She notices changes in the patient's behaviour which are not consistent with a normal response to surgery. They are also not consistent with what Tara knows about this patient based on her previous interactions with her. But what is different about Tara's assessment? Why is this assessment an example of advanced

---

<sup>7</sup> Clexane (Enoxaparin) is a low molecular weight heparin used to prevent and treat deep vein thrombosis and pulmonary embolism.

skill? I would expect any nurse to compare current observations with previous observations, and to look for specific detail of how the patient is different today. Tara takes her assessment, her looking, further. She reviews the file, and in doing so demonstrates that she is searching for specific detail to support her initial impression that this patient might have developed a DVT. Gadamer argues that “one can seek only when one knows what one is looking for. Only then, only with what is known in view, can one exclude the irrelevant, narrow the inquiry down, and recognize anything” (1987, p. 59). We see this recognition in Tara’s search. Her looking is not a random searching; it is purposeful. She looks for and sees risk factors of advanced age, cancer, immobility, lack of an accurate weight and potentially inadequate prophylactic therapy. These features are not that unusual considered separately, but when combined paint a very clear picture of increased risk for DVT. Tara demonstrates her advanced skill when she not only recognises these risk factors, but combines them with her measurement of the leg swelling and attention to the behavioral features of increasing pain.

In Tara’s example from practice, the ability to look for unique features of the patient’s presentation was the means through which she was able to identify a significant adverse complication. Developing the skill needed to really see what is going on brings with it an awareness of what to look for. It was not sufficient to simply acknowledge that clexane had been ordered and administered. Tara looked for a weight to support the clexane dose. Similarly, she looked for a history which might increase the likelihood that the leg swelling was due to a DVT. There were obvious risk factors such as age and immobility, but also less obvious risk factors such as the cancer and clexane dose which could easily be overlooked. Knowing the importance of specific risk factors helped Tara to recognize, to *see*, these features when she reviewed the file.

In reflecting on Tara’s description of her assessment, I recognized a subtle difference between looking and seeing. Looking involves directing one’s gaze towards something or someone; it is the assessment act itself. Seeing, on the other hand, is taking note of or recognizing the significance or importance of what one is looking at. It is clear that one cannot see unless one looks. In discussing the requirements necessary for engaging in an inquiry, Dewey (1922/2007) recognises this distinction between the act of looking and that of seeing. “As [an individual] *looks*, he *sees* definite things which are not just things at large, but which are related to his course of action” (pp. 181-182, emphasis added). Seeing is recognizing things that are important to one’s inquiry. Tara looked at the patient’s history and saw specific features which she recognized as being salient to her understanding of the cause of the leg pain and swelling. Her ability

to see this patient's leg swelling and behaviour change in the context of the recent surgery and previous medical history enabled her to see more than the physician to whom she reported her concern. Working closely with this patient as she carried out her nursing care provided more data to help her really *see* the full picture.

In this patient scenario, the end for Tara was convincing the doctor of the validity of her concern and the need for the ultrasound. For the patient, however, this end (last act) was simply the means with which an ultrasound was ordered, the diagnosis of a DVT confirmed. Convincing the doctor to order the ultrasound meant Tara had achieved her desired end, which was to get the problem investigated and the cause confirmed. If Tara had not been successful in this act then it is likely that she would have had to find another way to make her interpretation of the cause of the swollen leg known to the medical team. Looking and seeing were the discerning means along the way to this achieved end.

### **Habit shapes 'looking'**

How does the nurse develop the skill to know what to look for in specific situations? I have already stated that I do not think assessment skill is intuitive. In *Human Nature and Conduct* Dewey (1922/2007) explored the role of habit in human conduct, describing habit as an acquired activity which is shaped by prior activity. In defining habits, he equates them with the arts. Habits involve the "skill of sensory and motor organs, cunning or craft, and objective material. They assimilate objective energies, and eventuate in command of [the] environment. They require order, discipline and manifest technique" (p. 15). Dewey goes on to describe habits as "means, waiting, like tools in a box, to be used by conscious resolve... They are active means, means that project themselves, energetic and dominating ways of acting" (p. 25). Tools only become means, however, when they are used in some specific operation. "They are means only when they enter into organization with things which independently accomplish definite results. These organizations are habits" (p. 26).

Assessment skills are tools. Florence Nightingale referred to the assessment act of observation, specifically, as habit. "If you cannot get the *habit of observation* one way or other, you had better give up [the idea of] being a nurse, for it is not your calling, however kind and anxious you may be" (Skretkiewicz, 2010, emphasis added). The nurse's tools of hand (palpation/percussion), eye (inspection/observation) and ear (auscultation) can only be considered as means when they are in active operation as when the nurse is feeling for a pulse, observing the effort of breathing or listening for

bowel sounds. These are the active means which Dewey is referring to. The assessment skills (tools) of nurses, when they are repeated over and over again, become habits.

The nurses in this study all had their habits of assessment; the normal, routine assessments that they did every day. For both Kate and Emily, their assessment habit was a result of working in high dependency (HDU) and intensive care units (ICU) prior to their current clinical setting. Neither nurse had any formal post-registration training in advanced assessment. In high dependency settings, the nurse learns to carry out specific assessments on a regular basis, frequently with a check list to assist in both documenting the assessment findings and tracking and recognizing change. Kate describes the assessment practice that was a part of the routine in the high dependency unit:

*What we normally did was a full Glasgow Coma Scale<sup>8</sup>. We talked with the patient to see what their orientation was like. We used the pupil torch to check pupils and we got them to move their arms and legs and so on. We also listened to their chest, checked their peripheries and capillary refill, checked what their calves looked like, and checked for pain levels.*

Both the culture of the high dependency unit and the use of formalised checklists reinforce which assessments are important to conduct. Although the assessment checklist potentially routinizes the assessment, it also serves to imbed this routine practice as habit. These assessment habits remained with these nurses when they moved to the medical and surgical units.

Emily demonstrates her habit of assessment in a narrative she tells of working with a postoperative patient who has had an unusual response to morphine. She describes the assessment she completed when she recognised that “something was not right” with this patient:

*I'd always been taught in ICU to do your ABCs<sup>9</sup> and then start from the head and go down. So I did the basic ABCs and then walked through the rest of her body systems. Her airway was fine, she had oxygen on and wasn't blue. She had very shallow breathing, but she was still breathing and her respiratory rate was low. I turned up her oxygen a bit at that stage. I looked at her chest and her fingernails. I also did the usual neuro obs; checked her pupil size, her response to voice and painful stimuli and her ability to move and follow commands. I got her to squeeze my hands and she was moving all limbs.*

Emily's assessment habit directs what she looks for. She describes moving through the assessment checklist that she had used in the ICU. Although the setting has changed,

---

<sup>8</sup> Glasgow Coma Scale is a neurological scale that aims to give a reliable, objective way of recording the conscious state of a person for initial as well as subsequent assessment.

<sup>9</sup> ABCs refers to the sequential assessment of airway patency, breathing and circulation.

she continues to rely on the skills she has learned previously to help her explore this patient's problem. The 'routine' assessment previously guided by a checklist in the ICU has become habit in response to a change in a patient's situation in a different setting.

In contrast, Eva's assessment habit is a result of many years of experience working on a surgical ward. She describes her routine assessment practice:

*I now listen with the stethoscope if a patient's not feeling well. We have many patients after bowel surgery with ileuses or just the bowel not functioning yet. Now if they're feeling nauseated, not necessarily throwing up, or their tummy feels tight, I listen. And of course you palpate; you feel the abdomen and it's hard. When you listen with the stethoscope for the bowel sounds, you can't hear anything.*

*I use my assessment skills, not just when something is wrong, but when I've got a feeling that something might go wrong. I think sooner or later, two days later or three days later they would start vomiting and so it's best to take action before they start that... Before learning how to auscultate, I recognised the signs of an ileus but I didn't think to listen. I would put an NG tube in without listening. We always ask "Are there any bowel sounds?" But how would you know if there were bowel sounds if you don't listen?*

Eva's use of auscultation is a new addition to her 'tool kit' of assessment skills. Where she relied on observation and attention to specific symptoms in the past to alert her to a potential ileus, she now auscultates as well. In auscultating, she is able to confirm her suspicion of an ileus. She reveals that her use of auscultation is not an everyday practice however, but in response to a patient who is not feeling well, or when she "thinks" something might go wrong. For these patients, listening for bowel sounds and palpating the abdomen have become essential to her recognising and confirming problems such as an ileus.

The assessment habits described here are the conscious actions that the nurse engages in when she recognises or anticipates a problem. Over time and with continuous use these learned habits begin to operate automatically and outside of awareness. Dewey (1922/2007) argues that habit operates "in some subdued subordinate form even when not obviously dominating activity" (p. 41). Kate reveals this out-of-awareness assessment habit:

*In the process of going in to interact with patients you are assessing straight away. You are looking at skin tone and how that looks, body positioning, what they are doing, the amount of movement or non-movement, their breathing, what it looks like, what it sounds like, any sounds, and all those assessments are happening without you really being aware of it... It is a part of your practice and you do not even realise you are doing it until you notice something unusual and then you realise that that is what you were doing.*

In reflecting on her assessment practice, Kate describes this informal ongoing assessment as something that occurs without thinking. These are not thoughtless actions, but rather actions that are only recognized in response to some trigger or cue. According to Dewey, “the more suavely efficient a habit the more unconsciously it operates. Only a hitch in its working occasions emotion and provokes thought” (Dewey, 1922/2007, p. 178). The nurses in this study demonstrated the ability to be attuned to specific features without really being aware of this attunement.

Habit, according to Dewey, is like an attitude or disposition, but which requires “a positive stimulus outside ourselves to be active” (1922/2007, p. 41). This attitude or disposition for assessment enables the nurse to remain open to noticing often subtle signs during each interaction with the patient. For Kate, this element of her assessment practice is continually playing in the background; it is only when she notices something that she becomes aware of its presence. Thinking about her assessments has made her aware of the instinctive part of her practice, the part that just is. There may be no real plan to assess anything specific during these interactions; it is simply an interaction with a patient for other reasons until something triggers an awareness of difference, which can be either the presence of something out of the ordinary, or conversely the lack of something expected. It is not until the nurse recognizes something unusual, something concerning, that the habit of noticing becomes conscious.

Once the nurse has noticed then she will begin a more focused assessment of the patient, but this first looking is important as it stimulates the act of looking further, looking closer. In looking closer, the nurse needs to decide what is significant to take notice of in the particular situation. The routine looking of assessment, or scanning for problems, is replaced by a more purposeful looking. For Dewey “the prime difficulty is not in making observations . . . it is in being sure that we have taken as data the observations really implicated in the doing rightly of this particular thing; that we have not left out something that is relevant (1916, p. 510). Knowing what observations or assessment to include seems to be a key feature within the advanced assessment skills of these nurses. But what assessments are significant, and how does the nurse learn this?

### **Experience shapes seeing**

We have seen how previous experience both shapes and reinforces the habit of assessment. As Emily and Kate have demonstrated, the habits learned in specialist environments persist when they move to medical and surgical wards where there is no prescribed assessment routine. Previous assessment habit kicks into action when the

nurse recognises a problem that needs investigating. Experience also has a role to play in shaping or reinforcing habit, for it is the experience of previous practice, of both success and failure, that influences what a person is likely to assess, what it is important to take note of, and when it is needed. Dewey believed that:

an individual, in interacting with others and with his or her physical surroundings as well as the past and future, both shapes and is shaped by these interactions. Experience is not static. The intelligent person is the one who deliberately reconstructs experience... [They] transform their mostly unwitting behaviour into more thoughtful action, into directed action... In interacting with aspects of one's environment, one not only changes things but is changed in the process. (Eldridge, 1998, p. 24)

Dewey (1922/2007) believed that we gain the most from experiences or actions that do not work out. Gadamer refers to these as 'normative' experiences, experiences which disconfirm our previously trustworthy generalisations (Higgins, 2010). Eva described such an experience, one which continues to shape her assessment of patients with COPD (chronic obstructive pulmonary disease):

*I had one patient a few years ago. She was in early COPD. She was almost in a respiratory arrest and had to go down to ICU and be intubated because of her CO<sub>2</sub> retaining. All she came in with was diverticulitis. She had been in the ED [Emergency Department] with high oxygen and then on our ward with high oxygen and by the end of the night she was hypoxic. And that was the start; that's why I'm much more cautious with COPD patients... I look at the hand-over sheet and I look at the history because we try to put it on the hand-over sheet. And that tells me oxygen 4 litres or 6 litres, just came back from surgery, Sats [oxygen saturations] 95 on 4 or 6 litres and then I'll think, "COPD, they shouldn't have that much oxygen"... Now for every COPD patient, I consider that they might be a CO<sub>2</sub> retainer.*

The experience of having a patient almost stop breathing because she had failed to appreciate the physiological response of some COPD patients to excess oxygen has altered Eva's response to all future patients. Clearly, an experience in which a patient almost dies is likely to be remembered and has significant potential to alter routine habits.

"Experience inscribes itself upon the body as habits, and every experience modifies these habits. Once modified, our habits alter how we anticipate, recognise, and respond to future experiences" (Garrison, 1998, pp. 66-67). Experience not only tells us how to do things, but provides guidance for future action. It tells us what worked and what did not work in a particular situation, and what it is necessary to pay attention to. Eva now pays attention to the patient's past medical history to see if this is a patient with whom she needs to be more cautious. Her new habit is to anticipate that every COPD patient will be a CO<sub>2</sub> retainer. Thus the patient's past medical history is one

source of important information, but it is not sufficient. She looks at the patient's oxygen saturations and compares this with how much oxygen they are on. Eva now knows what to look for. She knows that a COPD patient who responds to a high level of oxygen with only 95% oxygen saturation is likely to be a CO<sub>2</sub> retainer. The specific information within the history guides what she pays attention to, and in turn helps her make sense of a relatively poor response to oxygen therapy. Experience has also helped her know what to look for when the patient is going into CO<sub>2</sub> retention:

*When they start the CO<sub>2</sub> retaining, they start to get a bit confused and slightly disorientated. They get fidgety, nervous, all over the place. Morphine can also make patients disorientated, but it's different... It is really experience in knowing. I mean you probably know about COPD and CO<sub>2</sub> retainers. You learn it at university but you do not really know what the patient looks like if they are hypoxic, or if they have a UTI or if they have a reaction to morphine.*

The experience of seeing a patient who was hypoxic has helped Eva to recognise the specific features or signs of CO<sub>2</sub> retention. It has also helped her to differentiate between the different causes of confusion and disorientation. Eva believes that hypoxia, infection and drug reactions present differently, and only experience can teach those differences. She has become attuned to the subtle differences of each. Her alertness as a result of her previous experience serves to keep her COPD patients safe.

Eva is similarly attuned to the salient features of a patient with an intestinal ileus. Her experience of looking and paying attention has helped her know how this type of patient most typically presents:

*An ileus usually starts on the second or third day, sometimes even after five days. Usually the first sign is hiccupping. They feel unwell, they are nauseated and you can almost see their tummy through the sheet, that's how distended they are, although the stomach isn't always distended. It usually takes two or three days to pass flatus. So usually we wait three days. Not passing flatus isn't that much of an alert, but the distended stomach, feeling nauseated and hiccupping is. They just do not feel right. The hiccupping is usually the first sign really... When you listen with the stethoscope for bowel sounds, you can't hear anything.*

Eva refers to salient features as an 'alert'. These are the signs she has noticed over and over again in her practice and are the things not to be missed. Background experience helps nurses recognise things as meaningful (Polkinghorne, 2004), and directs attention to what is important and needs to be assessed. Eva's experience has taught her what to expect in a patient with an intestinal ileus, and directs what she looks for:

*There was this one patient, he was about 75. He had an APR (anterior peritoneal resection) for bowel cancer. This was his second day post op. His*

*nurse told me that he was feeling nauseous and his abdomen looked distended. He was also hiccoughing, not sleeping, hadn't settled all night and hadn't passed flatus. I went and looked at him, and listened to his bowel sounds. After I assessed him I explained to him that to release him from all this discomfort it's best to put an NG tube down and it really helps. They feel better almost straight away. So we put an NG in this patient. The next day he felt better and after two days he started passing wind and bowel motions and so his recovery was quicker.*

Observing the outcome of inserting the NG tube confirms Eva's assessment and interpretation of the cause of the problem. Thus her experience of success also plays a role in shaping her assessment habits. Seeing the positive result of assessment and treatment actions confirms her recognition of salient features and supports continued assessment practice. This data suggests that the ability to really see comes from experience. A nurse can be taught how to look, but learning how to see can only come from the experience of seeing.

### **Concern emerges out of recognising what is seen**

One of the primary purposes of assessment conducted by nurses on medical and surgical wards is recognising change and deterioration (Meyer & Lavin, 2005). The routine habitual practice of assessment is done to acquaint the nurse with the patient's baseline status, and to identify patient presentations which do not seem normal or which are changing. The function of the routine nursing assessment in this context is that of surveillance (Gastaldo & Holmes, 1999), with nurses considered the eyes and ears of the hospital, watching and reporting change. When I asked each participant to describe practice stories in which they thought their use of advanced assessment skills made a difference to a patient they were caring for, the stories that emerged were not about recognising deterioration or change as such. Those elements were there, but more significantly each narrative required actions on the part of the nurse which went beyond the routine assessment and reporting of actual or potential problems. Their assessment caused them to think differently and, as a consequence, to respond differently.

The concerning patient causes the nurse to question what is happening. Something is noticed which throws into doubt her previous understanding of the patient situation. Dewey (1938) identified the role of 'situation', and specifically the unsettled or indeterminate situation, as significant in his analysis of inquiry and practical reasoning. For Dewey a situation is an object or event or set of objects and events in connection with a contextual whole and for which we need to make a judgement. In relation to the nursing assessment of the hospitalised patient, the situation can include

any aspect of the patient's presentation, including diagnosis, treatment, function, and family interaction issues. A 'settled' situation is one in which routine habits of responding are judged to be sufficient; the baseline observations are normal, the diagnosis and treatment seem to be appropriate, and the patient appears settled or is responding as expected. An unsettled or indeterminate situation is one in which the nurse senses some uncertainty or doubt over what is happening with the patient. It becomes a problematic situation once the situation is identified as an actual problem, but initially it reveals itself as unsettled, doubtful, indeterminate, concerning.

The purpose of the habitual assessment is to recognise the concerning patient. Some unsettled situations reveal themselves more readily than others. This is particularly so when the patient has a specific complaint such as increasing pain, or their general appearance or vital signs are recognised as being unusual. Emily describes this type of unsettled situation. She shares a narrative of beginning a shift and recognising a problem as soon as she enters the patient's room:

*Sarah was in her 60's and had had a knee joint replacement the day before. I'd just come on and the nurses had told me that she was quite dozy and she'd been using her PCA [patient controlled analgesic] quite a bit. She'd been through two syringes already in 24 hours which is quite high. They have a lock out period so that they can't have any more than one milligram every five minutes and no more than 12 milligrams in an hour. But she had achieved that on a number of occasions, including the last hour before I came on. Although she was still using it within the settings that they'd set, they had tried to discourage her from using it so much. I organised my work load and went in to see her. I walked into the room and looked at her and even before I touched her I thought 'something's not right here'.*

Emily's assessment and recognition of a problem when she enters the room is instant. She has been told during hand over that this patient has been quite dozy and thus has been alerted to the potential for the patient to be of concern. The discussion around number of syringes and discouraging the patient from using so much analgesia will have added to her sense of alertness. Just entering the room and *looking* provides enough evidence that this patient is in trouble. Although Emily does not reveal what it is that she *sees*, she recognises this unsettled situation instantly. She describes her initial actions:

*I went over to her and she was rousable, but I wouldn't actually say to voice. She needed quite a bit of stimulation to open her eyes. She'd just be talking away and she'd nod off mid-sentence and wouldn't continue her sentence. She'd be talking to me while she had her eyes closed and I had to say "Come on, open your eyes". She had pinpoint pupils. I immediately thought "This lady's narc'd; she's just had far too much morphine". I*

*walked out, grabbed the Narcan<sup>10</sup> and then came back in to do the rest of the assessment.*

Emily's initial assessment involves looking for signs to help her understand what is going on. She identifies how easily the patient can be woken up, the level of stimulation needed to do this, and pupil size. In describing her assessment actions, she reveals her initial understanding that something has affected this patient's level of consciousness. The situation is clearly unsettled. Her background understanding influences her initial assessment and interpretation of the problem; this patient has had too much narcotic. She continues her narrative:

*She was a slight lady and it was unusual for someone of her size to require the full 12 milligrams. I took the pain pump away from her and rang the anaesthetist. The anaesthetist agreed "take it away". Of course she hadn't eaten. She had quite bad nausea as well from the amount of morphine she'd had. So she hadn't eaten and she wasn't drinking. I managed to get her to eat something. She had fluids going. Within an hour or two of not having the pump and morphine she had perked up quite a bit and looked so much better. Her respiratory rate had come back to normal as well.*

Emily's action in response to her initial assessment and interpretation of too much narcotic was to take the pain pump away and then to discuss the patient with the anaesthetist. Her immediate interpretation of the problem was supported by the doctor. She recognised other aspects of the situation which might have contributed to the overdose: the patient's small stature, the likely fluid imbalance and the lack of food. Her patient responded well to her initial intervention. She became more alert and her respiratory rate returned to normal. It seemed that her initial interpretation or 'diagnosis' of too much morphine was correct. She returned the pain pump to the patient:

*She used her pain pump again and within half an hour to an hour, the same thing happened. But this time she dropped her blood pressure, became a bit [tachycardic], and dropped her saturations.*

Emily's initial habitual assessment enabled her to recognise a problem or unsettled situation and identify the most likely cause, a morphine overdose. When Emily resumed the pain pump and the patient responded again in an unusual fashion, this time with other worrying features, Emily seemed surprised. The patient's response suggested her initial interpretation of the cause was not correct. In this situation, while Emily's initial assessment suggested a specific diagnosis, the patient's response to the intervention did not. There seemed to be more going on than she initially thought. The unsettled situation had now become a problematic situation.

---

<sup>10</sup> Narcan (Naloxone) is a drug used to counter the effects of opiate overdose. It is used specifically to counteract life-threatening depression of the central nervous system or respiratory system.

The disruption of a habitual function initiates inquiry for Dewey (Garrison, 1998). In this nurse's narrative, the situation moves from what Dewey (1938) might have considered a settled situation, a situation in which the appropriate diagnosis and treatment seem obvious, to an unsettled or indeterminate situation, one in which the diagnosis seems less certain as the treatment has not resolved the situation. Emily recognised an unsettled situation when she first walked into the room. However her routine assessment and consequent actions have not brought the result she expected. The situation has not been settled and thus she continues looking:

*I did a really good assessment of her. I did the usual neuro obs. I'd always been taught in ICU to do your ABCs and then start from the head and go down. So I did the basic ABCs and then walked through the rest of her body systems. Her airway was fine, she had oxygen on and wasn't blue. She had very shallow breathing, but she was still breathing, and her respiratory rate was low. I turned up her oxygen a bit at that stage. I looked at her chest and her fingernails. I also checked her pupil size, her response to voice and painful stimuli and her ability to move and follow commands. I got her to squeeze my hands and she was moving all limbs. We use the AVPU assessment tool to determine level of consciousness. Are they alert, responding to voice, responding to painful stimuli or unresponsive? I asked if she had ever had a response like this before and she said no.*

Emily describes the assessment she does this second time. Her use of the words "really good" suggests that this assessment is more thorough than the initial assessment she conducted on this patient. As she describes the case, she reveals that with this second episode she has started to question her initial impression of what has caused the patient's deterioration. Significantly, she uses other potential causes of the deterioration to help direct this second assessment:

*I wondered if there was some sort of bleed because it was just so odd. I had done a hemicube and saw that her haemoglobin was low. I knew what it had been in the morning and it had dropped. So, I took back her dressing on her knee to make sure she hadn't bled, which she hadn't, and looked at her drain. I had a good feel of her tummy because if she's dropped her haemoglobin she could be bleeding elsewhere. Her neurovascular obs were normal. I also did a blood sugar because I thought that may have dropped. Her blood sugar was normal... She was also nauseous because of the morphine. She was being given anti-emetics, but not regularly and not enough. And she was dehydrated. She wasn't really getting maintenance fluid; just enough to keep the vein open for the PCA.*

Emily demonstrates how consideration of other potential causes of this patient's response directs her assessment. She considers causes such as bleeding and hypoglycaemia, purposefully looking for signs of these. Her assessment seems to have a specific purpose now, that of ruling out other potential causes of the deterioration.

Emily discusses her findings with the anaesthetist and they decide to remove the intravenous morphine and manage her on oral morphine:

*She was fine with oral morphine... She should have been able to tolerate the intravenous dose that she was on, but she was probably just very drug sensitive or opiate naïve in that she had not had much exposure to this type of drug. I remember her saying something about becoming quite sleepy after morphine following a previous surgery; that she had had an odd reaction to pain relief previously.*

Emily's more thorough assessment enabled her to rule out potential causes. Her final conclusion as to the likely cause of the response included IV morphine sensitivity and opioid naivety. Her patient responded well to the change in the type of morphine administered with no further deterioration. Emily's assessment actions were thus the means to establishing a new diagnosis for the cause of the deterioration. The end result of changing the type of morphine administered was both the means to confirming the cause, and as a treatment, the means to the most appropriate pain management for this patient. An unexpected consequence of Emily's more detailed assessment was the identification of other problems, the low haemoglobin, irregular anti-emetic administration and dehydration.

In Emily's narrative we saw her collaborate and consult with the doctor. The doctor was off-site and relied on Emily's communication of assessment findings to jointly consider potential causes and the most appropriate response to the patient's deterioration. Without her advanced assessment, the doctor would be less likely to make decisions over the telephone. Although the setting was a private hospital, this is a typical example of the inter-professional teamwork needed on medical and surgical wards. Often the doctor responsible for the patient is off-site or engaged elsewhere in the hospital. When the doctor is not present, he or she needs to rely on the nursing (or junior medical staff) assessment to guide decision making. When both parties agree as to the likely cause and best response in an unsettled situation, it seems to be business as usual.

Recognition of an unsettled situation triggers an action on the part of the nurse in the medical and surgical setting. That response can be to investigate further as Emily did, or to report the concerning findings to the doctor as Tara did. The interpretation of assessment findings and recognition of an unsettled situation is not always mutually agreed upon, however. We saw in Tara's narrative how the doctor did not initially agree that the leg swelling was of concern. It took a second, more detailed assessment to convince the doctor of the validity of Tara's initial impression of a DVT. Wright (2007) acknowledges the difficulty health practitioners have in mutually agreeing on

assessment findings and identifying the unsettled or problematic situation. Agreement relies on both parties not only looking, but seeing the full picture of the patient situation. The nurse may, at times, be in a better position to see the full picture. This is perhaps why Tara felt her assessment was more thorough than the doctor's. She saw leg swelling, but it was seen alongside a decreased appetite and reluctance to move, increasing pain, and a quietness which was uncharacteristic of her previous experience of the patient. The full picture did not match Tara's experience of normal leg swelling from surgery. Tara was able to see this because of her presence at the bedside and because she *looked* and *saw* the significance of these unique features.

I often refer to assessment in my teaching as "looking for a needle in a haystack", but this metaphor presumes you know that you have lost the needle. It works when the patient presents with an obvious problem that requires diagnosis, but is less useful when the diagnosis is thought to have been established. With hindsight and reflection practitioners are often able to name the early signs of an indeterminate situation, a situation that is concerning, but when they first feel, see, hear, or sense that something is not right, they are often unsure if their initial concern is justified. Is this new sign insignificant, expected even, or is there some significant meaning yet to be revealed? The routine assessment practice or habit of the nurse is crucial in this initial recognition of the indeterminate situation, the presence of a 'needle in the haystack'. As one of the participants commented, "If you are not assessing, you are not going to pick up on those cues".

Once the nurse recognises an indeterminate situation, she has two options, to report the change and her concern to the doctor or senior colleague, or to increase the range of her own assessment so as to have a better understanding of the nature and extent of the problem. These two options are not mutually exclusive, and the nurse may choose to do both, with her own assessment serving to assist in identifying the cause and most appropriate response. In the two stories from practice profiled here, both nurses continued to look; Tara because she was not convinced the swelling was a response to surgery, and Emily because the initial diagnosis and treatment did not resolve the situation as she expected.

## **Towards consequences**

In interpreting the narratives nurses told of using advanced assessment skills in practice it is apparent that the consequences include both the means, or end-in-view, as well as the end result of action (which is never the end of a patient's ongoing

experience). In assessing a patient the nurse must see in order to act, but the nurse must first *look* in order to *see*. In framing the consequences of the nurse's assessment actions as both the means and end we are able to see how each looking results in seeing and becomes the means to further looking and seeing. Dewey argues that "until one takes intermediate acts seriously enough to treat them as ends, one wastes one's time in any effort at change of habits. Of the intermediate acts, the most important is the *next* one. The first or earliest means is the most important *end* to discover" (Dewey, 1922/2007, p. 35). The assessment skills of the nurse are these intermediate acts, or means. Each individual assessment act is an important end to discover since it leads the nurse to the next assessment act, and thus moves her further along the continuum from looking and seeing to action.

The actual skills of assessment are tools, means which are used by the nurse to recognise and explore the concerning, unsettled or problematic patient situation. The tools, however, are only as good as their selection for use in any situation and the interpretation of the results observed. Learning to use these tools is shaped by past experience, culture and training. Habit plays a role in developing assessment skill for "we know *how* by means of our habits" (Dewey, 1922/2007, p. 177). In order to know how, we must do. Actions cannot become habit without doing.

The experience of doing not only influences how to carry out the skills, but what skills are needed, and what it is important to pay attention to in any given situation. This is shaped by previous experiences of assessment practice and the consequences of that practice. Negative events serve to alert the nurse to what is important, to know what information to search for in order to accurately identify unsettled or indeterminate situations, and to recognise the concerning patient.

The consequences of using the skills include recognising what is salient. In order to look and see the nurse must focus on the patient. Advanced assessment brings the nurse to the bedside so that she is in a better position to see and notice. Through the process of doing advanced assessment the nurse learns to recognise the importance of the signs she is seeing, and these guide her in deciding what other less obvious signs might also be important and thus need to be purposefully searched for. The salience of a particular sign when considered in the context of others helps the nurse to quickly rank information and thus give attention to that which is the most important.

Dewey believes that the actor is shaped as a result of their actions; the narratives have uncovered this consequence for the nurse. In the practice accounts explored thus far we see nurses looking for more and seeing what was there. They bring to their

assessment a disposition which is a purposeful, persistent looking for the salient features of their patient's current situation. Smythe (2010) describes the spirit of safe practice as attentiveness or attunement. Unsafety is often disguised and only slowly reveals itself. Advanced assessment skills help the nurse to be more attentive, or attuned, to hidden or slowly emerging signs by widening the cues that are both consciously looked for and unconsciously seen. This is the essence of safe practice.

## Chapter 6: Consequence as thinking differently

*When you change the way you look at things, the things you look at change.*

*Max Planck [1858 – 1947], Physicist Nobel winner*

The ‘habit’ of assessment provides the means through which the nurse recognises an unsettled or indeterminate situation. These often unconscious actions of looking and noticing enable the nurse to stay attuned to the obvious and sometimes not so obvious features of a patient’s presentation. The purposeful use of advanced assessment skills then enables the nurse to explore the situation more thoroughly to identify its salient features, and to recognise what is not obvious. Each feature and situation encountered requires interpretation. There is interpretation in seeing and recognising the salient, and in identifying the situation as unsettled, indeterminate and problematic. Interpretation of what is seen sets off a process of inquiry to begin to understand the patient situation and to determine how best to respond.

Dewey (1938) describes inquiry as the “controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole” (p. 108). Inquiry is triggered by the indeterminate situation. Recognition of an indeterminate situation is thus the first step in the inquiry. Further assessment and exploration of the situation serves to identify the nature of the situation and its features and boundaries (Wright, 2007). The problematic situation requires inquiry and means/ends deliberation in order to identify the most appropriate actions to resolve the situation.

The problematic situation, however, is not necessarily obvious. Really seeing what is going on, and recognising the unsettled, indeterminate situation as problematic requires interpretation of what is seen. Each individual assessment feature and each situation requires interpretation, and thus is open to the potential for variation in how individuals interpret what they see and hear (Leder, 1990). Looking does not guarantee seeing, and listening does not guarantee hearing, but both are essential for interpretation. The interpretation itself is the stimulus needed for appropriate action. Interpretation is the means through which the health care practitioner makes sense of the patient situation and determines how best to respond.

As we saw in the previous chapter, the recognition of a problematic patient situation is one consequence of assessment which is not always appreciated by all

interested parties. Tara informed the doctor of her concern for a patient with a swollen leg, her recognition of an unsettled situation. She saw salient features which made her suspect that there was a problem. The doctor's interpretation of the swollen leg was to assign the swelling to the normal response following surgery. He did not initially see the swelling as problematic. His interpretation of the significance of the sign was not the one Tara anticipated. She believed there was more going on, that the doctor's initial interpretation and response was not accurate. This response from the doctor left Tara with a problem, as her interpretation did not match his. Tara continued to search even though her interpretation of the findings was not supported.

What leads a nurse to look further, to keep looking, when her own interpretation is not supported? While looking and really seeing is needed in order to distinguish the unsettled situation from the settled situation, interpretation of what is seen is equally important. As one looks one interprets, and this interpretation guides further looking and further interpretation. This is the means/ends deliberation that Dewey describes (1922/2007) as necessary for inquiry and for action. The interpretation that informs the deliberation and consequent actions of the actor is the focus of this chapter.

### **Interpretation of the part**

Interpretation of each situation begins with interpretation of individual features, or signs, in order to determine if they are normal or not, expected or not. Accurate interpretation is thought necessary to ensure the most appropriate actions are carried out in response to a situation. Interpretation of individual signs requires a judgment as to what has been seen, heard or felt. The interpretation of signs is often assumed to be fairly black and white, they are present or they are not, and that this judgment is relatively straightforward. But experience tells us that this is not always the case. Tara shares her insights:

*Until I started listening myself I always assumed [the physiotherapist] was right. But once or twice I listened after her and I couldn't hear the crackles that she could hear. I asked the doctor to listen and he agreed that there weren't any crackles. She is always listening and she is brilliant, but before that I always just assumed that what she heard was correct...*

The detection of lung sounds such as crackles is a challenge to all clinicians engaged in auscultation in both real and controlled circumstances (Hiroshi, Matthew, Kazuhiko, & Hans, 2001). Wipf et al. (1999) go so far as to suggest that lung auscultation is inconsistently interpreted even among expert examiners. It is not simply a matter of skill or quality of equipment which creates the challenge, but the nature of

the sounds themselves, existing background noises, patient characteristics and the changing nature of the pathophysiology which produces the sounds. Including chest auscultation as part of the assessment enabled Tara to recognize the potential for variability in identifying and describing what is heard. It was not until she began to use the skills of auscultation with real patients that she was able to consider that sounds could be heard or interpreted differently.

The recognition of the variability in the assessment of individual signs is challenging but essential if the nurse is to value her own expertise and trust her own skill level and judgment. When what is heard, seen or felt is interpreted differently, it can contribute to different conclusions being drawn between practitioners. These differences of opinion can be significant, since appropriate management is generally dependent on an accurate diagnosis of the signs. With practice experience the nurse becomes more aware of this potential for variability in the identification and interpretation of individual signs.

Maya describes a patient situation in which lung sounds in a four month old infant with bronchiolitis are heard differently, resulting in a different interpretation and conclusion about the correct course of action:

*I had a listen to his chest and he had really good air entry coming in to all his bases. I couldn't hear a wheeze, and that was interesting because one of the house surgeons<sup>11</sup> came in, he's just started from England – this new house surgeon, and he said "I want to give the baby a Ventolin<sup>12</sup> Nebulizer<sup>13</sup>" and I asked "Why?" He said, "I think he's quite distressed and I think he's got wheeze and this will really help him." I said "I can't hear any wheeze." And he said, "Ah, no, no, he's definitely got wheeze. We're going to do this Ventolin Nebulizer."*

Some signs are considered more obvious and certain than others and thus less likely to be disputed. External signs, such as leg swelling, are usually less ambiguous since it is possible to compare the sign to known normal values, or to measure when there is dispute. Other signs such as the wheeze of asthma are considered obvious and yet this narrative reveals that they are not. One interpretation of what could be happening is that one practitioner is correct and the other not. Signs that are less visible such as those identified through auscultation are often less self-evident and thus more difficult to confirm. As a consequence, when a practitioner hears an abnormal sound

---

<sup>11</sup> House surgeon is the name given to a doctor who has graduated from medical school and is in his first 1 or 2 years of practice.

<sup>12</sup> Ventolin is a broncho-dilating medication used in the treatment of airway restriction due to inflammation, such as occurs in viral-induced wheeze or asthma.

<sup>13</sup> Nebulizer is a drug delivery device used to administer medication in the form of a mist inhaled into the lungs.

and another does not, it may be difficult to determine whose interpretation is most accurate. Although we know that many things can alter what is heard, including time, discrepancies are usually considered the result of lack of experience in tuning into the sounds, or to differences in the quality of the equipment used. When there are multiple interpreters such as exist on medical and surgical wards, hierarchies come into play. In situations where there is disagreement with what is seen or heard, the practitioner with the most status usually prevails, regardless of experience. This practice sets up an inherent tension for nurses who work alongside other health professionals in interpreting signs and symptoms. Experienced nurses may have better assessment skills than some doctors, and as a result draw more accurate conclusions. The tension exists because the interpretation has a consequence for the patient; the outcome relies on the conclusions drawn.

The presence of a wheeze is a common finding in infants with bronchiolitis (Bush & Thomson, 2007). In this narrative, the junior doctor who has more status but less experience did not question his interpretation of what he was hearing. There are a number of possible explanations for why Maya did not hear a wheeze, but the junior doctor did. It is possible that Maya's assessment missed the presence of a wheeze, since no one is infallible. It might be that the wheeze was not present when Maya listened but was present when the junior doctor listened. This is certainly possible since we do not know the state of the infant while each was listening, how hard he was breathing or if he was crying. But it is also possible that the junior doctor was mistaken in his interpretation of the sounds. This is not unusual. High profile cases such as that of the death of a young child with asthma (HDC, 2009) in a New Zealand hospital demonstrate that interpretation of lung sounds is not straightforward and mistakes are made. In this tragic case, the wheeze disappeared but the doctor mistook this for a sign of improvement rather than the deterioration that it was. The disappearance of the wheeze alongside decreased air entry was an obvious, but ominous, sign that was misinterpreted by the junior doctor.

Surprisingly even signs that are considered obvious may not be interpreted correctly. Brooks, LeBlanc and Norman (2000) argue that the perception of supposedly obvious features of a patient's appearance is vulnerable to the influence of contextual factors; that clinical features themselves may be ambiguous, including those not considered subtle or confusing. While the ambiguity of even obvious signs is frequently described in the literature, this is not how they are presented within the standard textbooks. Signs such as the sound of a wheeze are often presented as an absolute, with

the variability being where it is heard best within the lung fields or when it occurs within the respiratory cycle. Its identification as a wheeze is not questioned. In this narrative we have a nurse who does not hear a wheeze, and a junior doctor who does. Maya explains what happened next:

*I went and got [the Ventolin nebulizer]. I put it on the baby and it just made everything worse because he became much more distressed with it. He was fighting the mask. Then the registrar<sup>14</sup> came in and had a look, had a listen and said, "I can't hear any wheeze, turn it off."*

The basic starting point for any interpretation is in identifying salient signs. A nurse who has not listened will not be in a position to question the interpretation or actions recommended by a doctor. And while the nurse might think that the treatment decisions are not appropriate, without her own assessment may have little evidence on which to argue a case. The experience of performing advanced skills such as auscultation helps the nurse to differentiate signs and to become cognizant of the potential for variation in interpretation. Without this understanding it is difficult to engage in the level of inquiry needed to identify the cause of a problem, organize interventions or question decision making.

Although Maya had evidence to argue that Ventolin was not needed, her opinion was disregarded. But without the assessment data she would not have been able to comment other than on the infant's continued distress. She gave the Ventolin based on her knowledge that it is sometimes trialed in infants with bronchiolitis, rather than because of the presence of a wheeze. She continues her narrative:

*I can't remember whether he listened to the lungs or not. I'm sure he did but very quickly. A lot of doctors just sort of go bang, bang, bang. I think they are just listening to see if they can hear air entry because you need to listen for quite a long time to hear all those other sounds...*

Experience helps the clinician know *how* to perform the skills, both the mechanics and the conditions necessary to obtain the best result. Listening requires patience, the ability to tune in to the specific sound listened for and to be able to block out other sounds and distractions. The clinical context of this narrative is that of a busy teaching hospital, where both nurses and doctors are learning. It is also an acute care setting where the signs that present can change quickly, they can present intermittently, and they can be relatively ambiguous even to experienced practitioners. In any setting where patients can deteriorate quickly, the nurse's assessment of individual signs serves as an

---

<sup>14</sup> The registrar is an intermediate level doctor in a 3 to 5 year specialty training programme, following two years of practice as a house surgeon.

additional opinion, and provides an opportunity to confirm the interpretation in order to identify the most appropriate response to the situation.

In the previous chapter we saw how Tara's assessment and interpretation of the leg swelling differed from that of the doctor. Neither was interpreting the leg swelling in isolation. Both had access to the context of the patient and leg swelling. However Tara's previous interactions with the patient made her aware of salient features such as the reluctance to mobilise, and the changed response to analgesia. In assessing the leg swelling, these subtle observations contributed to her seeing the swelling differently. Her assessment incorporated interpretation of other features which were significant to her understanding of the leg swelling. The potential for difference in the interpretation of an individual sign between the nurse and the doctor demonstrates the ambiguous nature of individual signs and the importance of interpreting signs within the full context of the patient situation. Accurate interpretation of individual signs requires interpretation of not only the part, the sign itself, but of the whole in order to really see the situation.

### **Interpretation of the whole**

Leder (1990) describes the patient assessment as hermeneutic in nature. He argues that in assessing patients, the clinician uses "probing questions, fingers, and instruments" to "assist the story to write itself more fully, until its meaning becomes perspicuous" (pp. 12-13). He sees the patient's illness or problem as a text, waiting to be read. The clinician uses skilled questioning and assessment techniques in the search for the text, the signs and symptoms, which reveal the nature of the illness. He suggests that the text, individual signs and symptoms, are waiting, ready to be discovered or revealed.

The hermeneutic circle, as described by Gadamer (1975/1989), helps us to explore the patient assessment as an interpretive endeavour in more detail. The hermeneutic circle refers to the notion of interpretation as a process of moving back and forth between the overall interpretation and the individual details that stand out as significant. New details can modify the overall interpretation, and in turn reveal other details as significant. This circular motion is meant to lead to a richer understanding of the text. We can see this same process of hermeneutic understanding working in the interpretation of a patient situation, with the nurse or doctor moving between the interpretation or understanding of individual signs and symptoms and the interpretation of the situation as a whole. This interpretation is constantly evolving however, since the

hermeneutic ‘text’ of the human body and its responses are continually evolving and adapting to external and internal assaults.

Maya’s story of the infant with bronchiolitis demonstrates this notion of interpretation of the whole, of using multiple types of assessment data to make meaning of the patient’s situation. She continued her narrative of the 4 month old infant with bronchiolitis and wheeze. She described caring for him following his transfer from the paediatric intensive care unit (PICU). Maya had admitted him to the ward and reviewed his treatments:

*He was on a massive dose of cefuroxime. Obviously with all medications you check the dose. I’d checked it and it was 50 mg per kilo per dose which is like... “Where did you get that from because I couldn’t find it?” We have to check all the books and if we can’t see it in the books we go to the reference bureau on the intranet and there was nothing to indicate that anyone could get that kind of dose. He started getting profuse diarrhea and of course it could be from the bronchiolitis or it could be from something else and I was trying to figure out what else could be causing it while he’s on this massive dose of cefuroxime.*

As a part of her initial assessment, Maya checked the dose of medication to ensure it was correct for the age and weight of the infant. Recognition that the dose was not supported by the ward reference material began a process of inquiry and questioning for Maya. She could not find a reason for such a large dose and even at this early stage began to link it to the diarrhea the infant was having. In beginning to make the links, Maya was moving from the specific feature, an antibiotic dose in excess of what she would expect, to the wider picture of an infant with bronchiolitis and diarrhea. In moving between the part and the whole, she identified both bronchiolitis and the antibiotic as potential causes of the diarrhea. Maya continued her story:

*I didn’t give it and I queried it with the pharmacist. She said, “Well, on this British formulary they can give 50 mg per kilo for severe infections.” And I asked, “What kind of infections?” She named a few and I was thinking, this infant has come in with bronchiolitis and he’d had a chest x-ray in PICU and they’d found some subtle changes, patchy changes, so that’s why they’d put him on the Cefuroxime. But the picture didn’t fit why you would give that high a dose; it didn’t fit this particular infant.*

Maya’s concern emerges not from the antibiotic dose on its own, but from her interpretation of the situation as a whole. She searches for an answer as to why this infant has been prescribed such a large dose of antibiotic. She did not think it was sufficient that the dose could be given for severe infections. She needed to know the type of severe infection so that she could rationalise *this* dose with *this* infant; her understanding of the infant’s condition did not match the recommended situations

requiring such a large dose. She initially refused to give it while she confirmed that this was an appropriate dose:

*I then queried it with the house surgeon, and she queried it with the registrar and they said, "No, we're happy." I said, "Okay." I gave it, and the infant continued to have diarrhea.*

Although Maya thought that the antibiotic dose was too high, she agreed to give it after questioning the pharmacist and both doctors. Agreeing to give it did not stop her questioning its appropriateness, however, or noticing that the diarrhea continued. For Maya, the history and physical findings needed to match the treatment, and they did not. Concern about the antibiotic dose and the diarrhea provided a focus for her ongoing assessment:

*With the constant diarrhea we were getting into a situation where his hydration was getting compromised. I was continually checking his perfusion and weighing his nappies. He was still crying tears, which was great, and his mucus membranes were moist, but throughout the day his feet started to get cold, and he didn't have a fever. He was spiking temperatures and we were noticing he was becoming peripherally shut down with those fever spikes which you'd expect, but he didn't have a fever. His urine output was hardly anything; he was pooing out, squirting out stuff like water basically.*

Maya's interpretation of the whole situation led her back to the infant, looking for specific signs of the consequence of the diarrhea. She moves from the whole back to the parts. Recognizing the potential for dehydration as a result of the diarrhea, she used her assessment skills to monitor his hydration status. When his peripheries (legs and arms) began to feel cool, she was aware that his ability to compensate for the diarrhea was decreasing. Interpretation of the individual part, cool peripheries, altered her interpretation of the whole situation. He was losing his ability to compensate for the diarrhea. Her interpretation that the high dose of antibiotic was contributing to the diarrhea persisted:

*I ended up calling the consultant and said, "I need this infant to be urgently reviewed." This was probably in the early afternoon and I said to him, "He's on this huge dose of Cefuroxime and I've queried it with the pharmacist and the registrar and the house surgeon, but I just don't understand. I think the offset of this high dose is that it is actually putting this infant more at risk than if we gave him a lower dose" and he agreed. He said, "Absolutely. Let's change it now." So we reduced the dose. The consultant then came to assess the patient. We ended up doing a fluid bolus on the infant. We stopped his NG feeds, put him on IV fluids, and reduced his stomach with the nasal gastric tube by putting that on free drainage. It was all on at that point.*

Although Maya had gone through the normal channels to express her concern over the antibiotic dose, she still did not feel that the dose was appropriate given the infant's diagnosis and now profuse diarrhea and obvious change to homeostasis. She decided to contact the consultant doctor directly. In discussing the case with the doctor, Maya communicated her interpretation of the cause of the diarrhea and its potential consequence. Maya described the thinking which led her to this action:

*At the end of the day I felt like there wasn't really much else I could do but call the consultant. I'd voiced my concerns. [The registrar] was adamant he should be on that dose, but the diarrhea wasn't that bad at that point. As the day wore on I thought "well if the consultant is not aware".... I mean, he would have been aware of the dose, but if he isn't putting the two and two together, then we're just fighting a losing battle. If we keep him on that dose and he continues to have diarrhea, we're just really playing catch up with his hydration and he could end up in a lot more trouble.*

Maya was aware that the discussion with the house surgeon and registrar was earlier in the day, and thus the initial decision to continue with the large antibiotic dose was made with different assessment information. The overall picture had changed since then; the diarrhea had increased, reflecting the continually changing nature of a patient's clinical course and presentation on a medical ward. Although Maya could have gone back to the registrar with this new information, she chose to contact the consultant directly. Her interpretation of the changed situation meant immediate action was needed. She knew the most immediate response would likely come from the consultant rather than from the less experienced registrar. In addition, she could not be certain that the consultant who had overall responsibility for this patient had put the full picture together, since he did not have the additional information she had.

Maya's story of this infant's clinical presentation draws attention to the significant role of the nurse at the bedside, noticing and interpreting signs as they emerge. While Leder's (1990) description of the clinical examination as interpretive is useful, the text that is the human body is continually changing. It is not a static text waiting to be read and interpreted, particularly in the context of an acute illness. The text of illness revealed by physical signs changes as this infant's story shows. Furthermore, interpretation can only apply to what is known or seen at the time and remains just that, an interpretation. Because signs and the situation change, the interpretation itself must continually change in response.

In critiquing the notion of the patient illness as a hermeneutic text, Baron (1990) cautions that patient illness texts are not "transcendentally 'out there' waiting to be explicated but exist in an uneasy and uncertain relationship with their readers" (p. 27).

The ambiguity of the signs themselves contributes to this uneasy, uncertain relationship. There is ambiguity in their presentation, their timing and in the reader's ability to see and interpret them. Thus meaning is arrived at within the context of potential change and uncertainty. The ability to interpret a situation requires attention to the salient features of each part, considering how these correspond to other features in the overall context of the specific patient situation, and remaining open to the possibility for change and new features to emerge. Maya's constant questioning and attention, or attunement, to all features of this patient's presentation helped her interpret individual signs as they emerged. During the interview Maya reflected on the purpose of her assessment and the questions that drove it:

*For me the assessment helps me to see what's changing and figure out what it is that's doing it. Is it his hydration status; is it his respiratory? Is it his neurological status? What is it that's changing, if anything?*

Maya's narrative demonstrates a real need to try to understand what is happening and why. Rather than relying on the doctors to put the pieces of the puzzle together, she needed this infant's situation including diagnosis, treatment and now complications to make sense so that the appropriate actions could be taken. The nurse is in a unique situation where presence at the bedside and more frequent assessment of the patient helps her to see things that may not be obvious to other clinicians who assess the patient intermittently. Maya was there, watching this infant, discussing changes with the parents, and continually observing the infant's response. Her more frequent assessments provided the opportunity to reflect on both the parts and the whole, and to gradually fit the pieces of the puzzle together as they emerged. She recognised her ability to do this when reflecting on this narrative:

*I was disappointed because he didn't need to be on that dose. He didn't have the indications to be on that massive dose. So I was disappointed that the doctor, the registrar, I don't know why... Whether she just couldn't be bothered changing it or whether she thought, oh well what's the harm, he's got the chest, he's got pneumonia and he's got whatever going on. So we are treating it so we'll just treat it with a massive dose. Yet the harm was the diarrhea, the dehydration and the distended stomach.... Looking at the bigger picture it's not just about the chest infection.*

In order to interpret and act on the part, it needs to be interpreted alongside the whole. The clinical assessment is an interpretive act, and thus each individual assessment becomes a part of the hermeneutic circle, with each new finding and interpretation considered alongside previous interpretations of the whole situation. Nurses, with their presence at the bedside of patients whose condition is continually changing, are in an ideal position to carry out this function.

## Contributing to diagnosis and treatment decisions

Signs and symptoms are looked for and recognised using advanced assessment skills. The interpretation of each sign or symptom enables the nurse to arrive at an interpretation of the whole situation. This interpretation, in turn, places them in a position to make decisions around both the diagnosis and treatment decisions. Nurses generally deny that they make medical diagnoses or treatment decisions. I frequently hear the reply “but that is not the nurse’s role”. Nurses see their role as that of monitoring for change and informing the doctor so that the patient can be reassessed and the diagnosis or treatment altered as needed.

While nurses do not technically make medical diagnoses, there is an expectation that they respond appropriately to life threatening events such as a myocardial infarction (heart attack) and pulmonary embolus, and that they maintain possible differential diagnoses in their clinical reasoning and communication with doctors (HDC, 2005a). The nurses in this study demonstrated their ability to make medical diagnoses however, and to search for and rule out differential diagnoses. They did not simply report their findings to the doctor and accept the response. Their assessments and thinking provided sufficient information to enable them to consider whether the diagnosis was correct or the doctor’s response was appropriate, and if not, the most likely diagnosis to explain the situation. They demonstrated an ability to work with the doctors in arriving at the most appropriate action for their patient. Tara provides an example of working with the doctor in the assessment and diagnosis of a patient recovering from surgery:

*She was an older patient and had been on the ward about a week... She was tired, weak, not eating or drinking, and her respiratory rate and pulse were up. She was also a bit wheezy. Not eating or drinking is common on this ward. And it is normal for patients to not feel like eating in the morning. She’d had respiratory problems before, and had asthma or CORD [Chronic obstructive respiratory disease] I think. She had a lot of inhalers, so I gave her an inhaler hoping this would help but it didn’t... I read through the notes and nothing major had changed for her. I realised I had time to listen to her chest. And that is when I heard the crackles.*

*I called the doctor and he said he would come later, and I said, “No, I can hear crackles. I’m worried she has pneumonia”. After 40 minutes he still hadn’t come so I paged him again and said this patient needed to be seen, she hasn’t been eating or drinking, but he still didn’t come. Then I called him a third time. When he finally came, he listened and could hear them too. He said, “Yes, there are crackles. She has pneumonia”. We started IV antibiotics immediately.*

Tara knew something was wrong with her patient as a result of her routine observations, and based on these, would have contacted the doctor to request a review.

Listening to the lung sounds, hearing crackles and suspecting pneumonia reinforced her interpretation that this patient was vulnerable to rapid deterioration. Her diagnosis of potential pneumonia provided the information necessary to insist on an urgent medical review so that treatment could be initiated quickly. She reflects on the potential consequences if she had not listened to the lung sounds of this patient:

*If I hadn't listened to the crackles, the doctors are quite busy on the weekend and might not have listened but instead might have just encouraged us to keep offering fluids. She would have gotten worse and might not have been escalated until the EWS score [Early Warning Score<sup>15</sup>] was a 3. If I hadn't listened I might not have contacted the doctor either. By listening to the lung sounds I think I speeded up her diagnosis and treatment.*

Tara's experience of practice in this setting suggests that the doctor on call might not have listened to the lungs when reviewing the patient. Hearing abnormal sounds meant that the doctor needed to listen as well since once heard they could not be ignored. Thus her assessment directed his assessment. While Tara can only guess at what might have happened if she had not listened to this patient's lung sounds, it is apparent that hearing crackles helped her understand both the likely diagnosis and the urgency with which treatment needed to be initiated. It directed not only what information she passed on to the doctor, but *how* she did this. In working alongside doctors, the communication needed to negotiate appropriate treatments is equally as important as the nurse's interpretation (Iedema, 2009; Leonard, Graham, & Bonacum, 2004). The ability to receive accurate detailed assessment data from the nurse is seen as an important element in medical decision making and prioritizing (Weller, Barrow, & Gasquoine, 2011).

Tara relates another story of working alongside the doctor to manage the treatment of a cancer patient. The patient was palliative, and had other symptoms which were being treated:

*It was on a Friday. I realized the doctor had reduced the Frusemide<sup>16</sup>. She was on 40mg IV morning and lunch time, but I could hear the wheeze without my stethoscope. She was really short of breath. I asked the doctor, "Why did you reduce it?" The doctor said "Oh, her blood pressure is low and I don't think she needs that much." I assessed her legs and I could see there was a lot of fluid. I brought the doctor back. I told him I had assessed the oedema yesterday, which was up to the top of the knee. When I looked again it was still up to the top of the knee. I said "It hasn't changed, so she still needs more Frusemide."*

---

<sup>15</sup> An early warning score is a guide used to quickly determine the degree of illness based on vital sign recordings and occasionally other parameters such as urine output or neurological status.

<sup>16</sup> Frusemide is a loop diuretic used for the treatment of oedema.

*She was also on a one litre fluid restriction. Her blood pressure was going down too, although it was staying fairly stable. She was a dying patient and we have to think about making her comfortable... She had been getting 80mg in the morning and 40 at lunch time, but if we reduced it, she would get more oedema and more pain. It's about comfort care. The doctor straight away changed it back again.*

Tara's assessment of the patient's respiratory status and leg oedema enabled her to consider the change in diuretic dose and recommend to the doctor that the dose be returned to its previous level. Later, when the decision was made to withdraw active treatment and provide comfort measures, Tara's assessment provided another opportunity to contribute to the treatment decision:

*The doctor came back and said "Yes, the husband and wife have agreed to comfort measures only." When we put them on comfort care and say no active treatment, we cross the antibiotics out. We cross out all the active treatment and we put them on just morphine and antiemetic, just relaxing medication. He started crossing things out and I said, "Hang on, don't cross out the Frusemide because the patient needs to be comfortable. If you take the Frusemide out the oedema will increase and she will have more pain." The doctor said, "Yes, that's a good point."*

Linking the Frusemide to the leg oedema helped Tara argue the importance of this treatment in maintaining comfort for her patient. Tara's ability to assess the full picture enabled her to work alongside the doctor and contribute to both diagnosis and treatment decisions. The nursing contribution to decisions around medication type, amount, frequency and route is common on medical and surgical wards. In order to make safe recommendations however, they need to be based on an accurate interpretation of the patient situation. Tara acknowledges the increased confidence her assessment skills give her:

*I felt quite good because I was able to contribute to treatment as well. I asked the doctor to keep the Frusemide and I wouldn't have had the confidence to do that before.*

Previous studies have identified increased confidence as a consequence of the nurse learning advanced assessment skills (Reaby, 1991), however the role confidence plays in the nurse-patient or nurse-doctor interaction has not been explored. The narratives from this study show that the use of advanced assessment skills help the nurse consider the diagnosis and treatment decisions being made, and to more confidently work alongside the doctors in determining treatment and management plans. The role of the nurse in contributing to diagnostic and treatment decisions is known anecdotally but has received little attention in the literature. The role is often hidden because of the perceived overlap of professional roles. Tara, in reflecting on her

contribution to the treatment decisions for this patient, admits to not documenting her role:

*I don't want people to feel threatened by me. Sometimes I think they might feel threatened by me, or think that I'm going outside my scope. So I documented just my assessment, but not my recommendation to the doctor about the Frusemide... I told the next nurse coming on to watch out for the oedema and that the Frusemide shouldn't be reduced... The doctors don't seem to mind that I am making these suggestions. They were both happy. Without question, they seemed to welcome my suggestions, even the on-call registrar.*

While conscious of her role in the decisions that are made about diagnosis and treatment, Tara does not want to be seen to be working outside of her scope of practice. She manages this in a way which keeps herself and her patient safe, by speaking directly with the doctor. As a consequence, however, the thinking that accompanied her assessment of this patient and her role in helping to adjust the treatment necessary to keep this patient comfortable is not visible in the patient's chart, or for other colleagues to see. It only becomes visible through the telling of this story and, one would hope, in the personal interaction between the doctor and the nurse. Even the patient is unlikely to be aware of Tara's role in her treatment decisions.

Tara was concerned about working outside her scope of practice. In trying to define its professional boundaries, nursing has identified the purpose of assessment as determining nursing diagnoses, specific areas that are the nursing responsibility. This includes monitoring for and reporting deterioration. Nurses are not expected to make medical diagnoses and yet, as I have stated earlier, there is an expectation that the nurse will keep differential diagnoses in play when communicating a patient's status to the physician (HDC, 2005a). Equally, nurses are not expected to prescribe treatment, and yet are expected to act when they are concerned about the treatment decisions made by the doctor (HDC, 2009). "There is a considerable body of literature that demonstrates the adverse impact of professional boundaries on patient care and suggests that both inter- and intra-professional boundaries act as a significant barrier to quality improvement" (Powell & Davies, 2012, p. 813). Nurses who use their skills to contribute to decisions around appropriate diagnoses and treatment are concerned they may be crossing professional boundaries and working beyond their scope of practice. There seems to be very little recognition of the nurse's role in medical decision making except in cases where they did not act to safeguard a patient.

## Thinking differently

The situations where the nurses in this study believed their advanced assessment skills were most beneficial were those in which they believed their interpretation of the situation was different from that of the doctor. The stories where their interpretation was accepted and acted on faded from memory. Remembered are the times that did not work out, that created tensions or where the nurse felt like she had made a significant difference. The situations they recalled were unsettled, not only because their interpretation of the patient's status caused them concern, but also because of the response of the doctor to their concern. The use of advanced assessment skills moved the nurse from simply reporting unusual findings to thinking about what was causing the unusual findings. They thought about not only what was happening to the patient, but why and what needed to be done. Their assessment, and consequent interpretation of the findings, enabled them to think differently about the patient in light of the unsettled situation.

Dewey believes that actual thinking is needed to reach conclusions in unsettled situations. "Actual thinking adapts itself to particular persons, places and times" (Wright, 2007, p. 86). Actual thinking is a work in progress and not a finished product which is merely applied repetitively. Actual thinking involves what Dewey refers to as 'intelligence', as opposed to reason. Intelligence is the "active coping with conditions. It delves into the messy practical world of the evolving, concrete, particular, uncertain (the merely probable) and the contingent" (1929, p. 170). Wright acknowledges this as "the world where doctors and nurses work" (2007, p. 89). Patient situations are uncertain; they change and evolve, often unexpectedly and quickly. In order to cope with this, health care practitioners need to really think about what is happening in order to respond to the situation. It requires constant interpretation and re-interpretation as the situation unfolds. Nurses contribute to the interpretation by engaging in their own thinking about what is happening, and thus can influence the decisions that are made to identify and manage the situation.

In recognizing inconsistencies between the medical diagnosis and the assessment findings, or between the treatment order and the patient's response, these nurses were able to critique the interpretations and clinical decisions of the doctors they were working with. Reflecting on the full context of the patient situation presents both a challenge and an opportunity for the nurse. There exists an opportunity for the nurse to contribute to the overall success of medical decision making in addressing patient problems by providing another interpretation of the patient situation. The challenge

exists in communicating concern when the nurse's interpretation does not match that of the doctor, and in negotiating a new interpretation so that the situation can be managed more effectively. In the ideal situation both the nurse and the doctor will agree on the interpretation and best treatment. There is little conflict when the nurse passes on assessment information and leaves interpretation and decision making to the doctor. However, when nurses take on the role of knowledgeable, thinking co-interpreter of the patient situation, then shared understanding is necessary in order for all parties to agree the most appropriate actions. This is not a passive role, but an active one.

Maya's story about the infant with bronchiolitis did not end with the urgent medical review, change to the antibiotic dose and fluid bolus. Initially the infant responded well, but within a few hours showed signs of deteriorating again. The house surgeon had assessed the patient and wanted to give a second bolus. Maya was not convinced that it was the best course of action and asked the registrar to review the infant:

*The on call paediatric registrar came up; she said that she was very busy in ED. She asked, "Do I need to see him?" and I said, "I really would like you to see him." She went in and came out 2 minutes later and said, "He's saturating fine on 2 litres; it's good, it's all good." I said, "I'm really not happy. I'm not happy with that. If you are too busy to see him, I'll see if the house surgeon can get the PICU Registrar back because he can review him."*

*She realized she better go in and do a proper assessment, because she hadn't. She had eye-balled the patient, looked at his monitor and walked out again and it just wasn't good enough. It just wasn't good enough. So she then went back and did her job properly basically and properly reviewed him and agreed the fluid bolus wasn't right... I'd been with that baby all day and I really felt like she had no right to just walk in and say that. Just to make that comment on a child that she hadn't even seen. She had no idea what was going on.*

Maya had completed her own assessment of this patient and was concerned that the second intravenous bolus recommended by the house surgeon might cause more harm than good. She requested the review by the registrar because she did not feel that a second fluid bolus was the correct action. While her assessment and interpretation of deterioration was matched by the junior doctor's, her thinking around the correct course of action was not. When the registrar, who had stated she was busy and hence pressed for time, did not interpret the patient situation as deteriorating, Maya was not satisfied. She felt her own interpretation, based on being with the infant all day, was valid and thus should not be discounted so easily. Rather than accepting the registrar's assessment and interpretation, she insisted that a more thorough assessment was warranted. Actual

thinking for Maya was using her own interpretation of the situation to determine the best course of action for her patient, even if that meant contradicting the doctor's initial interpretation. This story highlights the crucial role of the nurse in not only recognising the problematic situation, but in interpreting what she is seeing and acting on this interpretation. Maya did not accept a passive role, but rather an active role alongside the doctors in determining the best course of action. By "being with the infant all day" Maya was able to recognise deterioration and feel confident that her interpretation of what she was seeing was accurate. She was at the bedside noticing change, watching the patient situation as it unfolded. Her assessment was not based on a cursory glance, but on constant attention and attunement. Her frustration at her interpretation not being listened to as an equal voice was palpable.

### **Towards consequences**

When an unsettled or indeterminate situation is identified by the nurse, it is anticipated that all members of the health care team will engage in a new process of inquiry to explore the problem and arrive at a more appropriate diagnosis and satisfactory resolution of the situation. The assessment skills of the nurse are tools, the means, needed to identify the unsettled situation and explore it more fully, with the purpose of achieving the most appropriate end for the patient. Aspects of the assessment, either the actions or the thinking, can appear as "means at one time or from one perspective, and as ends in another" (Wright, 2007, p. 100). When the nurse uses these skills, her assessment and interpretation are the means by which the patient's problem is more accurately diagnosed and treated. While the final end should always be the achievement of the most appropriate response for the patient, engaging the doctor in thoughtful consideration of alternative diagnoses and treatments is an *end* which the nurse working in medical and surgical settings has the most control over. When the nurse experiences the potential for contributing to diagnostic and treatment decision making, then the advanced assessment skills have a specific purpose. They become the means, or ends-in-view, towards a satisfactory end result for their patient. Dewey (1938) acknowledged that:

the difference between the two senses of end, namely, end-in-view (*means*) and end as objective termination and completion, is striking proof of the fact that in inquiry the termination is not just realistically apprehended and enunciated but is stated as a way of procedure. (p. 167)

The end result directs how we should proceed. When the focus is on the end result from the perspective of the patient, then the nurse's assessment actions and interpretations are the means to achieving accurate assessment, diagnosis and treatment.

Diagnosis and treatment decisions are examples of practical inquiry. They require appropriate assessment, means/ends deliberation, and action. They are initiated by recognition of an uncertain or indeterminate situation. The means/ends deliberation needed to convert it to a settled situation, however, is interpretive, and as such, open to different interpretations. Interpretation of the part as well as interpretation of the whole requires skill and knowledge. This is the applied hermeneutics which characterises clinical practice (Svenaesus, 2000). It involves understanding and interpretation of a person's health or illness situation and has the specific purpose of achieving healing.

Dewey would argue that it is only when we discover that certain means, such as advanced assessment skills, are available to us do we discover goals that had not occurred to us before (Joas & Kilpinen, 2006). The nurse who engages in advanced assessment skills and their consequent interpretation recognises her ability to provide valuable recommendations regarding diagnosis and treatment to facilitate healing. The nurse's interpretation functions as an important opinion in patient care decisions. Using advanced assessment skills within the acute medical and surgical setting allows nurses to contribute significantly to means/ends deliberation and patient outcomes. This is the collaborative team work that keeps patients safe.

## Chapter 7: Consequence as action

*... we know only after we have acted and in consequences of the outcome of action. (Dewey, 1929, p. 276)*

Dewey (1929) describes action as organised activity to achieve aims. Action requires not only interpretation of what has or is happening, but judgement as to what to do. Judgement is the product of the experience and character, or habit, of the agent and the agent's understanding of the complexity and salience of the situation (Rogers, 2007). The judgement that is a part of action needs to not only respond to one's interpretation of the situation, but also must respond to the context the actors are in, and the pressures which exist within the environment in which acting occurs. In the context of the medical or surgical ward, this means the nurse must take into account her interpretation of the patient's needs and the required actions within the constraints imposed by the organisation and professional scope of practice.

Judgement requires an understanding of the best course of action in the given context and circumstance. There is no script for how to act. Knowing how to act is learned through previous experience of acting (Gadamer, 1975/1989). Asking the doctor to assess a patient urgently, ordering blood tests or inserting a nasogastric tube are all ways in which a nurse might choose to act in a particular unsettled situation. These actions follow the recognition of an unsettled situation, the purposeful search for more salient features and the judgment involved in interpreting the situation as problematic. In recognising a problematic situation the nurses in this study were able to make an informed judgement about what was happening for the patient, including medical diagnoses. These judgements helped them to determine the most appropriate 'next actions'. One of the stories told in this research was particularly illustrative of these judgements. In it the nurse, Maya, demonstrated the habit and character as well as the interpretation and judgement as to what to do that resulted from using advanced assessment skills. The story is of the nurse's assessments, interpretations and actions in response to a patient's diagnosis and treatment. She describes her actions over the course of a shift, from the moment she recognises a potential unsettled situation to the point where the cause of the problem is identified and a new plan of care initiated.

## Looking and seeing initiates ‘inquiry’

Maya tells a story of assessing a four year old patient who has been admitted to a paediatric medical ward with a diagnosis of viral illness, possibly gastroenteritis. This patient has been admitted to the ward during the night, but because of a recent history of cancer is admitted under the oncology team rather than one of the medical teams. Maya begins her story:

*She was handed over to me as ‘vomiting and a viral illness, possibly gastro [gastroenteritis]’. Even the charge nurse who came over early in the morning thought it was gastro. When I was looking through her notes I couldn’t see that she had a gastro so I just thought “oh well, she’s just got a viral illness”, which is what the Oncology team had diagnosed.*

*So I went and saw her and she was quite irritable. She was able to communicate with me, but she’d had a rough night and she was grumpy and had a sore head and was just feeling like crap. The first thing I did was take her pulse. They had been taking her pulse recording from the oxygen saturation monitor, but I took a radial pulse and she had the most unusual heart rate. It was really odd. It was basically fluctuating from 60 beats per minute up to 100 but real quick and very irregular. I was thinking “that is really strange”. That was a huge red flag for me. I carried on and did all my normal observations of her, did an assessment. She didn’t want to eat or drink, she was on IV fluids and her dad was there. That was fine. Everyone was thinking “that’s okay, it’s a viral illness. It’s not a problem. She’s just feeling miserable.” But I was concerned about the heart rate.*

Although often considered the most basic and routine of nursing assessments, the recording of the pulse and blood pressure frequently provides the cue needed to recognize and begin exploring a problematic or ‘unsettled’ situation. In this story Maya describes finding an abnormal pulse as a “huge red flag”. A ‘red flag’ is a warning sign; it suggests that the situation demands attention. Her use of this phrase indicates her alertness, unease, concern. The irregular low pulse is an unusual finding in a 4 year old with a diagnosis of a viral illness. Recognition of an unsettled situation is the first step in the inquiry (Dewey, 1938). Recognising an abnormal pulse was the first step in this inquiry. Maya describes how her habitual assessment practice enabled her to pick up this initial cue:

*I don’t think you can see the signs if you’re not assessing. If you’re not doing that then you are not going to pick up on those cues, those red flags and that was what was happening to me. When I walked in there at 8 o’clock there was a red flag... The other nurses weren’t picking that up because they were taking her pulse with [an oxygen saturation] machine. They didn’t notice that her heart rate was odd. Her pulse was fluctuating from 60, 70 up to 80, 90, 100, but a nurse just looking at the Sat machine is probably just going to look at the hundred. They’re not going to ask “why does it drop down to 60”.*

Maya believes she was able to pick up the unusual pulse because she palpated it rather than relying on the oxygen saturation monitor. While the oxygen saturation monitor provides a numerical reading of the pulse, fluctuations in recordings can be attributed to a number of things including displacement of the probe as the child moves. Thus the irregular pulse may be overlooked, particularly if it is intermittent and returns to a 'normal' reading. An irregular reading could be assigned to equipment or placement faults rather than physiological problems. Maya's habit of always feeling for the pulse was the initial assessment needed to recognize that something was not quite right with this situation.

### **Seeing stimulates further looking**

I have argued in previous chapters that seeing a concerning sign or symptom stimulates further looking. Noting an unusual pulse set in motion actions to try to find a reason for the pulse:

*Once I recognised that the pulse wasn't right I was definitely reassessing this more often. And with a heart rate that was low and irregular, then the blood pressure was necessary. If I'd taken her pulse and it was normal I would have then just taken her pulse every 4 hours and I wouldn't even have done her blood pressure because the information I had at 7 o'clock was that she had a viral illness. No blood pressure had been taken on her previously because there wasn't any indication to do so.*

Maya's recognition of the abnormal pulse triggers the assessment of blood pressure. The blood pressure recording is not a routine part of the vital sign measurements taken in young children. As Maya explains, there needs to be an indication for doing so. She describes the significance of the blood pressure recording for this patient:

*I'd been taking her blood pressure. I'd taken it earlier in the morning around ten and it was slightly elevated. I'd had a conversation with Mum at that point and she said, "Yeah this happened to her last time. Her blood pressure started to go up when she was really sick." And it just started... I mean you get these little bits of information and I felt like something wasn't right but I wasn't 100 per cent sure what it was.*

Maya reveals that the slightly elevated blood pressure, along with information from the mother, help to reinforce her suspicion that something was not right. As she describes it, each new piece of information is another "bit" of information which helps to paint a picture of an indeterminate situation, but each on its own is still not sufficient to help her identify exactly what it is that is causing her unease. Maya reveals other aspects of her assessment as she looks for more salient features:

*She hadn't shown any neurological signs all day. There had been no change in her neurological status. Even though I wasn't formally doing neuro obs until about 2, I was assessing all of it. I was always looking at her level of consciousness. I was checking her pupils and her muscle strength.*

Maya describes her informal assessment of neurological signs. She indicates that she was looking for these signs even though she was not formally recording them. They were a part of her search for other clues as she tries to make sense of the abnormal pulse in the context of a diagnosis of viral illness.

### **Interpretation of the part**

Maya has recognized that the pulse is unusual but she cannot make sense of it despite close monitoring and looking for other indications of what it could mean. She continues her narrative:

*The difficult thing was because she was an outlier<sup>17</sup> the Oncology team weren't going to get down to her until about 11. She was still under Oncology because of her previous history, but she was on our ward because she had a viral illness. Finally the doctors came down at about 10.30 or 11. The Registrar wasn't exactly easy to work with. She was obviously in quite a bit of a rush. She was abrupt and wasn't really interested in hearing what I had to say. The first thing I said to her was that I was really concerned about the heart rate. I'd been monitoring it since the morning and it was staying around 60 or 70, which is not normal for a child of her age for a start, and a child that has a viral illness is not going to have a heart rate that low. They are going to have a higher heart rate because the body is trying to fight an infection. The initial reaction from the Registrar was, "Oh, yeah, that's okay. I'm not too worried about it." And I was like, "Really?"*

With hindsight and reflection practitioners are often able to name the early signs of an unsettled situation, but when they first feel, see, hear, or sense that something is not right, they are often unsure if their original concern is justified. Maya's concern led her to monitor the pulse throughout the morning. By the time the doctors arrived on the ward her interpretation of the pulse was that it was not only unusual, but inconsistent with the diagnosis this child had been given. She is surprised when her communication of what she believes to be a worrying finding is dismissed by the registrar. Her response suggests that she expected mutual recognition of a problematic finding. Maya tries to make sense of the doctor's lack of concern:

*[The registrar] said, "Yeah, there could be a number of reasons why that is. I'm really busy. I've really got to go. I've got heaps of patients up stairs. I've got to go." But I just didn't get where that registrar was coming from in relation to a heart rate of 60. I kept asking "what do you think it could be then? If you think it could be a range of things and it's nothing to worry*

---

<sup>17</sup> An outlier is a patient who is situated away from the main group of patients they are classified with. In this instance, this patient is an oncology patient who has been placed on a medical ward.

*about, well what are you meaning? What would make her heart rate do that”? She didn’t know. She was too busy. She had to go.*

*I said, “A, I’m not happy with the heart rate, and B, she’s in a lot of pain. She’s saying her head is really sore and she’s got Panadol and Tramadol and they’re not actually covering her; she’s still in pain.” So she said “get an ECG”. I think that was just her way of getting out of the situation, but doing something as well. I was thinking “Great, excellent, fine, I’ll do that. It will give me more information”.*

Maya’s stance is that of looking for a solution to the headache and unusual pulse. She tries to engage the doctor in a discussion about the pulse. She questions the suggestion that a number of things could be causing it. The initiation of a conversation serves to keep her concern ‘in play’ and demonstrates her need for a satisfactory conclusion to her concern. Conversation, and in particular, a genuine conversation is considered central to interpretation in clinical practice (Binding & Tapp, 2008). Genuine conversation is characterized by a stance of openness to the ideas offered by the other, and by the awareness that the other may assist participants in the conversation to revise their own partial understandings. In this situation, however, the doctor is busy and pushed for time. The busyness of an acute hospital setting and demands of multiple patient problems presenting at once appear to cloud the thinking needed to explore this abnormal sign. Busyness and distraction can also interfere with the participant’s ability to have a genuine conversation, as this excerpt reveals.

When the doctor is not able to offer an adequate explanation for the unusual pulse, Maya is not willing to let it rest. She presses for action. She adds the detail of a headache which is not responding to analgesia, finally getting some acknowledgement of her concern. She continues:

*I didn’t need her to order the ECG in order to do one. I was handing over some information that I wanted her to think about because it didn’t seem right to me. But she didn’t know either. It would have been great I guess if she had said, “Yeah, that’s not normal. What else could there be that we’re missing here?”*

Maya believed that something was not right with respect to this child’s illness and diagnosis. In communicating her concern she was passing on information and her own interpretation of an unsettled situation. This was not her sole purpose however. She also wanted the medical team to think about what might be causing the unusual pulse. Speaking and communicating contributes to thinking and to helping shape the interpretation of the situation (Habermas, 1984). Communicating concern to the medical team is done in order to involve others in the mutual goal of resolving problems.

The discrepancy between the doctor and Maya's interpretation is not an unusual occurrence; we saw this also in the previous chapters. Brooks, LeBlanc and Norman (2000) have suggested that contextual factors play a role in health care practitioners arriving at different interpretations of clinical situations. Maya has had time to monitor the sign and mull it over. She has been in and out of the room over the course of the morning, monitoring the pulse and then the blood pressure. She has also been exploring the history of the illness with the child's parents. In contrast, the doctor has only just arrived on the scene to "do rounds". She is unlikely to have had time to form a reasoned opinion about the abnormal pulse when first notified of it. In addition we do not know what background information the doctor has been provided about the patient, or her experience of viral illnesses in patients with a previous diagnosis of cancer.

In addition to the differing background understandings or 'horizons' of the nurse and doctor, we know that this patient has an unusual history. Even without this history it might be reasonable to think that this child would not respond in a manner consistent with her diagnosis. Not all patients respond the way we expect or anticipate. Health care practitioners are taught to watch out for the 'atypical' presentation. It is feasible that previous cancer in a young patient could predispose her to unusual physiological responses (Tolia & Smith, 2007). Individual signs need to be interpreted alongside other salient features of an illness. Thus the doctor's interpretation and lack of concern may have been justified. Indeed, if this case had not developed as it did, it is unlikely it would have been described for this study. Only with hindsight can we know whether the doctor's lack of concern over the abnormal pulse was justified.

In exploring the abnormal pulse as a sign of a concerning or indeterminate situation Maya demonstrates how she moved from thinking 'there is a problem' and reporting it, to trying to answer the question 'what is the problem?' The consequences of her initial assessment and interpretation include looking for other salient features to help her make sense of this usual sign. Maya's assessment actions are purposeful. In trying to figure out what is causing the illness, she is contributing to medical diagnostic reasoning. On a medical ward such as this, shared interpretations are often necessary in order to determine the most likely diagnosis and coordinate actions. Sharing understanding helps to facilitate the other participants' understanding (Gadamer, 1975/1989).

## Interpretation of the whole

The hermeneutic circle reminds us that interpretation occurs as a result of moving back and forth between the part and the whole. New details can modify the overall interpretation, and in turn reveal other details as significant. This process is not instant however. It takes time as each significant detail is revealed through looking and thinking, assessment and interpretation. Maya might have been able to make her case of concern more strongly when she first reported her concern to the doctor if she had been able to pull together all of the information she had available to her, but she was not yet at that point. Although she recognised that the pulse was not normal, she was not sure what it was telling her. As Maya's story unfolded I began to get glimpses of the actions she had taken during the morning which contributed to her sense of unease, but with which she was not yet able to articulate as a unified whole.

Maya's recognition of the abnormal pulse led her to look for other signs. Taking the blood pressure initiated a discussion with the child's mother around the previous illness and provided insight into previous patterns of response to physiological threats. The slightly elevated blood pressure was sufficient to keep Maya alert to further cues. Critical and intelligent thought involves "the art of asking questions and of seeing what is questionable, of reflecting and contemplating, slowly weighing the strength and force of an argument, detecting what is salient..." (Fairfield, 2011, p. 95). Maya's thinking is influenced by her search for more clues, questioning, hearing what is said, and reflecting on the possibilities. She begins to develop a picture of this child and her current illness. She describes her thinking:

*[The illness] started with the headache. At first I thought "okay, a headache is feasible", but then of course as I was building the relationship with the mum, you talk more and you get more information. I was listening to her sense that something was wrong, but also really listening to her story, to the history she was giving. What I got handed over was that she was continually vomiting, but she wasn't, she'd only had that Saturday night vomiting. And that she was having fevers, but she wasn't. She'd only had one fever. You can see how that information can change, where one fever becomes 'fevers' and one evening of vomiting is interpreted as a gastro."*

Maya describes the information that gradually emerged to help her put together the pieces of this particular puzzle. She reveals her exploration of the history of the illness as she builds rapport with the child's mother. The review of the history is not only a way of connecting with the family, demonstrating interest and "building rapport"; it is also information gathering in order to establish a cause of the illness. Maya talks about "really listening" to the mother's story. This is a listening which hears

the story differently from how it seems to have been heard by the doctors who made the initial diagnosis. Has Maya's *listening* affected how she *heard* and interpreted this story?

Baron (1990) argues that the patient story is "the mutual creation of the participants in the clinical encounter" (p. 28). He suggests that patients tell stories differently, depending on how questions are asked and what is asked, and this is a factor in arriving at different interpretations. Different questions will elicit different responses. In addition, patients may stress what they think is important. The simple telling of a story serves to emphasize some features in the mind of the teller and diminish others. Listeners too can alter a story by hearing what they want to hear.

Stories of illness are not static, waiting to be interpreted, but evolve over time as this narrative suggests. We do not know if the story itself has changed between one practitioner and the next, but the passage of time has altered the meaning and significance of the initial symptoms of fever and vomiting. Maya acknowledges how the interpretation of a viral illness might have been arrived at, particularly as the salient features of vomiting and fever were still in development when the diagnosis was made. But the vomiting and fever have not continued. Only the headache has persisted. Thus a story that looked like a viral illness yesterday no longer looks like a viral illness. Time itself has changed the story and its interpretation.

Maya also reveals a listening which includes paying attention to the mother's sense that something is wrong. This is a listening that is different from the history taking that is needed to establish a diagnosis. It is a listening that takes in the context of the illness and includes the mother's understanding of her child. This listening takes time and has a purpose beyond that of making a diagnosis and determining treatment. It is a listening that hears more than what has been said. It also engages the listener. Binding and Tapp (2008) suggest that once we have truly heard, a connection is made between the listener and the listened to. Thus once the mother's concern is heard it cannot be ignored.

Maya did not arrive at her understanding of the story all at once, or with absolute clarity. Her exploration of the background and interpretation came slowly. She described exploring the history with the mother as a way of building rapport. But other opportunities also contributed to her interpretation of the whole. She explains:

*...with the team coming in you're there listening to the mum's recollection to them and connections are being made. In the back of my mind constantly I was making connections and things weren't working out for me, and I was thinking "That's not right. That's not right. That's not right" ...*

Communicating, listening and really thinking were critical to Maya's interpretation of the whole situation. There is within Maya's story not only looking, seeing, hearing and interpreting, but wanting to know. Interpretation of the whole was in response to the question "what is going on here?" Gadamer argues that "in order to be able to ask, one must want to know" (Gadamer, 1975/1989, p. 357). Asking relies on the knowledge that one does not know. It also relies on an openness to hear the other. Gadamer argues that the openness to listen creates a genuine human bond (Scheibler, 2000, p. 55). Dewey echoes the importance of the need to know. He describes the attitude necessary for inquiry as that of actively *listening* rather than passively *hearing* (Talisso, 2000). Maya's questioning reflects both wanting to know and the active listening that extends from that. Her pre-understanding of how a viral illness presents influenced her interpretation of the story of illness. The pattern did not fit, so she actively questions, searching for a better explanation. Her listening, however, is more than curiosity. Through active listening, a human bond is set up which culminates in the need to know.

While this narrative suggests poor assessment and judgement on the part of the doctor, this view is one that is privileged by hindsight. The doctor was looking at the information that Maya had presented but she was not able to make any more sense of it than Maya. Admittedly she was distracted by other cases. Wright (2007) acknowledges that doctors "are potentially involved in several situations at once" (p. 156). They need to decide which of the concomitant situations should be attended to first. Thus their decision making and clinical judgement in relation to interpretation of the part (the heart rate) and the whole (the illness) is likely to be affected by numerous other competing demands on their time. They are not alone in this juggle to prioritise time. All health practitioners need to prioritise the time they give to exploring the concerns of individual patients. This doctor will have had a group of patients on the paediatric oncology ward for which she was also responsible. We cannot know the specific patient issues she was juggling on the morning that Maya presented her concern about this child, or what else might have been colouring her interpretation of the headache and abnormal heart rate. All we know is that a patient with a current diagnosis of viral illness would have been prioritised alongside other acutely unwell patients. Maya acknowledged this:

*I guess that is part of being a team; you continue to monitor and assess and then pull them in when you need them. Once they walk away I don't know what they're thinking; they might be just thinking about the next task whereas I was staying there. I was still looking after this child so I was still thinking about her. All day I was thinking about her; it's all I thought*

*about... She [Registrar] might have had other sicker children that she was worrying about herself that she had to go and see.*

Nurses are also distracted by other patients and responsibilities, as Maya reminds us:

*You've got to remember, in between all of this we've got nursing handover, breaks, other patients to look after, phone calls to answer, and a charge nurse to talk to. So it's not like you're just focusing on one patient and you just can sit there and think "okay what's happening"? You're just on the run. But in the back of my mind constantly I was making connections...*

There is something about 'being with' the patient and her family throughout the day which demands attention. Proximity and the sense that "something wasn't right" meant this case is mulled over throughout the course of the 12 hour shift. Eventually enough pieces came together for Maya to recognise a serious problem. She describes arriving at this point:

*I look back and think it does have to happen in its own way. It has to morph into something to get something done. I had to go through the Registrar, but by about 2 I was done with waiting. I was done with it. Her blood pressure was going up and her heart rate was staying on 60 and I knew that that was serious. This was a sign of elevated ICP [intracranial pressure]. There was definitely something else happening. I said to Mum, "Look, I'm going to get the team down. We're going to work on this."*

*I rang up the team, but of course by this time I've had lunch and seen to the other kids and meetings and stuff and it's now 2 o'clock. The team had been down twice in that time, once on their initial rounds, and once to look at the ECG. [The Registrar] came down and I said to her, "Look at her blood pressure, look at her heart rate. She's got a really bad headache. You have to do something." She started to freak a little bit and that's when she ordered the urgent head CT. She finally looked at all these things together...*

Wright (2007) describes the result of a successful inquiry as consensus among interested parties about the nature of the problem, and the steps needed to yield a satisfactory resolution. This consensus was achieved when the signs of increased intracranial pressure became obvious and Maya was finally able to convince the doctor that action was needed. While the story is unfolding, it can be difficult to identify the cause of the concern or unease, or to know where to look next. Maya's initial concern about one assessment finding triggered further looking, searching for clues as to the cause of the sign. Her interpretation of the signs in relation to the whole context of the child's illness eventually came together as recognition of increased intracranial pressure. She described what happened once she made this connection:

*I could see that I had to convince them that something else was going on. Once I had done that it was great because from there we were just going for*

*it and we were communicating really well and we were working together... We got the CT at about 4 o'clock... It showed a massive brain hemorrhage.*

Maya's assessment and interpretation of what she was seeing was the means through which a cerebral haemorrhage was diagnosed. Her continued search for specific signs and interpretation of each in relation to the whole situation eventually uncovered sufficient signs to gain the attention of the medical team and direct the next action. Maya was able to achieve this consequence despite the continued lack of recognition by the medical team of what she felt was an indeterminate situation. In the following section I wish to explore the characteristics which facilitated Maya's continual assessment and eventual interpretation of this unsettled, indeterminate situation.

### **Prerequisites for Inquiry**

Maya's assessment and recognition of a concerning finding, the unusual pulse, set in motion a process of inquiry which eventually resulted in confirmation that the diagnosis of viral illness was not correct, and further diagnostic testing undertaken. She persisted despite the apparent lack of concern by the medical team. Why did Maya continue to think something was wrong when the doctor stated she was not concerned by the pulse? Dewey (1916/2010) suggests that a successful inquiry requires four specific virtues or qualities in the actor: directness, open mindedness, single-mindedness and responsibility. Each of these qualities was demonstrated by Maya as she worked with the family and the other members of the health care team in responding to this child's illness.

#### **Directness**

Directness denotes the straightforwardness with which one goes about doing what one has to do (Dewey, 1916/2010). Confidence is a good name for what is intended by the term directness and yet directness is not about the self, it is about the *doing*. Directness is the ability to focus on the doing of something rather than "how I am doing". It signifies rising to the needs of the situation. We have already seen how Maya monitored the pulse once she recognised that it was unusual. She added the blood pressure recording and review of the child's history to her assessments as she tried to make sense of this one initial abnormal sign. These were the actions she felt she needed to do in order to understand the situation. Maya also demonstrated directness when she questioned the doctor about the possible reasons for the abnormal pulse:

*I kept asking “what do you think it could be then? If you think it could be a range of things and it’s nothing to worry about, well what are you meaning? What would make her heart rate do that”?*

Maya was not afraid to ask the doctor to justify her lack of concern over the abnormal pulse. Her questioning was straightforward as she searched for answers to allay her own concern. Her need to make sense of the pulse, to interpret it in light of the current diagnosis, provided the courage needed to question the doctor’s interpretation. Later, when the ECG is completed she called the doctor back to review it:

*The ECG looked really odd. I’m not experienced in reading ECG’s but I looked at it and all the waves weren’t there; the p and the q were missing and it was really strange. The registrar came back down and had a look at it and straight away said, “Oh no, it looks okay.” I was like, “Can you just spend a little bit of time just reviewing her. I’m not happy. Don’t just look at it and say it is fine.” She was definitely getting a little bit irritated by me. I could tell with that first phone call, those first questions about the low heart rate and then getting her back to really review the ECG.*

Maya was not satisfied with the doctor’s brief review of the ECG. She knew enough to recognize that it was not normal. An important part of directness is having the confidence to challenge the doctor’s decision making. When the focus is the needs of the patient, the effects of one’s actions on other health care practitioners become insignificant. Maya reflected on what it was that gave her the confidence to do this:

*The information I’d gained from my assessments of this child helped me to consider the decisions that were being made by the doctor. I think both having the assessment skills and knowing the system helps you to have the confidence to say to a doctor that you are not happy with their assessment.*

Maya’s use of advanced assessment skills provided the background knowledge necessary to consider the decisions, and interpretations, that were made by the doctor. She used her assessment findings to reconcile the diagnosis and treatment decisions with what she was seeing, hearing, and noticing about her patient. When it did not match she questioned why. Maya shows us that directness flows from a sound grasp of the situation and from thinking. Directness also flows from the knowledge gained by a thorough assessment, by really looking and seeing:

*Definitely I think your own assessment is a big thing because you have to be able to back up what you’re talking about... to have that extra information I guess gives you more credibility and you can contribute more.*

Maya recognises the contribution she can make when she has sufficient assessment data to support her communication with the doctors. Tara and Kate also echoed this belief. When the nurse is convinced that she is seeing something unusual,

concerning, and is confident in her assessment, then she can be direct in her communication and recommendations on behalf of the patient.

### **Open-mindedness**

Dewey (1916/2010) describes open-mindedness as an attitude which actively welcomes suggestions and considers new information in a situation. It is the ability to continue to expect the expected, but to not stop looking for the unexpected. Wright reflects on how health practitioners “often proceed overconfidently, assuming that everything is just as it appears at first take, and that our automatic responses are perfectly adequate, when in fact we ought not to be so sure” (2007, p. 113). Maya demonstrates this open-mindedness:

*I picked up the discrepancy between the history and the diagnosis real quick because I was coming in blind at the start of the shift. I hadn't met this family before, so of course I was just going in and assessing her. It wasn't like a formal assessment. I was coming in and thinking she had a viral illness as well. But I wasn't going in there and thinking there's nothing else it could be, if that makes any sense. I think the fact that she'd just finished chemo in August; that was a big one. I knew that she'd been cleared but I wondered "could something else be happening."*

Maya demonstrated the ability to look for and consider the unexpected. The previous history of cancer was a trigger to thinking that something else might actually be causing the headache and fever. She displayed openness to alternative explanations which in turn influenced her assessment of the child. For Maya, the history of cancer kept her open to the possibility that something else might be going on. She reflected on the response of the medical team to an alternative diagnosis:

*I don't know what they were thinking but they'd put her in a box from the minute that she came in and that was it. They had stopped looking outside of that box. They stopped looking at her symptoms. They just went, "She's just got a viral illness and we would expect this." And I was thinking, "Would you really? Expect that?" But maybe because she was an Oncology patient they felt like she wasn't going to react normally anyway?*

Dewey (1916/2010) argued that the desire for prompt results is the greatest foe to open-mindedness. The need to quickly arrive at a diagnosis and treatment plan is paramount within acute care settings. The sooner a diagnosis is made and treatment begun, the earlier symptoms can be relieved and the patient discharged from hospital. But early diagnosis has its pitfalls. In order to rationalize a diagnosis, the clinician needs to defend it. Early diagnosis can set them up to be less receptive to other explanations.

Depending on the clinical setting, between 10 and 15% of patients suffer a diagnostic error (Graber & Carlson, 2011). Bias is one of the potential causes of

diagnostic errors. Anchoring is the name given to one such bias, and describes the situation where a clinician sticks to the original diagnosis despite new information arising (Nendaz & Perrier, 2012; Wellbery, 2011). Premature closure is another type of bias and describes the failure to seek additional information once a diagnosis has been made. Both appear to be at play in this case. If we ignore the new information of an abnormal pulse, the information that the vomiting had not persisted or that the headache was not responding to analgesia should have placed the diagnosis of a viral illness in question. The oncology team was more familiar with the patient, and to them, the original diagnosis fit how this patient initially presented. They did not seem to be looking for anything else as a cause of the symptoms. Maya, on the other hand, was able to look at the signs and symptoms with fresh eyes, and with the advantage of the passage of time. She considers the initial diagnosis:

*The idea that it was viral, I can't remember what that was based on. She never had any more fevers after that first one on the Friday. Her white cell count was elevated and so for the team, they had one spiked temperature, a bit of vomiting, headaches and an increased white cell count. So sure, on that you could say viral illness, but then when her bloods were taken the next day they were all normal.*

Openness shows itself as questioning, continually looking, and remaining open to new information which will help shed light on the current situation. It is an acceptance of the evolving nature of illness and the potential for things to be not what they seem at first glance.

### **Single-mindedness**

Single-mindedness reflects steadfastness, resoluteness and the resolve to accomplish something. Maya recognised very early on that something “was not right.” Her response was a steadfast search for an answer to the unusual pulse. She continued to monitor the pulse despite the doctor’s lack of concern, and added other assessment parameters. She described this case as being “all she could think about” that day. She was also single-minded in her efforts to get the doctor to pay attention to what she considered a worrying sign. She asked for justification from the doctor who was not concerned by the pulse. She insisted the doctor spend time reviewing the ECG. Once she recognised the signs of increased intracranial pressure, she moved into action:

*I called the oncology ward. I said very clearly at that phone call, “Mum is not happy. She needs to talk to someone right now. I’m not happy. I need someone to come down.” And I was not going to budge on it. At that point I was thinking “I’m just going to raise hell in a minute”... If she hadn’t said she was coming down, I would have contacted the consultant or the Charge*

*Nurse. She's awesome. The oncology ward is a bit different. If you tell them the family is unhappy they will move as well.*

Maya reveals that there was nothing that would stop her demanding attention. She now had sufficient information to insist that the child was reviewed urgently, and was prepared to contact more senior staff if necessary in order to make her concern heard. She arrived at this place because of her single-minded pursuit of an answer to the cause of the child's illness.

Single-mindedness is a concept similar to directness, but includes complete interest in the subject matter (Dewey, 1916/2010). Absorption, engrossment, and full concern with the subject matter both describe and nurture single-mindedness. Maya's single-minded concern for this child and family are evident in her reflection:

*I couldn't stop thinking about it lying in bed that night.... Other practitioners, other people, I think if they don't get it either it would be easier to go, "Yeah I know. I can understand why you might feel that way. It must be very hard, but the doctors..." and carry on with looking after the other patients and that person isn't actually being listened to, they're just kind of getting placated really.*

Maya reveals that to be single-minded is to be fully engrossed in the situation. The focus remains steadfast on the situation, with a single purpose of resolving the situation in whatever way is necessary for the ultimate good of the child and family.

### **Responsibility**

Responsibility is the final attribute necessary for a successful inquiry. Dewey spoke of responsibility as "seeing things through" and of accepting one's own role in producing consequences (Wright, 2007). Maya felt that she had a responsibility to help this family be heard, and to help the doctors see what was going on for this child. She admits that she did not need the doctor to order the ECG, she could have requested it herself, but she wanted the doctor to have that particular piece of information, that the pulse was abnormal, so that she could also be thinking about its meaning.

*I could see that I had to convince them that something else was going on. Once I had done that it was great because from there we were just going for it and we were communicating really well and we were working together and talking about whether to give her morphine or not. Then we were working together as a team which was great because I felt like I could really do my job so much better. At that point we were assessing side by side and talking about it, the headache and the neuro obs and what it could be. What it could be was like "Oh God".*

Maya's sense of responsibility is reflected in how she sees her role in assessment, recognizing problems and bringing these to the attention of the doctors.

Maya believed that she “had to convince” the doctors that something was going on. Dewey (1922/2007) argued that “liability is the beginning of responsibility. We are held accountable by others for the consequences of our acts” (p. 315) and, I would add, inaction. The accountability to act includes advocating for the patient by ensuring that decisions made by the doctor and other members of the health care team are consistent with one’s own interpretation of the patient situation. Maya describes this responsibility to act as an advocate:

*This experience has reinforced my confidence to use my assessment skills and tell the doctors when I think something doesn’t quite fit. A lot of nurses come up to me and go, “I’m really worried about this patient, can you come and have a look” or “I’ve spoken to the doctors but I’m still really worried”. I get very frustrated. I mean, we are our patients’ advocates. There is a way that you can be assertive and confident without being aggressive. At the end of the day you are doing it because you are worried about your patient. That’s all you are doing it for; you are not doing it because you want to have conflict.*

Maya uses her assessments to help her to recognize when something does not fit and believes she is responsible for ensuring other members of the health care team take this on board. It was not enough to simply pass on the information and hope that they would interpret it as she has. Her responsibility is to help them see what she is seeing, for her patient’s sake. Thus her responsibility as an advocate is not only in relation to the patient’s wishes, but also in relation to their physical signs and symptoms.

Hawley and Jensen (2007) argue advocacy provides a vocabulary for framing challenges. It allows nurses to communicate concern as they work to negotiate mutual understanding of the patient situation. Advocacy in relation to assessment and interpretation of the patient situation is the responsibility of every health practitioner in maintaining safe patient care.

There is a responsibility also in how the nurse conducts her assessment practice. Maya describes the responsibility of doing a really good assessment:

*It is so important to have a nurse who is really listening to you, hearing what you are saying and also doing a really good assessment and picking up on what they are seeing. Parents know their child better than anyone, you know, especially a child that has been through chemo for a year. They know when she is sick and they know when something is not right and they weren’t being listened to, there is no doubt about that. I feel like I was that family’s voice and I believe it is our role to do that. We have to be an advocate for the family and the child and that’s huge. The assessment skills help because if you’re not on the same page it’s going to be hard to do that.*

The responsibility to assess includes listening to the patient and to their family. It means doing a really good assessment so that you are able to see what the patient or

family sees. Responsibility was not simply about assessing and passing that on. It was about interpreting the findings against a background that includes patient and family concern, diagnostic reasoning and medical decision-making. Maya describes the responsibility for both assessing and making herself heard:

*I feel like it's a liability to me. I feel very strongly that I'm looking after this patient and if I miss all this stuff I would never forgive myself... I'm caring for this patient too but I just don't feel like I'm a part of the team if they are not listening to me. I would not want to look back on my day and think "they completely ignored all of that."*

Dewey believed that "the individual is held accountable for what he has done in order that he may be responsive in what he is going to do" (Dewey, 1922/2007, p. 316). Responsibility is not only about what you have done, but what you will do in the future. Maya recognises this. She feels liable for her patient assessment. She could not forgive herself if she had missed seeing the signs of a problem. But equally, liability extended to ensuring that the assessment findings were paid attention to by the rest of the team. Thus responsibility includes contributing to accurate interpretation of the situation by other colleagues.

There is an element within Maya's practice, however, which is not adequately characterized by the four characteristics or virtues necessary for an inquiry. Dewey (1916/2010) equates directness to wholehearted, the love of the work. But even this does not capture the connection that is made, and perhaps, necessary in order to pursue an inquiry. Maya describes her reaction once her responsibility for this child has ended:

*We ended up transferring her up to neuro at about 7 o'clock that night. I was fine until I got in the lift and then I had a cry, because it was a release of tension. The mum, she was just so amazingly strong. It was quite a huge day. I don't know what happened. I am almost too scared to find out.*

Maya stopped the interview briefly when telling this part of the story 9 or 10 days later; she was still affected by the emotions she had experienced while working with this family. Her narrative highlights the significant role of caring in assessment, recognition and response to patient problems. Minick's (1995) research identified emotional attachment and *caring* as significant contributors to heightened perception and improved assessment skill. Gadamer's work provides support for the notion of human caring, recognizing that openness to the other creates the conditions for the development of a genuine human bond (1975/1989). Maya's actively attuned listening opened up the space for a genuine human bond with the child and mother. I do not know if she would have acted as she did without the development of this bond. Perhaps her tears also reveal the personal toll of having to battle on behalf of this family. It took

courage, persistence and energy and still she was left fearing for the wellbeing of this child. Her best care in itself may not have been sufficient.

## Summary

Nurses make a significant contribution towards diagnostic and treatment decisions (Benner, et al., 2009). Sometimes their contribution saves lives. This nurse probably saved this child's life. She did this by refusing to be put off by the doctor's lack of concern. She was open to the possibility that the diagnosis was not correct and therefore persisted in monitoring the child's condition. She added other assessment parameters as she tried to figure out what was going on. She was single-minded in her belief that the pulse was not normal, and that there was something else going on. And she had a strong sense of her own responsibility in ensuring that the correct diagnosis and treatment was made. She had the personal characteristics necessary for a successful inquiry; her advanced assessment skills provided the evidence.

When patients encounter problems, it is expected that the nurse caring for them will recognise the problem and act in a responsive way to resolve them. Initiating specific nursing interventions is one expected responsive action. Informing the appropriate health professional of the problem is another. Neither may resolve the problem however, particularly when the problem is still emerging. Sometimes watching and waiting, searching for more information, and continual thinking are what is needed.

Dewey (1938) acknowledged the difficulty in knowing when you have all of the information necessary on which to base an action. Situations can be fixed, or in development, but within health care even 'fixed' situations will continue to change as the body adapts to the initial situation. It is only with the passage of time that one can tell to what extent a situation is fixed or in development. When the problem is first identified there is not always sufficient information on which to base further decisions. Time is an important factor in allowing signs to emerge and be read (Peden-McAlpine & Clark, 2002). The nurse is ideally situated by her presence to observe and read these signs as they emerge. Advanced assessment skills allow the nurse to both see and interpret emerging signs.

Diagnostic reasoning is an inexact science and requires input from all members of the health care team. Contributing to diagnostic and treatment decisions requires interpretation and understanding of the patient situation. In order to contribute, the nurse must be capable of analysing clinical data, including medical knowledge (Harjai & Tiwari, 2009), and translating that knowledge into appropriate actions on behalf of the

patient. This is the expert practice that keeps patients safe (Benner, et al., 2009; Harjai & Tiwari). The analysis of clinical data is a nursing responsibility, both in terms of collecting the necessary information, and ensuring that the appropriate actions are carried out.

Accepting responsibility for both actions and the consequences of them requires the nurse to 'think'. Dewey wrote:

*Intelligence becomes ours in the degree in which we use it and accept responsibility for consequences. It is not ours originally or by production. "It thinks" is a truer psychological statement than "I think." Thoughts sprout and vegetate; ideas proliferate. They come from deep unconscious sources. "I think" is a statement about voluntary action (Dewey, 1922/2007, p. 314).*

Thinking comes with looking, with inquiry. It sprouts and vegetates. It is a voluntary action. The nurse who really thinks, who asks questions about her patients' signs and symptoms, who questions what is going on, and who looks for answers, keeps her patients safe. The nurses in this study saw it as their responsibility to do this. They used their advanced assessment skill to continue to look and to question, and to *really* think. They accepted responsibility for the consequences of their assessment actions and their interpretation of the situation. Responsibility for consequences directed their communication and actions. This is a nursing responsibility and requires the nurse to look, to see, to think and to act. This is what keeps patients safe.

## Chapter 8: Discussion: Assessment ‘habit’ keeps patients safe

*“We are what we repeatedly do. Excellence, then, is not an act but a habit.”*  
Aristotle

The nurses in this hermeneutic pragmatic study used their advanced assessment skills to keep their patients safe. The skills of advanced assessment shaped *what* they looked for and *what* they noticed. Noticing caused them to interpret the situation in order to arrive at some understanding of its *likely cause* and the most *appropriate response*. Once understanding was achieved, these nurses felt *compelled* to act. The tangible results of the use of advanced assessment skills on medical and surgical wards included going back to the doctor to ask for a reconsideration of clinical decisions, recommending diagnostic tests and treatment changes, and initiating specific treatments. The aim of their assessment was to arrive at an accurate understanding of the situation so that the best outcome could be achieved for their patient. The nurses’ assessment, interpretation and actions were the means to achieving that end. They saw what needed to be done, did what they had the authority to do, or worked to ensure those who did have authority did what was necessary. Their actions were the safety net which kept their patients safe.

The consequences of actions, however, include more than tangible results or ends. They also include effects upon character and upon habits (Dewey, 1922/2007). For Dewey, “the essence of habit is an acquired predisposition to *ways* or modes of response” (pp. 42, emphasis in original). Habits are active dispositions which make a person do what they do. The nurses in this study demonstrated an *assessment habit* that included the skills of assessment, such as always feeling for the pulse or going back to the file for more information, as well as habits of thought, such as continually questioning what is going on. Their assessment habit was like a cloak which surrounded them, dominating their actions and thinking. Their interpretation of their assessment in turn directed their interactions and responses. Dewey equated habit with predisposition, defining it as the “readiness to act overtly in a specific fashion whenever opportunity is presented” (p. 41). He believed that this readiness to act in specific ways was a consequence of having acted and experienced the consequences of those previous actions. Once seen and identified as useful, specific assessment actions are repeated until they are absorbed into the nurse’s background as habits, bodily movements, and

ways of thinking. The ability to notice, to stay attuned to specific features, and to question becomes second nature with repeated use; it becomes habit.

This research has shown how assessment habit includes both actions and thought; habits of thought are as significant as habits of action. But within these stories of practice the nurses exhibited something more. They demonstrated prerequisites of inquiry which allowed them to remain open to other possibilities and to search for new information to confirm or refute the initial impression. Their thinking *was* different. They maintained a state of doubt and sense of responsibility for their patient which guided their inquiry and supported their actions. Their thinking incorporated the prerequisites of directness, open-mindedness, single-mindedness and responsibility. These are the features or personal characteristics which Dewey (1933) equated with thinking and which differentiate intelligent habit from routine habit. These personal characteristics exist alongside the nurse's assessment habit to keep patients safe.

### **Keeping patients safe**

Patients rely on health professionals to recognise and act on problems. Nurses specifically, in serving as the patient safety net in acute care settings, are expected to recognise problems and advocate for their patient (HDC, 2005a). Recognising problems is the surveillance role that some consider the essence of nursing (Meyer & Lavin, 2005). Acting on problems, however, requires health professionals to have an accurate understanding of the situation (Anderson, 2012). Use of advanced assessment skills is a necessary first step in understanding and responding to concerning patient situations, but it alone is not sufficient to keep patients safe. Concerning situations exist within the wider context of interprofessional practice and busy clinical environments. Alternative diagnostic hypotheses, the inability of all involved to *see* the same concerning features and inattention due to competing demands provide additional challenges for health professionals in such complex care environments as medical and surgical wards. These external obstacles make conflict inevitable, particularly when practitioners arrive at different interpretations of the patient situation. Mutual understanding of the situation and acknowledgement of the most appropriate response is needed in order to keep patients safe.

Each practitioner's experience and skill in interpreting assessment findings shapes their understanding of the patient situation. The nurse's frequent observations of the patient, past experience and attention to unique assessment features combine in an interpretation which may at times be more accurate than that of other health

professionals attending the patient. This high level of skill development keeps patients safe but it can only be achieved through practice; through repeatedly using the skills and sharing interpretations with others. There is no magic point at which the nurse is finally able to do this. Skill development occurs through continual adjustment and modifications based on feedback and over time. It is on-going, never finished.

### **Interpretation is the advanced skill**

Health practitioners base their actions on their interpretation of a situation, but signs and symptoms are at times ambiguous, even for expert practitioners (Brooks, et al., 2000) and are therefore not always interpreted in the same way. People hear and interpret things differently. Some discrepancy is a result of the signs themselves; some are transient in nature (lung sounds) while others (rash) are not easily discriminated even between experts. Background understanding, experience and beliefs shape what is heard or seen (LeBlanc, Brooks, & Norman, 2002). Differences in the interpretation of signs and symptoms cause frustration and friction between health professionals (Benner, et al., 2009; Manias & Street, 2001). More importantly, interpretations direct action and contribute to inaction. The initial interpretation of the situation will influence how seriously each sign or symptom is taken, how thoroughly it is investigated, and the actions that are initiated by individual practitioners in response to the situation.

The focus on advanced assessment skill in this study was in some ways the ‘elephant’ in the room, since the skills which enabled these nurses to know something was wrong and to pursue a specific course of action were not that advanced. The advanced part of their practice was the thinking that accompanied their assessment actions. It was the interpretation of the assessment findings in their search for answers which made their assessments stand out as ‘advanced’. Dreyfus and Dreyfus (2005) make a distinction between crude skills such as the skill of placing the stethoscope on the chest, and the subtle skills of interpreting the sounds heard. They argue that “subtle skill requires subtle discrimination” (p. 789). The real skill of advanced assessment is not the physical skills themselves; it is the skill of interpreting what is heard, seen and felt within the full context of the individual patient situation. The use of specific skills provides the information, but it is the interpretation which is the advanced skill.

### **Nursing role in diagnostic reasoning and patient safety**

The nurse’s role in interpreting patient situations and drawing the doctor’s attention to alternate diagnoses, complications of treatment, and appropriate diagnostic tests is rarely described in the literature. The knowledge and skills needed to do this are

even less visible, since this is “not the nurse’s role”. And while nurses are expected to act when they are concerned about the diagnosis or treatment a patient is receiving, little guidance is given for how to do this. Medical and nursing decision making is complex. Discerning the appropriate actions in a problematic patient situation requires a high level of clinical decision making. Recent theory around diagnostic reasoning suggests that signs are interpreted using a combination of intuition and analytical thinking (Croskerry, 2009) and that there is continuous movement between each approach as practitioners attempt to solve clinical problems (Hammond, 2000). The intuitive approach is quick but prone to error; the analytical approach requires time but has the benefit of fewer errors. Both approaches suggest there is sufficient information available with which to make a decision. This is frequently not the case; time is an important feature of diagnostic accuracy. Signs and symptoms gradually reveal themselves; they are not always present waiting to be noticed or found like pieces of a ready-made puzzle (Baron, 1990). Presence enables snippets of information to be noticed and interpreted as they emerge. Seemingly inconsequential bits of information percolate in the background, eventually taking shape alongside more concrete features of a patient’s presentation until they form something that is recognisable and can be named. Accurate interpretation often requires subtle discrimination. The nurse who is present, constantly looking and interpreting, is in a prime position to discriminate between subtle features in order to grasp the situation and identify appropriate responses.

In addition, the health care environment itself is complex, with numerous demands placed on each member of the health care team. The ability of the nurse to use her advanced skills to interpret the situation, to stay open to the possibility of alternative diagnoses, to persevere and to take responsibility for the outcome, is critical in overcoming the systems and individual factors which contribute to errors in clinical decision making. Assessment habit which includes use of advanced skills facilitates an accurate interpretation of the situation by the nurse and represents the culture of safety necessary to keep patients safe in complex health care settings (Page, 2004). Advanced assessment skill use by the nurse, when used in the setting of medical and surgical wards, provides an additional safety net which is not normally there.

### **Implications for practice**

The nurses in this study maintained their patients’ safety despite working in an environment which creates numerous obstacles to safe patient care. These obstacles include patient loads which make it difficult to take the time needed to assess a patient

more thoroughly or to follow up on concerns, cultural attitudes which value the doctor's knowledge and voice above the nurse's and professional boundaries which identify medical diagnosis as outside the bounds of a staff nurse's practice. This is the environment of the medical and surgical ward. Cosby and Croskerry advocate for a 'safety culture' within health care that "acknowledges safety as everyone's responsibility, promotes shared knowledge, and emphasizes teamwork" (2004, p. 1344). They argue that a safety culture can minimize events that endanger patients. Organizations that are serious about building a culture of safety need to provide resources which support the nurse's involvement in clinical decision making (Page, 2004). Dewey argued that "we change character from worse to better only by changing conditions" (1922/2007, p. 20). The environment itself must change to encourage nurses to engage with diagnostic reasoning and enable them to exercise an equal voice when raising concerns about patients; it should not be left to individuals to battle to be heard. A practice environment which supports the nurse's use of advanced assessment skills and actively seeks the nurse's impression of differential diagnoses and appropriate treatment is needed to improve outcomes for patients.

Are advanced assessment, differential diagnosis and diagnostic reasoning legitimate functions for the general staff nurse? Baid suggests that "a diagnosis can only be made if the professional is able to act upon the identified problem" (2006, p. 1008). Nurses cannot legitimately diagnose medical illness or prescribe treatment, but they can act on the problems they identify via their recommendations. Identifying the problem and likely differential diagnoses enables them to initiate or recommend diagnostic tests or changes to treatment plans. They *can* make suggestions about potential diagnoses and treatments. They *can* escalate their concern through the nursing and medical hierarchy until their interpretation of the situation is heard. These are legitimate actions which nurses have control over; indeed they are actions which are expected when the nurse recognises a problematic patient situation (HDC, 2009). When one considers the nurse's actions as a *means to achieving or confirming the correct diagnosis and treatment*, then diagnostic reasoning is very much the preserve of the nurse working in an environment where all health professionals have a responsibility for patient safety.

The idea that diagnostic and treatment accuracy is a whole team responsibility is not widespread, yet is necessary to enable nurses to think differently about their role in preventing errors and maintaining patient safety. Nurses need to be encouraged and rewarded for *thinking differently* about their assessment practice and for *taking responsibility* for patient outcomes. It should be expected that they will use their

interpretation of the situation to contribute to medical decisions. It should not take confidence, persistence and courage to do so. A culture which encourages, indeed demands, open communication and teamwork is needed to decrease adverse events and increase patient safety (Boyle, 2004; Simpson, James, & Knox, 2006; Stein, et al., 1990).

The call for collaborative interdisciplinary teamwork (Boyle, 2004; Graber & Carlson, 2011; Klein, 2006; Leonard, et al., 2004) has not translated well into nurse-physician interactions in acute care settings. Junior doctors want nurses present when they do their patient rounds, however ward and hospital processes and ad hoc systems of communication make it difficult to gain nursing input (Weller, et al., 2011). Current systems, processes and attitudes need to change. Patient assignments and ward structures that facilitate shared nurse-physician patient rounds would be a good start. Systems which make it impossible for the attending nurse to be at the patient's bedside during physician-patient rounds are common but inexcusable. Other forms of collaboration, such as assigning senior nurses as mentors for junior doctors and multidisciplinary case presentations or 'grand rounds' (Naughton, MacSuibhne, Callanan, Guerandel, & Malone, 2011), would help to strengthen the nursing voice in diagnostic and treatment decisions (Reeves, Nelson, & Zwarenstein, 2008) and create the open communication and mutual trust necessary to keep patients safe.

Finally, shift work, ad hoc patient assignments and current hospital systems which seek to keep patient records confidential make it difficult for both junior doctors and nurses to see cases through from beginning to end or to follow up on patients they have cared for. Practitioners learn from experience, but only if they are privy to the outcomes. When they are limited in the ability to follow up on patients, the opportunity to identify and reflect on the consequences of their assessments, interpretations and actions is lost.

## **Implications for education**

Skill in assessment, interpretation and diagnostic reasoning develops largely through cumulative experience gained through practice (Bleakley, Farrow, Gould, & Marshall, 2003). Repeated use of the skills with patients is how one learns what things look, feel and sound like, and how to distinguish the nuances of both normal and abnormal features. Simulation using high fidelity mannequins and digital media (Ward & Wattier, 2011) can help initially in the acquisition of the crude skills of assessment, however, the interpretation of clinical features is shaped by the context of the individual

patient situation. Simulation predisposes students to think there is one correct answer, does not account for body habitus or pathology, and separates interpretation of individual features from the patient context as a whole. Dewey argued that “practice of skill is more important... than practice *for* skill” (1922/2007, p. 71, emphasis in original). The expert assessor gains their skill by engaging in actual practice with real patients; they learn by doing (Polkinghorne, 2004). Supervised practice of assessment skill and diagnostic reasoning in actual clinical settings is recommended as it incorporates the real challenges and nuances needed to interpret findings (Kassirer, 2010). Interpretation of clinical features relies on tacit knowledge which emerges from presence with the individual patient alongside the experience of previous cases (Bleakley, et al., 2003; Haggerty & Grace, 2008; Innis, 2005). Tacit knowledge is often difficult to clearly articulate or incorporate into simulation, and yet is significant in the interpretation of unique patient situations. To support skill development, practice within the clinical setting should occur with mentors and clinical coaches who have the necessary skills to support advanced assessment and diagnostic reasoning. Opportunity for specific feedback should be integrated into these practice opportunities.

Accurate diagnostic reasoning, the cornerstone of safe patient care, has been considered the last frontier in medicine. The factors which contribute to diagnostic errors are well known within the medical community (Graber & Carlson, 2011), but discussion of diagnostic uncertainty and the nurse’s role in diagnostic decision making rarely appears within the nursing literature. Instead, there has been a focus on the doctor-nurse game (Reeves, et al., 2008; Willis, Condon, & Litt, 2000) and issues of professional boundaries (Walsh, 2000; West, 2006). Neither debate pays sufficient attention to the uncertain nature of diagnostic decision making in practice or differences in practitioner knowledge and skill level as a result of experience. Variation in patient presentations, individual practitioner cognition and the health system itself all contribute to diagnostic error. Introducing nurses to methods of diagnostic reasoning and the pitfalls in diagnostic decision making (Graber & Carlson, 2011) will strengthen nurses’ understanding of their role in diagnosis and support development of the open-mindedness necessary for accurate diagnosis and treatment.

Nurse education needs to include content related to the communication of concern, particularly when assessment findings and interpretations contradict the current thinking around the patient’s health status. Mikkelsen and Holm recommend a practice learning environment in which “students and clinical staff can combine practice and reflection with growth and development over time in a culture that is characterized by

openness of beliefs, values and attitudes” (2007, p. 127). Dedicated education units (Sims & Cook, 2013; Tuohy, 2011) and interdisciplinary clinics (Sommerfeldt, Barton, Stayko, Patterson, & Pimlott, 2011) are examples. They provide an opportunity to test out communication practices which facilitate shared clinical reasoning. Communication strategies or guides such as that of SBAR (situation, background, assessment and recommendation) (Beckett & Kipnis, 2009; Wacogne & Diwakar, 2010) provide a framework for the communication of assessment findings, but they are predominantly one-way. They provide little guidance for how to proceed if the doctor does not interpret the situation as concerning, or does not respond as the nurse expects. Simulation exercises which help the nurse to ‘dialogue’ about a patient’s condition should be included in their education. Learning to engage in dialogue with other health professionals about diagnostic and treatment decisions provides an opportunity for nurses to strengthen their patient advocacy skills as well as diagnostic reasoning skills.

### **Implications for research**

The contribution the nurse’s assessment makes to diagnosis and treatment decisions on medical and surgical wards needs further exploration. This research sampled a small number of participants for stories of how their assessment practice made a difference to their actions and to their patients. Stories of practice from a wider range of nurses would support the understanding gained in this research. Focused group interviews in which nurses from the same ward shared stories of advanced assessment practice would add to our understanding of how the skills of assessment and diagnostic reasoning could be better integrated into the ward culture, and explore the obstacles to their integration.

Knowledge of the conditions which help to form the characteristics the nurses in this study demonstrated is necessary in order to improve practice. “In order to change the working character or will of another we have to alter objective conditions which enter into his habits” (Dewey, 1922/2007, p. 19). We saw the benefit of use of the checklists in ICU and HDU. The nurses who came from these settings were attuned to particular ways of looking and seeing. Would implementing more detailed assessment check lists better instill the assessment habit than current documentation methods?

Both doctors’ and patients’ experiences of the consequences of nurses using advanced assessment skills warrant investigation. Research suggests that doctors want and value a detailed description of patient problems (Weller, et al., 2011), but doctors experiences of the consequences of nurses using advanced assessment skills is

unknown. While this study suggests that nurses' use of advanced assessment skills is positive, the nurses did not always receive a favorable response when they communicated the patient's clinical information or their diagnostic interpretations with the doctor. Exploring consequences from the perspective of both doctors and patients might help to explicate reasons for this tension.

Finally, research is needed into how best to teach and support the interpretation of assessment findings by nurses. Longitudinal case studies exploring how newly graduated nurses hone the skills of advanced assessment and diagnostic reasoning have potential. Many new graduate nurses in New Zealand are learning the skills of advanced assessment and diagnostic reasoning as part of the Nurse Entry to Practice Programme (Ministry of Health, 2012). This group of nurses provides an ideal opportunity to identify systems that support their skill develop. Research into the most effective methods for teaching diagnostic reasoning as a legitimate nursing role is also needed.

### **Limitations**

The consequences identified in this study were primarily positive ones; recognition of patient problems and nursing actions which resulted in a new diagnosis or treatment change. The findings reflect a research focus on specific patient cases where the nurse felt she had made a difference. There can, however, be unintended consequences as well. Action is unpredictable and irreversible. As Arendt (cited in Dunne, 1997, p. 92) argued, the plot in any actor's story is not under their control. The actor cannot know how others in the story will perceive their actions or react. The nurse who takes time to look further spends less time with other patients. The consequences for these patients are unknown. Also, in asking the doctor to reassess a patient, the nurse cannot know how her request will affect the doctor or the patient. While the focus on consequences from the nurse's perspective fits with a hermeneutic study, these other actors' voices have not been heard. Listening to their voices would provide a deeper understanding of the consequences of the nurse's assessment actions.

A pragmatic lens has contributed to our understanding of the consequences of using advanced assessment skills. But hermeneutics cautions our interpretation by asking "What still lies hidden? What was closed down in coming up with this 'interpretation'? What else is to be thought?" In understanding the consequence of advanced assessment skill in terms of diagnostic and treatment decisions, I perhaps did not see or allow to be revealed understanding of consequence as a feature of 'caring' or

'comfort'. The comfort a patient derives from being assessed by a perceived 'competent' nurse might have been overshadowed by the pragmatic stance.

A further limitation relates to the nature of storytelling. Learning from past events is an imperfect process. Retrospective reviews "all suffer the limitation that they cannot faithfully reconstruct the context in which decisions were made and from which actions followed" (Croskerry, 2009 August). Fatigue, distractions, unconscious acts, and other patient responsibilities play a role in shaping what is noticed, and what is remembered when retelling an event. The context blurs with the passage of time. Certain parts of the story are remembered clearly while others are forgotten. Telling the story also contributes to this, with each recollection of the experience changing what is remembered and what is forgotten. The uncertainty of a sign or symptom becomes certain with the privilege of a confirming diagnostic test, thus we can lose sight of the initial uncertainty. This limitation can be addressed by listening to and interpreting many stories of practice, but it remains a limitation none the less.

## **Conclusion**

This research study began with the recognition of a gap in our understanding of how advanced physical assessment skills benefit patient outcomes in the clinical environment of medical and surgical nursing. It has shown that it is not the specific skills that are used which define advanced assessment practice, but the interpretation and diagnostic reasoning that results from use of the skills. The true skill of advanced assessment is in knowing what to look for and what things look like, recognizing the salient features of a patient situation, and interpreting those features within the full context of the patient situation. Interpretation directs subsequent action; it directs what the nurse does, and this is what keeps patients safe.

Dewey argued that the formation of habits and disposition is more important than the acquisition of skills and knowledge. He believed that "virtues are ends because they are such important means" (1922/2007, p. 47). This study concurs. The habit or disposition to continually look, to notice and to interpret is essential as it drives use of assessment skills. It is only through using the skills that nurses develop the habit of assessment and the knowledge and experience necessary to contribute to diagnostic reasoning and patient safety. Although professional boundaries suggest that nurses do not contribute to diagnosis and treatment decisions, the nurse's assessment *habit* is the means to more accurate diagnostic and treatment decision making and serves to keep

patients safe. Excellent patient assessment is habit. It is the safety net which keeps patients safe in the setting of medical and surgical wards.

### Keeping patients safe means...

Always looking, staying attuned,  
Knowing what to look for.  
Looking deeper, looking for more,  
Trying to see within.

Listening, palpating, percussing,  
Knowing what things look like.  
Listening to the patient,  
Really listening.

Thinking differently,  
Questioning, staying open,  
Considering other possibilities,  
Wondering what's been missed.

Building habits and routines,  
Always doing things this way,  
Taking time, making time,  
Not wanting to miss a thing.

Trying something new,  
Listening, learning, testing,  
Stepping outside what's comfortable,  
Asking, clarifying, escalating.

Needing the story to make sense,  
Recognising when it's not.  
Persevering, not letting go,  
Demanding to be heard.

Accepting the responsibility,  
Recognising it's yours.  
Advocating, always advocating,  
To keep your patient safe.

## References

- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout and job satisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993. doi: 10.1001/jama.288.16.1987
- Allen, D. G. (1995). Hermeneutics: Philosophical traditions and nursing practice research. *Nursing Science Quarterly*, 8(4), 174-182. doi: 10.1177/089431849500800408
- Anderson, E. (2012). Dewey's moral philosophy. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2012 ed.). Retrieved from <http://plato.stanford.edu/ezproxy.aut.ac.nz/archives/fall2012/entries/dewey-moral/>.
- Annells, M. (1999). Evaluating phenomenology: Usefulness, quality and philosophical foundations. *Nurse Researcher*, 6(3), 5-19. Retrieved from <http://nurseresearcher.rcnpublishing.co.uk>
- Armitage, G. (1999). Nursing assessment and diagnosis of respiratory distress in infants by children's nurses. *Journal of Clinical Nursing*, 8(1), 22-30. doi: 10.1046/j.1365-2702.1999.00215.x
- Baid, H. (2006). Differential diagnosis in advanced nursing practice. *British Journal of Nursing*, 15(18), 1007-1011. Retrieved from <http://www.britishjournalofnursing.com/>
- Barbarito, C., Carney, L., & Lynch, A. (1997). Refining a physical assessment course. *Nurse Educator*, 22(3), 6. Retrieved from <http://www.nurseeducatoronline.com>
- Baron, R. J. (1990). Medical hermeneutics: Where is the "text" we are interpreting? *Theoretical Medicine*, 11(1), 25-28. doi: 10.1007/bf00489235
- Beckett, C. D., & Kipnis, G. (2009). Collaborative communication: Integrating SBAR to improve quality/patient safety outcomes. *Journal for Healthcare Quality : Official Publication of the National Association for Healthcare Quality*, 31(5), 19-28. doi: 10.1111/j.1945-1474.2009.00043.x
- Benner, P. (1994). *Interpretive phenomenology: embodiment, caring, and ethics in health and illness*. Thousand Oaks, Calif: Sage Publications.
- Benner, P., & Tanner, C. A. (1987). Clinical judgement: How expert nurses use intuition. *The American Journal of Nursing*, 87(1), 23-31. Retrieved from <http://ajnonline.com>
- Benner, P., Tanner, C. A., & Chesla, C. (2009). *Expertise in Nursing Practice: Caring, Clinical Judgement and Ethics* (2nd ed.). New York: Springer Publishing Company.
- Binding, L. L., & Tapp, D. M. (2008). Human understanding in dialogue: Gadamer's recovery of the genuine. *Nursing Philosophy*, 9(2), 121-130. doi: 10.1111/j.1466-769X.2007.00338.x
- Bleakley, A., Farrow, R., Gould, D., & Marshall, R. (2003). Making sense of clinical reasoning: judgement and the evidence of the senses. *Medical Education*, 37(6), 544-552. doi: 10.1046/j.1365-2923.2003.01542.x
- Boell, S. K., & Cecez-Kecmanovic, D. (2010). Literature reviews and the hermeneutic circle. *Australian Academic & Research Libraries*, 41(2), 129-144. Retrieved from <http://www.tandfonline.com/loi/uarl20>

- Boyle, S. (2004). Nursing unit characteristics and patient outcomes. *Nursing Economics*, 22(3), 111-119, 123. Retrieved from <http://www.nursingeconomics.net>
- Brooks, L. R., LeBlanc, V. R., & Norman, G. R. (2000). On the difficulty of noticing obvious features in patient appearance. *Psychological Science*, 11(2), 112-117. doi: 10.1111/1467-9280.00225
- Brown, M. C., Brown, J. D., & Bayer, M. M. (1987). Changing nursing practice through continuing education in physical assessment: Perceived barriers to implementation. *The Journal of Continuing Education in Nursing*, 18(4), 111-115. Retrieved from <http://www.jcenonline.com>
- Bush, A., & Thomson, A. H. (2007). Acute bronchiolitis. *British Medical Journal (Clinical research ed.)*, 335(7628), 1037-1041. doi: 10.1136/bmj.39374.600081.AD
- Caelli, K. (2001). Engaging with phenomenology: Is it more of a challenge than it needs to be? *Qualitative Health Research*, 11(2), 273-281. doi: 10.1177/104973201129118993
- Chiarella, M. (2000). Silence in court: the devaluation of the stories of nurses in the narratives of health law. *Nursing Inquiry*, 7(3), 191-199. doi: 10.1046/j.1440-1800.2000.00068.x
- Cioffi, J., Conway, R., Everist, L., Scott, J., & Senior, J. (2009). 'Patients of concern' to nurses in acute care settings: A descriptive study. *Australian Critical Care*, 22(4), 178-186. Retrieved from <http://www.australiancriticalcare.com/>
- Clarke, S. (2006). Research on nurse staffing and its outcomes: The challenges and risks of grasping at shadows. In S. Nelson & S. Gordon (Eds.), *The complexities of care: Nursing reconsidered* (pp. 161-184). Ithaca: Cornell University Press.
- Colwell, C. B., & Smith, J. (1985). Determining the use of physical assessment skills in the clinical setting. *Journal of Nursing Education*, 24(8), 333-339. Retrieved from <http://www.journalofnursingeducation.com>
- Considine, J. (2005). The role of nurses in preventing adverse events related to respiratory dysfunction: literature review. *Journal of Advanced Nursing*, 49(6), 624-633. doi: 10.1111/j.1365-2648.2004.03337.x
- Considine, J., & Botti, M. (2004). Who, when and where? Identification of patients at risk of an in-hospital adverse event: Implications for nursing practice. *International Journal of Nursing Practice*, 10, 21-31. doi: 10.1111/j.1440-172X.2003.00452.x
- Coombs, M. A., & Morse, S. E. (2002). Physical assessment skills: a developing dimension of clinical nursing practice. *Intensive and Critical Care Nursing*, 18, 200-210. doi: 10.1016/S0964-3397(02)00044-7
- Cosby, K. S., & Croskerry, P. (2004). Profiles in patient safety: authority gradients in medical error. *Academic Emergency Medicine*, 11(12), 1341-1345. doi: 10.1197/j.aem.2004.07.005
- Crighton, I. M., & Winter, R. J. (1997). Failure to recognise the need for readmission to an intensive care or high dependency unit. *British Journal of Intensive Care*, Mar/Apr, 47-48.
- Croskerry, P. (2009). Clinical cognition and diagnostic error: applications of a dual process model of reasoning. *Advances in Health Sciences Education*, 14(1), 27-35. doi: 10.1007/s10459-009-9182-2
- Croskerry, P. (2009 August). Context is everything or how could I have been that stupid? *Healthcare Quarterly*, 12 (Sp), e171-176. doi: 10.12927/hcq.2009.20945
- Crotty, M. (1998). *The foundations of social research: meaning and perspective in the research process*. Sydney, Australia: Allen & Unwin.

- Davidson, L. J., Bennett, S. E., Hamera, E. K., & Raines, B. K. (2004). What constitutes advanced assessment? *Journal of Nursing Education*, 43(9), 421-425. Retrieved from <http://www.journalofnursingeducation.com>
- de Witt, L., & Ploeg, J. (2006). Critical appraisal of rigour in interpretive phenomenological nursing research. *Journal of Advanced Nursing*, 55(2), 215-229. doi: 10.1111/j.1365-2648.2006.03898.x
- Dewey, J. (1896). The reflex arc concept in psychology. *Psychological Review*, 3, 359-370. Retrieved from <http://www.apa.org/pubs/journals/rev/index.aspx>
- Dewey, J. (1916). The Logic of Judgments of Practise. *The Journal of Philosophy, Psychology and Scientific Methods*, 12(19), 505-523. Retrieved from <http://www.journalofphilosophy.org/>
- Dewey, J. (1916/2010). Democracy and Education : An Introduction to the Philosophy of Education [EBL version]. Retrieved from <http://AUT.eblib.com.au>
- Dewey, J. (1922/2007). *Human Nature and Conduct: An Introduction to Social Psychology*. New York, NY: Cosimo Inc.
- Dewey, J. (1929). *The Quest for Certainty: A Study of the Relation of Knowledge and Action*. New York, NY: Milton, Balch & Co.
- Dewey, J. (1931). *Philosophy and Civilization*. New York, NY: Minton, Balch & Co.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston, MA: D C Heath & Co.
- Dewey, J. (1938). *Logic: The Theory of Inquiry*. New York, NY: Holt, Rinehart & Winston.
- Doane, G. H., & Varcoe, C. (2005). Toward compassionate action: Pragmatism and the inseparability of theory/practice. *Advances in Nursing Science*, 28(1), 81-90. Retrieved from <http://www.advancesinnursingscience.com/>
- Doane, G. H., & Varcoe, C. (2008). Knowledge translation in everyday nursing: From evidence-based to inquiry-based practice. *Advances in Nursing Science* 31(4), 283-295. doi: 10.1097/01.ANS.0000341409.17424.7f
- Donabedian, A. (1966/2005). Evaluating the Quality of Medical Care. *Milbank Quarterly*, 83(4), 691-729. doi: 10.1111/j.1468-0009.2005.00397.x
- Donabedian, A. (2003). *An introduction to quality assurance in healthcare*. Oxford, England: Oxford University Press.
- Dreyfus, H. L., & Dreyfus, S. E. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. New York, NY: The Free Press.
- Dreyfus, H. L., & Dreyfus, S. E. (2005). Peripheral vision: Expertise in real world contexts. *Organization Studies*, 26(5), 779-792. doi: 10.1177/0170840605053102
- Duff, B., Gardiner, G., & Barnes, M. (2007). The impact of surgical ward nurses practicing respiratory assessment on positive patient outcomes. *Australian Journal of Advanced Nursing*, 24(4), 52-56. Retrieved from <http://www.ajan.com.au>
- Dunne, J. (1997). *Back to the rough ground: practical judgment and the lure of technique*. Notre Dame, ID: University of Notre Dame Press.
- Eldridge, M. (1998). *Transforming experience: John Dewey's cultural instrumentalism*. Nashville, TN: Vanderbilt University Press.
- Endacott, R., Kidd, T., Chaboyer, W., & Edington, J. (2007). Recognition and communication of patient deterioration in a regional hospital: A multi-methods study. *Australian Critical Care*, 20(3), 100-105. doi: 10.1016/j.aucc.2007.05.002

- Fairfield, P. (2011). *Philosophical hermeneutics reinterpreted: dialogues with existentialism, pragmatism, critical theory, and postmodernism*. New York, NY: Continuum.
- Fealy, G., McCarron, M., O'Neill, D., McCallion, P., Clarke, M., Small, V., . . . Cullen, A. (2009). Effectiveness of gerontologically informed nursing assessment and referral interventions for older persons attending the emergency department: systematic review. *Journal of Advanced Nursing*, 65(5), 934-945. doi: 10.1111/j.1365-2648.2009.04961.x
- Fennessey, A., & Wittmann-Price, R. A. (2011). Physical assessment: A continuing need for clarification. *Nursing Forum*, 46(1), 45-50. doi: 10.1111/j.1744-6198.2010.00209.x
- Fleming, V., Gaidys, U., & Robb, Y. (2003). Hermeneutic research in nursing: Developing a Gadamerian-based research method. *Nursing Inquiry*, 10(2), 113-120. doi: 10.1046/j.1440-1800.2003.00163.x
- Gadamer, H.-G. (1975/1989). *Truth and method* (J. Weinsheimer & D. G. Marshall, Trans. 2nd ed.). New York, NY: Continuum.
- Gadamer, H.-G. (1987). *The idea of the good in Platonic-Aristelian philosophy* (P. C. Smith, Trans.). New Haven, CT: Yale University Press.
- Gadamer, H.-G. (2007). *The Gadamer reader: A bouquet of the later writings* (R. E. Palmer, Trans.). Everston, IL: Northwest University Press.
- Garrison, J. W. (1998). John Dewey's philosophy as education. In L. Hickman (Ed.), *Reading Dewey: Interpretations for a postmodern generation* (pp. 63-81). Indianapolis, IN: Indiana University Press.
- Gastaldo, D., & Holmes, D. (1999). Foucault and nursing: A history of the present. *Nursing Inquiry*, 6(4), 231-240. doi: 10.1046/j.1440-1800.1999.00042.x
- Gerdtz, M. F., & Bucknall, T. K. (2001). Triage nurses' clinical decision making. An observational study of urgency assessment. *Journal of Advanced Nursing*, 35(4), 550-561. doi: 10.1046/j.1365-2648.2001.01871.x
- Giddens, J. F. (2006). Comparing the frequency of physical examination techniques performed by associate and baccalaureate degree prepared nurses in clinical practice: Does education make a difference? *Journal of Nursing Education*, 45(3), 136-139. Retrieved from <http://www.journalofnursingeducation.com>
- Giddens, J. F. (2007). A survey of physical assessment techniques performed by RNs: Lessons for nursing education. *Journal of Nursing Education*, 46(2), 83-87. Retrieved from <http://www.journalofnursingeducation.com>
- Gobet, F., & Chassy, P. (2008). Towards an alternative to Benner's theory of expert intuition in nursing: A discussion paper. *International Journal of Nursing Studies*, 45(1), 129-139. doi: 10.1016/j.ijnurstu.2007.01.005
- Graber, M. L., & Carlson, B. (2011). Diagnostic error: The hidden epidemic. *Physician Executive*, 37(6), 12-14, 16, 18-19. Retrieved from <http://www.acpe.org/Publications/PEJ/index.aspx?expand=pej>
- Habermas, J. (1984). *The theory of communicative action: A critique of functionalist reason*. Cambridge, MA: Polity, Beacon.
- Haggerty, L. A., & Grace, P. (2008). Clinical wisdom: The essential foundation of "good" nursing care. *Journal of Professional Nursing*, 24(4), 235-240. doi: 10.1016/j.profnurs.2007.06.010
- Hammond, K. (2000). *Human judgment and social policy: Irreducible uncertainty, inevitable error, unavoidable injustice*. New York, NY: Oxford University Press.
- Harjai, P. K., & Tiwari, R. (2009). Model of critical diagnostic reasoning: Achieving expert clinician performance. *Nursing Education Perspectives*, 30(5), 305. Retrieved from <http://www.nln.org/nlnjournal>

- Hawley, M. P., & Jensen, L. (2007). Making a difference in critical care nursing practice. *Qualitative Health Research*, 17(5), 663-674. doi: 10.1177/1049732307301235
- Health and Disability Commissioner. (2003a). Nurses recorded postoperative deterioration without seeking medical review (00HDC04656), from <http://www.hdc.org.nz/files/hdc/opinions/00hdc04656.pdf>
- Health and Disability Commissioner. (2003b). Sedation and inadequate care of patient in rest home (00HDC11595), from <http://www.hdc.org.nz/files/hdc/opinions/00hdc11595nurse.pdf>
- Health and Disability Commissioner. (2005a). Delayed diagnosis of testicular torsion (04HDC00463), from <http://www.hdc.org.nz/files/hdc/opinions/04hdc00463medical-officer.pdf>
- Health and Disability Commissioner. (2005b). Failure to address deteriorating condition of rest home resident (03HDC14664), from <http://www.hdc.org.nz/files/hdc/opinions/03hdc14664nurse.pdf>
- Health and Disability Commissioner. (2006). Monitoring of cellulitis by registered nurses in an aged care facility (05HDC07285), from <http://www.hdc.org.nz/files/hdc/opinions/05hdc07285nurses.pdf>
- Health and Disability Commissioner. (2007a). Care of rest home resident who sustained injuries from an unwitnessed fall (06HDC12434), from <http://www.hdc.org.nz/files/hdc/opinions/06hdc12434registered-nurse.pdf>
- Health and Disability Commissioner. (2007b). Care provided to rest home resident with dislocated hip (06HDC06457), from <http://www.hdc.org.nz/files/hdc/opinions/06hdc06457registered-nurse.pdf>
- Health and Disability Commissioner. (2007c). Co-ordination of care of patient admitted to hospital with acute breathlessness (05HDC11908) Retrieved from <http://www.hdc.org.nz/files/hdc/opinions/05hdc11908dhhb.pdf>
- Health and Disability Commissioner. (2007d). Monitoring of deteriorating chest infection in an elderly resident in an aged care facility (05HDC15501), from <http://www.hdc.org.nz/files/hdc/opinions/05hdc15501resthome.pdf>
- Health and Disability Commissioner. (2009). Management of life-threatening asthma in young child (08HDC04311), from [http://www.hdc.org.nz/decisions--case-notes/case-notes/management-of-life-threatening-asthma-in-young-child-\(08hdc04311\)](http://www.hdc.org.nz/decisions--case-notes/case-notes/management-of-life-threatening-asthma-in-young-child-(08hdc04311))
- Health and Disability Commissioner. (2002). Inadequate monitoring of sedated patient (02HDC08692), from <http://www.hdc.org.nz/files/hdc/opinions/02hdc08692.pdf>
- Heelan, P. A., & Schulkin, J. (1998). Hermeneutic philosophy and pragmatism: A philosophy of science. *Synthese*, 115, 269-302. doi: 10.1023/A:1005032631417
- Higgins, C. (2010). A question of experience: Dewey and Gadamer on practical wisdom. *Journal of Philosophy of Education*, 44(2-3), 301-333. doi: 10.1111/j.1467-9752.2010.00757.x
- Hiroshi, K., Matthew, G., Kazuhiko, S., & Hans, P. (2001). Auditory detection of simulated crackles in breath sounds. *Chest*, 119(6), 1886-1892. doi: 10.1378/chest.119.6.1886
- Hogan, J. (2006). Why don't nurses monitor the respiratory rates of patients? *British Journal of Nursing*, 15(9), 489-492. Retrieved from <http://www.britishjournalofnursing.com/>
- Holroyd, A. (2008). Interpretive hermeneutics and modifying the modern idea of method. *Canadian Journal of Nursing Research*, 40(4), 130-145. Retrieved from <http://cjr.mcgill.ca>
- Iedema, R. A. M. (2009). Communication, quality and safety. *NSW Health - Health Care Advisory Council Newsletter*(8), 7-10.

- Innis, R. E. (2005). The signs of interpretation. *Culture & Psychology, 11*(4), 499-509. doi: 10.1177/1354067x05058589
- Irvine, D., Sidani, S., & McGillis Hall, L. (1998). Linking outcomes to nurses' roles in health care. *Nursing Economics, 16*(2), 58-64, 87. Retrieved from <http://www.nursingeconomics.net>
- Jacobs, J. L., Apatov, N., & Gleib, M. (2007). Increasing vigilance on the medical/surgical floor to improve patient safety. *Journal of Advanced Nursing, 57*(5), 472-481. doi: doi:10.1111/j.1365-2648.2006.04161.x
- Jarvis, C. (2004). *Physical examination and health assessment* (4th ed.). St. Louis, IL: Elsevier Science.
- Joas, H., & Kilpinen, E. (2006). Creativity and society. In J. R. Shook & J. Margolis (Eds.), *A companion to pragmatism* (pp. 323-335). Malden, MA: Blackwell Publishing.
- Kassirer, J. P. (2010). Teaching clinical reasoning: Case-based and coached. *Academic Medicine: Journal of the Association of American Medical Colleges, 85*(7), 1118-1124. doi: 10.1097/ACM.0b013e3181d5dd0d
- Kitson, A. L. (1996). Does nursing have a future? *British Medical Journal, 313*, 1647-1651. Retrieved from <http://group.bmj.com/group/advertising/portfolio/bmj-editions>
- Klein, G. (2006). The strengths and limitations of teams for detecting problems. *Cognition, Technology & Work, 8*(4), 227-236. doi: 10.1007/s10111-005-0024-6
- Kloppenber, J. T. (1996). Pragmatism: An old name for some new ways of thinking? *The Journal of American History, 83*(1), 100-138. Retrieved from <http://www.jstor.org/stable/2945476>
- Koch, T. (1996). Implementation of a hermeneutic inquiry in nursing: Philosophy, rigour and representation. *Journal of Advanced Nursing, 24*(1), 174-184. doi: 10.1046/j.1365-2648.1996.17224.x
- Koch, T. (1999). An interpretive research process: Revisiting phenomenological and hermeneutic approaches. *Nurse Researcher, 6*(3), 20-34. Retrieved from <http://nurseresearcher.rcnpublishing.co.uk>
- Koch, T. (2006). Establishing rigour in qualitative research: The decision trail. *Journal of Advanced Nursing, 53*(1), 91-100. doi: 10.1111/j.1365-2648.2006.03681.x
- Latimer, J. (1998). Organizing context: Nurses' assessments of older people in an acute medical unit. *Nursing Inquiry, 5*, 43-57. doi: 10.1046/j.1440-1800.1998.510043.x
- Lauzon Clabo, L. M. (2004). *Examining the role of social context in nurses' pain assessment practice with postoperative clients*. Doctoral dissertation, University of Rhode Island. Available from ProQuest Dissertations and Theses Full Text database. (UMI No. 3135897)
- Lauzon Clabo, L. M. (2008). An ethnography of pain assessment and the role of social context on two postoperative units. *Journal of Advanced Nursing, 61*(5), 531-539. doi: 10.1111/j.1365-2648.2007.04550.
- LeBlanc, V. R., Brooks, L. R., & Norman, G. R. (2002). Believing is seeing: The influence of a diagnostic hypothesis on the interpretation of clinical features. *Academic Medicine, 77*(10), S67-S69. Retrieved from <http://www.academicmedicine.org>
- Leder, D. (1990). Clinical interpretation: The hermeneutics of medicine. *Theoretical Medicine, 11*, 9-24. Retrieved from <http://springerlink.metapress.com/openurl.asp?genre=journal&issn=1386-7415>
- Leonard, M., Graham, S., & Bonacum, D. (2004). The human factor: The critical importance of effective teamwork and communication in providing safe care.

- Quality & Safety in Health Care*, 13 Suppl 1(suppl\_1), i85-i90. doi: 10.1136/qshc.2004.010033
- Lesa, R., & Dixon, A. (2007). Physical assessment: Implications for nurse educators and nursing practice. *International Nursing Review*, 54, 166-172. doi: 10.1111/j.1466-7657.2007.00536.x
- Lillibridge, J., & Wilson, M. (1999). Registered nurses' descriptions of their health assessment practices. *International Journal of Nursing Practice*, 5, 29-37. doi: 10.1046/j.1440-172x.1999.00144.x
- Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. Beverley Hills, CA: Sage.
- Lindholm, L., Nieminen, A., Makela, C., & Rantanen-Siljamaki, S. (2006). Clinical application research: A hermeneutical approach to the appropriation of caring science. *Qualitative Health Research*, 16(1), 137-150. doi: 10.1177/1049732305284026
- Lont, K. L. (1992). Physical assessment by nurses: A study of nurses' use of chest auscultation as an indicator of their assessment practices. *Contemporary Nurse*, 1(2), 93-97. Retrieved from <http://www.contemporarynurse.com>
- Madison, G. B. (1988). *The hermeneutics of postmodernity: Figures and themes*. Bloomington, IN: Indiana University Press.
- Maggs-Rapport, F. (2001). 'Best research practice': In pursuit of methodological rigour. *Journal of Advanced Nursing*, 35(3), 373-383. doi: 10.1046/j.1365-2648.2001.01853.x
- Manias, E., & Street, A. (2001). The interplay of knowledge and decision making between nurses and doctors in critical care. *International Journal of Nursing Studies*, 38(2), 129-140. doi: 10.1016/S0020-7489(00)00055-9
- Mariani, P., Saeed, M., Potti, A., Hebert, B., Sholes, K., Lewis, M. J., & Hanley, J. F. (2006). Ineffectiveness of the measurement of 'routine' vital signs for adult inpatients with community-acquired pneumonia. *International Journal of Nursing Practice*, 12(2), 105-109. doi: 10.1111/j.1440-172X.2006.00556.x
- McCarthy, M. C. (1991). *Interpretation of confusion in the aged: Conflicting models of clinical reasoning among nurses*. Doctoral dissertation, University of California, San Francisco. Available from ProQuest Dissertations and Theses Full Text database. (UMI No. 9217357)
- McCarthy, M. C. (2003). Situated clinical reasoning: Distinguishing acute confusion from dementia in hospitalized older adults. *Research in Nursing & Health*, 26(2), 90-101. doi: 10.1002/nur.10079
- Merleau-Ponty, M. (1973). *The prose of the world*. Evanston, IL: Northwestern University Press.
- Meyer, G., & Lavin, M. (2005). Vigilance: The essence of nursing. *Online Journal of Issues in Nursing*, 10(3). Retrieved from <http://www.nursingworld.org/ojin/> doi:10.3912/OJIN.Vol10No03PPT01
- Mikkelsen, J., & Holm, H. A. (2007). Contextual learning to improve health care and patient safety. *Education for Health* 20(3), 124-132. Retrieved from <http://www.educationforhealth.net>
- Minick, P. (1995). The power of human caring: Early recognition of patient problems. *Scholarly Inquiry for Nursing Practice*, 9(4), 303-317. Retrieved from <http://www.springerpub.com/journal.aspx?jid=1541-6577>
- Ministry of Health. (2012). Health Workforce New Zealand - Our Work Retrieved 18/08/13, from <http://www.healthworkforce.govt.nz/our-work/investment-relationships-and-purchasing/nursing#netp>
- Naughton, M., MacSuibhne, S., Callanan, I., Guerandel, A., & Malone, K. (2011). Quality of education at multidisciplinary case conferences in psychiatry.

- International Journal of Health Care Quality Assurance*, 24(1), 31-41. doi: 10.1108/09526861111098229
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, 346(22), 1715-1722. Retrieved from <http://content.nejm.org/>
- Nendaz, M., & Perrier, A. (2012). Diagnostic errors and flaws in clinical reasoning: Mechanisms and prevention in practice. *Swiss Medical Weekly* 142, w13706. doi: 10.4414/smw.2012.13706
- Neville, S., Gillon, D., & Milligan, K. (2006). New Zealand registered nurses' use of physical assessment skills - a pilot study. *Vision: a Journal of Nursing*, 14(1), 13-19.
- New Zealand Health Practitioners Disciplinary Tribunal. (2007). Nur05/09D Retrieved 2/10/07 from <http://www.hpdt.org.nz/Default.aspx?tabid=109>
- Nursing Council of New Zealand. (2012a). *The New Zealand nursing workforce. A profile of nurse practitioners, registered nurses and enrolled nurses 2011*. Retrieved from <http://nursingcouncil.org.nz/>.
- Nursing Council of New Zealand. (2012b). Scopes of practice. Retrieved 20/02/2013, from <http://nursingcouncil.org.nz/Nurses/Scopes-of-practice>
- Nursing Council of New Zealand. (2013). *Fact sheet - the future nursing workforce: Supply projection 2010-2035*. Retrieved from <http://nursingcouncil.org.nz/News/The-Future-Nursing-Workforce>.
- O'Connell, B. O. (2001). Challenges of measuring and linking patient outcomes to nursing interventions in acute care settings. *Nursing and Health Sciences*, 3, 113-117. doi: 10.1046/j.1442-2018.2001.00084.x
- O'Farrell, B., Ford-Gilboe, M., & Wong, C. (2000). Evaluation of an advanced health assessment course for acute care nurse practitioners. *Canadian Journal of Nursing Leadership*, 13(3), 20-27. Retrieved from <http://www.longwoods.com/publications/nursing-leadership>
- Page, A. E. K. (2004). Transforming nurses' work environments to improve patient safety: The institute of medicine recommendations. *Policy, Politics, & Nursing Practice*, 5(4), 250-258. doi: 10.1177/1527154404269574
- Peden-McAlpine, C. (2000). Early recognition of patient problems: A hermeneutic journey into understanding expert thinking in nursing. *Scholarly Inquiry for Nursing Practice*, 14(3), 191-226. Retrieved from <http://www.springerpub.com/journal.aspx?jid=1541-6577>
- Peden-McAlpine, C., & Clark, N. (2002). Early recognition of client status changes: The importance of time. *Dimensions of Critical Care Nursing*, 21(4), 144. Retrieved from <http://www.dccjournal.com>
- Peirce, C. S. (1905). What pragmatism is. *Monist*, 15, 161-181. Retrieved from <http://www.jstor.org/stable/27899577>
- Polkinghorne, D. E. (2000). Psychological inquiry and the pragmatic and hermeneutic traditions. *Theory and Psychology*, 10(4), 453-479. doi: 10.1177/0959354300104002
- Polkinghorne, D. E. (2004). *Practice and the human sciences: The case for a judgment-based practice of care*. Albany, NY: State University of New York Press.
- Powell, A. E., & Davies, H. T. O. (2012). The struggle to improve patient care in the face of professional boundaries. *Social Science & Medicine*, 75(5), 807-814. doi: 10.1016/j.socscimed.2012.03.049
- Price, C. I., Han, S. W., & Rutherford, I. A. (2000). Advanced nursing practice: An introduction to physical assessment. *British Journal of Nursing* 9(22), 2292-2296. Retrieved from <http://www.britishjournalofnursing.com/>

- Ramprogus, V. (2002). Eliciting nursing knowledge from practice: The dualism of nursing. *Nurse Researcher*, 10(1), 52-64. Retrieved from <http://nurseresearcher.rcnpublishing.co.uk>
- Reaby, L. L. (1990). The effectiveness of an education program to teach Australian nurses comprehensive physical assessment skills. *Nurse Education Today*, 10, 206-214. doi: 10.1016/0260-6917(90)90027-N
- Reaby, L. L. (1991). Use of physical assessment skills by Australian nurses. *International Nursing Review*, 38(6), 181-184. Retrieved from <http://ca.wiley.com/WileyCDA/WileyTitle/productCd-INR.html>
- Reed, J., & Watson, D. (1994). The impact of the medical model on nursing practice and assessment. *International Journal of Nursing Studies*, 31(1), 57-66. doi: 10.1016/0020-7489
- Reeder, F. (1988). *Hermeneutics*. New York, NY: National League of Nursing.
- Reeves, S., Nelson, S., & Zwarenstein, M. (2008). The doctor-nurse game in the age of interprofessional care: A view from Canada. *Nursing Inquiry*, 15(1), 1-2. doi: 10.1111/j.1440-1800.2008.00396.x
- Reilly, B. M. (2003). Physical examination in the care of medical inpatients: An observational study. *The Lancet*, 362(9390), 1100-1105. doi: 10.1016/S0140-6736(03)14464-9
- Ricoeur, P. (1991). *From text to action. Essays in hermeneutics II*. Evanston, IL: Northwestern University Press.
- Rogers, M. L. (2007). Action and inquiry in Dewey's philosophy. *Transactions of the Charles S. Peirce Society: A Quarterly Journal*, 43(1), 90-115. doi: 10.1353/csp.2007.0013
- Rolfe, G. (2006). Validity, trustworthiness and rigour: Quality and the idea of qualitative research. *Journal of Advanced Nursing*, 53(3), 304-310. doi: 10.1111/j.1365-2648.2006.03727.x
- Sandelowski, M. (1993). Rigor or rigor mortis: The problem of rigor in qualitative research revisited. *Advances in Nursing Science*, 16(2), 1-8. Retrieved from <http://www.advancesinnursingscience.com/>
- Sandelowski, M. (2006). In response to: de Witt L. & Ploeg J. (2006) Critical appraisal of rigor in interpretive phenomenological nursing research. *Journal of Advanced Nursing*, 55(5), 643-645. doi: 10.1111/j.1365-2648.2006.04009.x
- Scheibler, I. (2000). *Gadamer: Between Heidegger and Habermas*. Lanham, MD: Rowman & Littlefield Publishers.
- Schneider, Z., Whitehead, D., Elliot, D., LoBiondo-Wood, G., & Haber, J. (2007). *Nursing and midwifery research; Methods and appraisal for evidence-based practice* (3rd ed.). Marrickville, NSW: Elsevier.
- Schroyen, B., George, N., Hylton, J., & Scobie, N. (2005). Encouraging nurses' physical assessment skills. *Kai Tiaki Nursing New Zealand*, 11(10), 14-15. Retrieved from [http://www.nzno.org.nz/Site/Professional/Kai\\_Tiaki/Default.aspx](http://www.nzno.org.nz/Site/Professional/Kai_Tiaki/Default.aspx)
- Secrest, J. A., Norwood, B. R., & duMont, P. M. (2005). Physical assessment skills: A descriptive study of what is taught and what is practiced. [descriptive research]. *Journal of Professional Nursing*, 21(2), 114-118. doi: 10.1016/j.profnurs.2005.01.004
- Simpson, K. R., James, D. C., & Knox, G. E. (2006). Nurse-Physician communication during labor and birth: Implications for patient safety. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 35(4), 547-556. doi: 10.1111/j.1552-6909.2006.00075.x
- Sims, D., & Cook, D. (2013). Canterbury DEUs foster collegiality: As more dedicated education units are established in Canterbury, levels of collaboration and collegiality between clinical staff, students and lecturers continue to deepen. *Kai*

- Tiaki: Nursing New Zealand*, 19(1), 16. Retrieved from [http://www.nzno.org.nz/Site/Professional/Kai\\_Tiaki/Default.aspx](http://www.nzno.org.nz/Site/Professional/Kai_Tiaki/Default.aspx)
- Skillen, D. L., Anderson, M. C., & Knight, C. L. (2001). The created environment for physical assessment by case managers. *Western Journal of Nursing Research*, 23(1), 72-89. doi: 10.1177/01939450122044961
- Skretkovicz, V. (2010). Florence Nightingale's Notes on Nursing & Notes on Nursing for the Labouring Classes: Commemorative edition with commentary [EBL version]. Retrieved from <http://reader.eblib.com.au>
- Smythe, E. A. (2010). Safety is an interpretive act: A hermeneutic analysis of care in childbirth. *International Journal of Nursing Studies*, 47(12), 1474-1482. doi: 10.1016/j.ijnurstu.2010.05.003
- Smythe, E. A., Ironside, P. M., Sims, S. L., Swenson, M. M., & Spence, D. G. (2008). Doing Heideggerian hermeneutic research: A discussion paper. *International Journal of Nursing Studies*, 45(9), 1389-1397. doi: 10.1016/j.ijnurstu.2007.09.005
- Smythe, E. A., & Spence, D. (2012). Re-viewing literature in hermeneutic research. *International Journal of Qualitative Methods*, 11(1), 12-25. Retrieved from <http://www.ualberta.ca/~ijqm/>
- Sommerfeldt, S. C., Barton, S. S., Stayko, P., Patterson, S. K., & Pimlott, J. (2011). Creating interprofessional clinical learning units: Developing an acute-care model. *Nurse Education in Practice*, 11(4), 273-277. doi: <http://dx.doi.org/10.1016/j.nepr.2010.12.003>
- Sony, S. D. (1992). Baccalaureate nurse graduates' perception of barriers to the use of physical assessment skills in the clinical setting. *Journal of Continuing Education in Nursing*, 23(2), 83-87. Retrieved from <http://www.jcenonline.com>
- Spence, D. (1999). *Prejudice, paradox and possibility: Nursing people from cultures other than one's own*. (Unpublished doctoral thesis), Massey University, Auckland, New Zealand.
- Stein, L. I. (1968). The doctor-nurse game. *The American Journal of Nursing*, 68(1), 101-105. Retrieved from <http://ajnonline.com>
- Stein, L. I., Watts, D. T., & Howell, T. (1990). The doctor-nurse game revisited. *The New England Journal of Medicine*, 322(8), 546-549. doi: 10.1056/nejm199002223220810
- Street, A. F. (1990). *Nursing practice: High, hard ground, messy swaps and the pathways in between*. Geelong, Australia: Deakin University.
- Street, A. F. (1992). *Inside nursing: A critical ethnography of clinical nursing practice*. Albany, NY: State University of New York Press.
- Svenaesus, F. (2000). Hermeneutics of clinical practice: The question of textuality. *Theoretical medicine and bioethics*, 21(2), 171-189. doi: 10.1023/a:1009942926545
- Tait, D. (2010). Nursing recognition and response to signs of clinical deterioration: Desiree Tait reviews the literature that explores how nurses identify and react to patients who show signs of decline. *Nursing Management - UK*, 17(6), 31-35. Retrieved from <http://rcnpublishing.com/journal/nm>
- Talisse, R. B. (2000). *On Dewey: The reconstruction of philosophy*. Belmont, CA: Wadsworth/Thomson Learning.
- Tolia, J., & Smith, L. G. (2007). Fever of unknown origin: Historical and physical clues to making the diagnosis. *Infectious Disease Clinics of North America*, 21(4), 917-936. doi: 10.1016/j.idc.2007.08.011
- Tuohy, C. (2011). Collaborative work with industry: Implementation of Dedicated Education Units. *Whitireia Nursing Journal*(18), 25-38.
- van Manen, M. (1990). *Researching lived experience*. Ontario, Canada: Althouse Press.

- van Manen, M. (1997). From meaning to method. *Qualitative Health Research*, 7(3), 345-369. doi: 10.1177/104973239700700303
- van Manen, M. (2007). Phenomenology of practice. *Phenomenology & Practice*, 1(1), 11-30. Retrieved from <http://www.phandpr.org/index.php/pandp/index>
- Wacogne, I., & Diwakar, V. (2010). Handover and note-keeping: the SBAR approach. *Clinical Risk*, 16(5), 173-175. doi: 10.1258/cr.2010.010043
- Walsh, M. (2000). *Nursing frontiers: Accountability and the boundaries of care*. Oxford, England: Butterworth-Heinemann.
- Walton, J., & Madjar, I. (1999). Phenomenology and nursing. In I. Madjar & J. Walton (Eds.), *Nursing and the experience of illness. Phenomenology in practice* (pp. 1-16). London, England: Routledge.
- Ward, J. J., & Wattier, B. A. (2011). Technology for enhancing chest auscultation in clinical simulation. *Respiratory Care*, 56(6), 834-845. doi: 10.4187/respcare.01072
- Warms, C. A., & Schroeder, C. A. (1999). Bridging the gulf between science and action: The "new fuzzies" of neopragmatism. *Advances in Nursing Science*, 22(2), 1-10. Retrieved from <http://www.advancesinnursingscience.com/>
- Weber, J., & Kelley, J. H. (2007). *Health assessment in nursing*. Philadelphia, PA: Lippincott Williams & Wilkins.
- Wellbery, C. (2011). Flaws in clinical reasoning: A common cause of diagnostic error. *American Family Physician*, 84(9), 1042-1044. Retrieved from <http://www.aafp.org/online/en/home/publications/journals/afp.html>
- Weller, J. M., Barrow, M., & Gasquoine, S. (2011). Interprofessional collaboration among junior doctors and nurses in the hospital setting. *Medical Education*, 45, 478-487. doi: 10.1111/j.11365-2923.2010.03919.x
- West, S. L. (2006). Physical assessment: Whose role is it anyway? *Nursing in Critical Care*, 11(4), 161-167. doi: 10.1111/j.1362-1017.2006.00161.x
- Wheeldon, A. (2005). Exploring nursing roles: Using physical assessment in the respiratory unit. *British Journal of Nursing*, 14(10), 571-574. Retrieved from <http://www.britishjournalofnursing.com/>
- Whitehead, L. (2004). Enhancing the quality of hermeneutic research: Decision trail. *Journal of Advanced Nursing*, 45(5), 512-518. doi: 10.1046/j.1365-2648.2003.02934.x
- Wicks, D. (1995). Nurses and doctors and discourses of healing. *Australian and New Zealand Journal of Sociology*, 31(2), 122. doi: 10.1177/144078339503100206
- Willis, E., Condon, J., & Litt, J. (2000). Working relationships between practice nurses and general practitioners in Australia: A critical analysis. *Nursing Inquiry*, 7(4), 239-247. doi: 10.1046/j.1440-1800.2000.00071.x
- Willis, E., & Parish, K. (1997). Managing the doctor-nurse game: A nursing and social science analysis. *Contemporary Nurse*, 6(3/4), 136-144. Retrieved from <http://www.contemporarynurse.com>
- Wilson, D., & Neville, S. (2009). Culturally safe research with vulnerable populations. *Contemporary Nurse*, 33(1), 69-79. doi: 10.5172/conu.33.1.69
- Wilson, S. F., & Giddens, J. F. (2000). *Health assessment for nursing practice* (2nd ed.). St. Louis, MO: Mosby.
- Wipf, J. E., Lipsky, B. A., Hirschmann, J. V., Boyko, E. J., Takasugi, J., Peugeot, R. L., & Davis, C. L. (1999). Diagnosing pneumonia by physical examination: Relevant or relic? *Archives of Internal Medicine*, 159(10), 1082-1087. doi: 10.1001/archinte.159.10.1082
- Wright, H. G. (2007). *Means, ends, and medical care*. Philosophy and Medicine, Vol. 92. doi:10.1007/978-1-4020-5292-7

- Yamauchi, T. (2001). Correlation between work experiences and physical assessment in Japan. *Nursing & Health Sciences*, 3(4), 213-224. doi: 10.1046/j.1442-2018.2001.00091.x
- Zambas, S. I. (2010). Purpose of the systematic physical assessment in everyday practice: Critique of a "sacred cow". *The Journal of Nursing Education*, 49(6), 305-310. doi: 10.3928/01484834-20100224-03
- Zambas, S. I. (2012, October). *Dewey's pragmatism offers a way of exploring consequences*. Paper presented at the Qualitative Health Research Conference, Montreal, Canada.

## Appendix 1: HDC and HPDT Case Review

Reference, site and context	Assessment skills commented on by HDC or expert witness	Type & frequency of assessment expected	Recommended follow up of assessment findings
(HDC, 2003a) Private hospital: recorded post operative deterioration without seeking medical review	vital signs Inspection: cough, SOB, skin, vomiting and abdominal pain	Full assessment at the beginning of each shift. Nurse to determine frequency of assessment	Request medical review when assessment findings deteriorated. Ensure reporting of patient's condition is concise and assertive.
(HDC, 2003b) Rest home: monitoring sedation and falls	Inspection: fluid balance, nutritional assessment and weight loss	No comment	No comment
(HDC, 2002) Hospital: assessment of sedated patient in seclusion	Inspection: colour, breathing, position, activity, behaviour	No comment	No comment
(HDC, 2005b; HPDT, 2007) Rest Home: failure to address deteriorating diabetic patient	Vital signs, blood glucose level Inspection: level of consciousness	Specific assessment when condition deteriorating	Request medical review when assessment findings deteriorated
(HDC, 2005a) Hospital ED: delayed diagnosis of testicular torsion	vital signs Inspection: pain, abdominal tenderness, testes colour and masses/swelling. Palpation: abdominal tenderness, rebound tenderness	No comment	Ensure communication of patient's condition is accurate, and that doctor follows up. Document refusal to have assessment completed.
(HDC, 2006) Rest home: Monitoring of skin tear, subsequent cellulitis and chest infection	Inspection: fluid intake, fluid balance, temperature, vomiting, skin integrity, quality of urine, rate, rhythm and depth of breathing, wound assessment including size, shape, condition, site, healing stage, exudate and pain Auscultation: chest Percussion: chest Diagnostic tests: wound swabs, full blood screen	Full assessment when condition deteriorating	Request medical review when assessment findings deteriorated
(HDC, 2007c) Hospital: assessment of patient with acute breathlessness	Vital signs, peak flow, oxygen saturations	Doctor to determine frequency of assessment	Document refusal to have assessment completed.
(HDC, 2007d) Rest home: monitoring of deteriorating chest infection	Vital signs Inspection: cough, wound, fluid balance	Full assessment within 24 hrs of admission. Full assessment within 4 weeks of admission.	Proactive in assessing symptoms and reporting observations to GP.
(HDC, 2007b) Rest home: Assessment of dislocated hip	Inspection: pain, leg position, rotation and length	No comment	No comment
(HDC, 2007a) Rest home: Assessment of fracture hip and arm	Vital signs Inspection: weight, functional abilities, mobility, pain	Full assessment when condition deteriorating	Request medical review when assessment findings deteriorated

Review of HDC and HPDT cases involving nurse assessments between 1999 and 2007

([www.hdc.org.nz](http://www.hdc.org.nz); [www.hpdt.org.nz](http://www.hpdt.org.nz)).

## Appendix 2: Regional Ethics Approval



### Northern Y Regional Ethics Committee

Ministry of Health  
3<sup>rd</sup> Floor, BNZ Building  
354 Victoria Street  
PO Box 1031  
Hamilton 3204  
Phone (07) 858 7021  
Fax (07) 858 7070

Email: [northern\\_y\\_ethicscommittee@moh.govt.nz](mailto:northern_y_ethicscommittee@moh.govt.nz)

18 June 2010

**Shelaine Zambas**  
School of Health Care Practice  
AUT University, 90 Akoranga Drive  
Northcote, North Shore City - 0627

Dear Shelaine

**Nurses experiences of the outcome of using advanced physical assessment skills on patients.**

*Investigators:* Shelaine Zambas *Supervisor:* Dr Liz Smythe.

*Ethics ref:* NTY/10/04/033

*Locations:* Auckland DHB, Waitemata DHB.

This study was given ethical approval by the Northern Y Regional Ethics Committee on 18 June 2010.

Approved Documents

- Information Sheet and Consent Form version 01 dated 17/03/10
- Transcriber confidentiality form version 01 dated 17/03/10

This approval is valid until 30 May 2013, provided that Annual Progress Reports are submitted (see below).

Amendments and Protocol Deviations

All significant amendments to this proposal must receive prior approval from the Committee. Significant amendments include (but are not limited to) changes to:

- the researcher responsible for the conduct of the study at a study site
- the addition of an extra study site
- the design or duration of the study
- the method of recruitment
- information sheets and informed consent procedures.

Significant deviations from the approved protocol must be reported to the Committee as soon as possible.

Annual Progress Reports and Final Reports

The first Annual Progress Report for this study is due to the Committee by 18 June 2011. The Annual Report Form that should be used is available at [www.ethicscommittees.health.govt.nz](http://www.ethicscommittees.health.govt.nz). Please note that if you do not provide a progress report by this date, ethical approval may be withdrawn.

A Final Report is also required at the conclusion of the study. The Final Report Form is also available at [www.ethicscommittees.health.govt.nz](http://www.ethicscommittees.health.govt.nz).

Requirements for the Reporting of Serious Adverse Events (SAEs)

For the purposes of the individual reporting of SAEs occurring in this study, the Committee is satisfied that the study's monitoring arrangements are appropriate.

SAEs occurring in this study must be individually reported to the Committee within 7-15 days only where they:

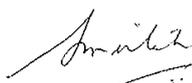
- are *unexpected* because they are not outlined in the investigator's brochure, and
- are not defined study end-points (e.g. death or hospitalisation), and
- occur in patients located in New Zealand, and
- if the study involves blinding, result in a decision to break the study code.

There is no requirement for the individual reporting to ethics committees of SAEs that do not meet all of these criteria. However, if your study is overseen by a data monitoring committee, copies of its letters of recommendation to the Principal Investigator should be forwarded to the Committee as soon as possible.

Please see [www.ethicscommittees.health.govt.nz](http://www.ethicscommittees.health.govt.nz) for more information on the reporting of SAEs, and to download the SAE Report Form.

We wish you all the best with your study.

Yours sincerely



Amrita Kuruvilla  
Administrator  
Northern Y Regional Ethics Committee  
Email: [amrita\\_kuruvilla@moh.govt.nz](mailto:amrita_kuruvilla@moh.govt.nz)

## Appendix 3: AUTECH approval



# MEMORANDUM

## Auckland University of Technology Ethics Committee (AUTECH)

---

To: Liz Smythe  
 From: **Charles Grinter** Ethics Coordinator  
 Date: 30 August 2010  
 Subject: Ethics Application Number 10/165 **Nurses experiences of the outcome of using advanced physical assessment skills on patients.**

---

Tena koe Liz

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTECH) at their meeting on 9 August 2010 and that I have approved your ethics application. This delegated approval is made in accordance with section 5.3.2.3 of AUTECH's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTECH's meeting on 13 September 2010.

Your ethics application is approved for a period of three years until 30 August 2013.

I advise that as part of the ethics approval process, you are required to submit the following to AUTECH:

- A brief annual progress report using form EA2, which is available online through <http://www.aut.ac.nz/research/research-ethics/ethics>. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 30 August 2013;
- A brief report on the status of the project using form EA3, which is available online through <http://www.aut.ac.nz/research/research-ethics/ethics>. This report is to be submitted either when the approval expires on 30 August 2013 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTECH is notified of any adverse events or if the research does not commence. AUTECH approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTECH grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this.

When communicating with us about this application, we ask that you use the application number and study title to enable us to provide you with prompt service. Should you have any further enquiries regarding this matter, you are welcome to contact me, by email at [ethics@aut.ac.nz](mailto:ethics@aut.ac.nz) or by telephone on 921 9999 at extension 8860.

On behalf of the AUTECH and myself, I wish you success with your research and look forward to reading about it in your reports.

On behalf of Madeline Banda, Executive Secretary  
**Auckland University of Technology Ethics Committee**

Cc: Shelaine Zambas [szambas@aut.ac.nz](mailto:szambas@aut.ac.nz)

## Appendix 4: Kawa Whakaruruhau Komiti Approval

March 30, 2010

Caroline McKinney

Secretary

Kawa Whakaruruhau Komiti

AUT School of Health Care Practice

To Whom it May Concern,

This letter is written in support of the Research Project entitled:

Nurses experiences of how using advanced physical assessments influence patient outcomes

Our review of the project revealed that the research topic was relevant to improving the health outcomes of Māori, and would contribute to our understanding of the role that advanced physical assessment by nurses makes to improving patient outcomes. In our discussion it was acknowledged that Māori nurses needed to be included in the study, and that they should have the same opportunity to participate as non-Māori nurses. Shelaine was encouraged to make an effort to include at least one Māori nurse in her study, which she has indicated she will try to do. We understand that this recruitment is completely dependent on Māori nurses being identified by their charge nurses as meeting the inclusion criteria, and then volunteering to be a participant in the study.

In addition, we discussed the potential need to include a senior Māori colleague in the interpretation of data obtained from Māori participants. It was recommended that the clinical areas would be the best place to recruit this person from. By interpretation, this was intended to mean the 'rewriting' of the raw data provided by the participant into stories or 'narratives'. It is then the role of the researcher to interpret or analyse this data alongside the other narratives collected, as is appropriate for the hermeneutic methodology chosen.

We are satisfied that Shelaine will keep us informed of how the project is progressing, and seek our advice if she has any concerns in relation to Māori participants within the study.

Kind regards,



Caroline McKinney  
Kawa Whakaruruhau Committee  
AUT University

## Appendix 5: WDHB Maori Research Committee Approval



*Waitemata*  
District Health Board  
*Te Wai Awhina*

### NORTH SHORE HOSPITAL

*Shakespeare Road,  
Takapuna, Auckland, NZ  
Private Bag 93-503  
North Shore 0740  
Telephone: 09 486 1491  
Facsimile: 09 486 8908  
Freephone: 0800 809 342  
[www.waitemata.dhb.govt.nz](http://www.waitemata.dhb.govt.nz)*

19 April 2010

Shelaine Zambas  
School of Health Care Practice  
AUT University  
90 Akoranga Drive  
Northcote 0627  
Auckland

Tena koe Shelaine,

#### **Nurses experiences of how using advanced physical assessments influence patient outcomes**

This letter is to advise that your application was discussed at the last meeting of the Nga Kai Tataki Maori Research Review Committee. We are pleased to advise that your application was approved.

This approval is subject to the condition that the researchers must advise any Maori participants in this proposed health research programme, that before proceeding they should seek support from their own whanau, Kaumatua or Kuia or their local Maori Health Services.

Please send us a copy of the report once your research is completed.

Noho ora mai ra

  
Tanekaha Rosieur  
**Chairperson**  
**Nga Kai Tataki**

  
Te Aniwa Tutara  
**General Manager**  
**Maori Health**

## Appendix 6: Participant Information Sheet



### PARTICIPANT INFORMATION SHEET

**Project Title: Nurses experiences of the outcome of using physical assessment skills on patients.**

#### Invitation

You are invited to take part in a study looking at nurses' experiences of the consequences of their advanced physical assessment skill use on patients. You have been given this information sheet by your charge nurse manager or clinical nurse educator because they believe you meet the study inclusion criteria listed below.

Your participation is entirely voluntary (your choice). You do not have to take part in the study, and if you choose not to take part this will not affect your future practice or employment in any way. The person who gave you this form will not be told whether you have participated or not.

If you do agree to take part you are free to withdraw from the study, including withdrawal of any information provided, until data analysis has begun. After that time it may be impossible to separate data from individuals. If you choose to withdraw you do not have to give a reason and this will in no way affect your future practice or employment.

#### Who am I?

My name is Shelaine Zambas. I am a nurse lecturer currently undertaking part-time doctoral study at Auckland University of Technology. I have been teaching assessment skills to undergraduate and postgraduate nurses for 8 years and have a particular interest in the relationship between advanced assessment skill use by nurses and patient outcomes.

#### What is the aim of the study?

The study will aim to explore the nurse's experience of the benefit of using advanced assessment skills for patients on medical and surgical wards.

#### Who can participate in the study?

Potential participants are New Zealand registered nurses currently working in medical and surgical wards in ADHB or WDHB within Auckland and who meet the following inclusion criteria:

- Use advanced assessment skills on a routine basis
- Are considered to demonstrate expert skill in patient assessment by their charge nurse or clinical nurse educator
- Have greater than 1 year experience in their current practice setting (or similar)

#### If I decide to participate, what will it involve?

You will be involved in 2 to 3 interviews lasting approximately one hour each, and about 2 to 3 weeks apart. The interviews will be conducted at a place that is private and convenient to you. You will be asked to tell stories of your experience using advanced physical

assessment skills with specific patients. I will ask you at each interview to describe one patient encounter that was significant to you. This patient encounter should be one that you remember well. Your experience will be explored in order to identify your understanding of the benefits or otherwise of your assessment on the outcome for the patient.

These interviews will be audio recorded and later transcribed. The tapes (digital) and transcripts will remain confidential to my typist, my research supervisors and me. A pseudonym or false name will be used on all tapes, transcripts and reports to protect your identity. Following the interviews I will rewrite your 'story' into a narrative for analysis. You will be given a copy of the narrative and invited to provide comment in relation to clarity, accuracy and completeness. At the end of the study, the digital audio recordings will be destroyed. The narratives (your stories) will be returned to you.

#### **What would be the risks and benefits of me participating in the study?**

I do not anticipate any risks to you from the study, however occasionally such interviews can raise issues that are distressing. You may stop the interview at any time.

As a practitioner there will be no direct benefit to you from participating, however some people who have participated in this type of research have found it helpful to have an opportunity to tell their story. There is the potential that reflection on your practice will enhance your understanding and future assessment practice. It is also hoped that this study will improve our understanding of the relationship between advanced physical assessment skill use by nurses and patient outcomes.

#### **What will happen to the results of the study?**

The final research report will be published as a doctoral thesis report, which will be available in Auckland University of Technology Library. Short articles related to the study will be published in relevant professional journals and presented at conferences and seminars. Your identity will not be revealed in any of these publications or presentations. At the end of the study you will be offered a summary report of the research results.

#### **Participant Concerns**

If you have any queries or concerns about your rights as a participant in this study you may wish to contact your professional organisation.

This study has received ethical approval from the Northern Y Regional Ethics Committee and the Auckland University of Technology Ethics Committee. Any concerns regarding the nature of this project should be notified in the first instance to the project supervisor, Dr Liz Smythe, [liz.smythe@aut.ac.nz](mailto:liz.smythe@aut.ac.nz), 09 9219999 ext 7196. Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEK, Madeline Banda, [madeline.banda@aut.ac.nz](mailto:madeline.banda@aut.ac.nz), 09 9219999 ext 8044.

#### **Researcher Contact Details**

Thank you for taking the time to read this information. If you have any further questions about the study or would like to participate please feel free to contact me. My contact details are:

Shelaine Zambas  
e-mail [szambas@aut.ac.nz](mailto:szambas@aut.ac.nz)

Phone: 09 9219999 ext 7865 (wk), 021 02973157 (mobile)

## Appendix 7: Consent Form



### CONSENT TO PARTICIPATE IN RESEARCH

Project Title: Nurses experiences of the consequences of using advanced physical assessment skills with patients on medical and surgical wards.

Project Supervisor: Liz Smythe

Researcher: Shelaine Zambas

---

- I have read and understood the information provided about this research project (Participant Information Sheet dated March 2010).
- I have had an opportunity to ask questions and to have them answered.
- I understand that the interview will be audio-taped and transcribed.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to the beginning of data analysis, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research.

Participant signature: .....

Participant name: .....

Participant Contact Details (if appropriate):

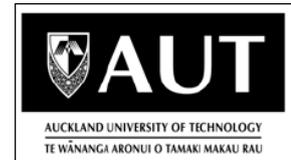
.....  
 .....  
 .....

Date:

Approved by the Northern Y Regional Ethics Committee (reference: NTY/10/04/033) and the Auckland University of Technology Ethics Committee (reference number:date)

Note: The Participant should retain a copy of this form.

## Appendix 8: Transcriber Confidentiality



### TRANSCRIBER CONFIDENTIALITY FORM

Project Title: Nurses experiences of the outcome of using advanced physical assessment skills on patients.

Researcher: Shelaine Zambas

I \_\_\_\_\_ (Full Name) agree to transcribe the interviews pertaining to the research being conducted by Shelaine Zambas in a confidential manner. I will not discuss the contents of the interviews with anyone. All material, audio taped and written, will be returned to Shelaine Zambas on completion of the transcripts. Pseudonyms will be used in the text of transcripts. The researcher will supply the Pseudonyms.

I \_\_\_\_\_ (Full Name) agree to maintain the confidentiality of the material being transcribed.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

This study has received ethical approval from the Northern X Regional Ethics Committee and the Auckland University of Technology Ethics Committee.

## Appendix 9: Sample re-crafted narrative

### Tara's re-crafted narrative of the DVT

It was a weekend shift and I was looking after a patient with a fractured NOF (neck of femur) postoperatively. The patient was about 78, but looked younger than her age. She also had abdominal cancer and had had abdominal surgery previously, and had a colostomy bag. She was not too active, and had been living at home with her family looking after her. She was at home when she fell and fractured her hip. She had recovered from her abdominal surgery but she had an abdominal wound from an allergic reaction which was covered with a dressing.

She had started mobilising a little but not much. I came back on and wanted to mobilise her. She complained of pain. I gave pain relief but it didn't help much. The patient was quiet and didn't want to bother us or tell us what was wrong. I assessed her leg and realised it was quite swollen, which is quite normal after a NOF operation, but it can be from other things. I compared both her legs and measured them. I thought maybe she had a DVT (deep vein thrombosis). The doctor was around and I asked him to assess her. He looked and said that the swelling was normal after the operation. I tried to find out how much the pain was and I realised that it was increasing. I then went back to her file and was reminded that she had a history of cancer. That along with her age and other risk factors made me certain this needed to be explored further. I contacted the doctor again and explained that I was suspicious of a DVT. The doctor explained that she was on clexane, which I knew, but I said the dose was just prophylactic and maybe not enough for her. So I insisted they do an ultrasound which they did, and they found a DVT in two veins. It was very major. The doctor came back to me said, "Yes, we needed to increase the clexane" and we increased it to BD (twice daily).

I was still following this patient and I noticed a few days later that the Hb (haemoglobin) had dropped a little. Sometimes in the public hospital they miss doing the Hb every day. A day had been missed and the next day it dropped even more. So they then had to stop the clexane because the patient was bleeding. But bleeding from where? I arranged for a FOB (faecal occult blood) because it could be from the abdomen, but the FOB was negative. Then they did an ultrasound and found out the bleeding was coming from one of the muscles in the buttock. My contribution in following this patient was in recognising her risk factors and DVT symptoms, getting the clexane increased initially and then reduced because of the bleed. I think I helped both the doctors and the patient.

The thigh area was quite swollen, but she also had increased pain from the day before. She didn't complain but I could tell from the body language. She wouldn't mobilise as much. Previously when I gave her pain relief she would look better and comfortable, but she was no longer looking like that. My nursing has changed and I look more holistically at the patient, see how they are doing and how they react. She also wasn't eating as much as the day before so I knew something was going on. And I also look at the history. And I look at the clexane dose; often they give it but not the correct dose according to weight. They don't always calculate the weight properly, and this patient had not been weighed. And with the risk factors, after a few years of experience and postgraduate papers I now think about the broader picture and bring everything together. Before that I was just focusing on the tasks and just doing one thing. I was not able to see the whole picture.

Cancer, age, immobility, not eating and drinking, dehydration, inadequate clexane dose, all these made me think DVT. And after that I didn't stop. I followed up to see what was going on. This patient had abdominal cancer and her haemoglobin was dropping; I wanted to make sure that was being followed up. The first area to consider because she had cancer was her abdomen. I didn't wait for the doctor; I started an FOB and asked the doctor to come and do an examination. I checked for a UTI (urinary tract infection) as well. The FOB was negative. I didn't assess the abdomen because she had the colostomy and the abdominal wound. She was also in an isolation room and I had a very busy shift so I brought the doctor in to assess her abdomen.

They reduced the clexane and then kept an eye on it and gave three blood transfusions. It didn't stop the bleeding so she was transferred to X hospital to have a filter put into her vena cava. They needed to reduce the clexane further because of the bleeding so they put a filter at the top of the vena cava to stop any clots from going into the lung and causing a PE (pulmonary embolus). Then they returned her to us.

There was a big bruise on her buttock. I think they used CT to identify the bleeding. Bruising is normal and it's not a major thing, but there had been a big clot inside that muscle which started bleeding when the clexane was increased. It is very dangerous and can apparently go to compartment syndrome. So I think I made a big contribution. My contribution was keeping an eye on the haemoglobin, recognising that it had been missed and ordering the next haemoglobin. I took the blood rather than waiting for technicians because I knew it needed to be done straight away. Sometimes the patient is at OT (occupational therapy) or physio so they are not there when the lab technicians come, and so they are missed. If they are not there when the technicians come back in the afternoon it might be missed again.

The patient was alert and we explained everything to her. After they reduced the clexane the bleeding resolved, the Hb came up. I didn't look after her after she came back from X hospital but I kept following to see how she was doing. And she slowly started moving again. She came back to us for a couple of days but then went to another ward because she had an oncology appointment. I couldn't see her but I knew she recovered. Several weeks later I heard she had come back with another fracture. The discharge planning wasn't good maybe and they sent her home and she had another fall.

In terms of my assessment of the DVT, the swelling was from thigh to ankle. So that told me that something more was contributing. The bleeding in the buttock was probably contributing. But the doctor didn't realise, he just thought it was from the surgery. But I could tell that it wasn't normal. My assessment was much more thorough than the doctors. The doctor just looked at it and said "it is after theatre, after the operation". With the advanced course that I have done, I can now turn to house officers who are new and tell them when something is different and that is important for patients and that is the nurse's role.