

**BEYOND BASICS: EMBEDDED INFECTION  
CONTROL IN EVERYDAY PRACTICES OF  
NURSES IN AN INTENSIVE CARE UNIT**

*A thesis submitted in fulfilment of the requirements for the award of*

*Doctor of Philosophy*

*Allison Roderick BN, RN, Grad Dip (Critical Care) MN*

*School of Nursing & Midwifery, Faculty of Health Sciences  
Flinders University Adelaide, Australia*

*July 2014*

# TABLE OF CONTENTS

<b>Table of Contents</b> .....	<b>ii</b>
<b>List of Tables</b> .....	<b>ii</b>
<b>List of Figures</b> .....	<b>ii</b>
<b>Notations throughout this thesis</b> .....	<b>iii</b>
<b>Abstract</b> .....	<b>iv</b>
<b>Candidate’s declaration</b> .....	<b>vi</b>
<b>Acknowledgments</b> .....	<b>vii</b>
<b>List of abbreviations</b> .....	<b>ix</b>
<b>Glossary of terms</b> .....	<b>xi</b>
<b>Dedication</b> .....	<b>xiv</b>
<b>Preface</b> .....	<b>xv</b>
<b>Chapter One: Introduction</b> .....	<b>1</b>
This is not about infection control.....	1
The cookbook approach.....	8
Theoretical framework .....	8
Clean and dirty.....	9
Fear of contamination .....	14
Isolation practices .....	15
Practice as object .....	20
The abject.....	23
Aims of the research.....	28
Outline of the thesis.....	29
<b>Chapter Two: Methodology</b> .....	<b>34</b>
Introduction .....	34
What kind of ethnography? .....	35
Research process.....	40
Participant observation and ethical considerations .....	40
Interviewing.....	45
Documents and artefacts.....	48
Data collection.....	48
The research setting .....	48
Stages of research .....	51
Stage One Pilot study .....	51
Stage Two: observation of nurses in ICU .....	51
Stage Three: observation of the infection control team .....	52
Stage Four: document and final interviews.....	52
Selection of participants .....	53
Data management and analysis.....	60
Disclaimer and concluding remarks .....	61
<b>Chapter Three: Everyday infection control</b> .....	<b>63</b>
Shared world of Nicole and Karen .....	63
What are infection control practices?.....	66

Obvious infection control .....	69
Presence and absence.....	71
Care of the patient in ICU.....	75
Infection control that is just embedded in ICU nursing.....	78
Little bits of so-called infection control.....	81
Conclusion.....	81
<b>Chapter Four: Bodywork a shared world .....</b>	<b>84</b>
Introduction .....	84
Bourdieu, habitus and infection control .....	85
Alan and Donna.....	86
Washing care; the field of nurses' body work.....	88
Knowing the patient.....	93
Hygiene a shared world.....	94
Body work = ICU work .....	97
Body work = ICU work = infection control work .....	99
Feel for the game.....	102
Conclusion.....	105
<b>Chapter Five: Matter out of place .....</b>	<b>107</b>
Introduction .....	107
Matter out of place .....	109
Standard precautions .....	111
How nurses deal with matter out of place .....	115
How nurses perceive matter as being out of place. ....	116
Vivian and respiratory care .....	119
Protocol, practice and other matter out of place.....	124
Asking the infection control team.....	127
Hierarchies of practice within everyday practices .....	132
Conclusion.....	133
<b>Chapter Six: Matter out of place—but where?.....</b>	<b>135</b>
Introduction .....	135
Multidrug-resistant organisms (MROs) and the use of additional precautions... ..	136
The isolation space .....	139
Patient care in an isolation room .....	143
Hamish and his nursing care .....	143
Using additional precautions .....	150
Confusion.....	152
When matter is out of place.....	158
Conclusion .....	164
<b>Chapter Seven: Bounded space and blurred boundaries.....</b>	<b>165</b>
Introduction .....	165
The cesspool .....	168
The biomedical scientific context: the infection control team.....	169
Object spaces .....	172
From object to subject to abject .....	174
Blurred lines.....	177
Matter out of place.....	182
What's clean and what's not.....	186
Conclusion.....	191
<b>Chapter Eight: Conclusion.....</b>	<b>194</b>
Nurses' everyday practices in an intensive care unit .....	194

This is not about infection control.....	200
The problem with infection control.....	202
Understanding the war.....	204
Recommendations .....	206
Understanding the game.....	206
<b>Appendices .....</b>	<b>209</b>
Appendix 1: Correct practice for gown hanging.....	210
Appendix 2: Ethics application, informed consent and letters of approval.....	211
Appendix 3: Entire account of Nicole’s care .....	250
Appendix 4: Floor plan of a typical 4-bed bay and the isolation room.....	252
Appendix 5: Capital Hospital’s Nursing Practice Standards.....	253
Appendix 6: Aseptic technique from Capital Hospital Nursing Practice Standards Manual.....	255
Appendix 7: Capital Hospital’s contact precautions signs.....	258
Appendix 8: Hand hygiene campaign brochure given to patients.....	260
<b>References .....</b>	<b>261</b>

## LIST OF TABLES

Table 2.1: Sample of schedule of observations.....	54
Table 2.2: Table of nursing participants.....	57
Table 4.1: Summary of activities during wash.....	91

## LIST OF FIGURES

Figure 2.1: Floor plan of a typical 4-bed bay and the isolation room .....	43
Figure 3.1: Map of the layout of one of the isolation room and its proximity to the nurses' station and a four-bed bay.....	72
Figure 4.2: Floor plan of Nicole's bay .....	102

## NOTATIONS THROUGHOUT THIS THESIS

Data is placed in italics and in a different size font to the body of the thesis; for example,

*If I'm looking after a patient, I either have a plastic gown, which we don't tend to use a lot of, or a cloth gown and I get rid of it when I'm finished doing my patient care. Beatrice*

As a representation of the researcher, the Allison is used; for example,

*Allison: I'm just trying to explore that a little bit deeper - you know, is it something that is part of your everyday practice?*

Pseudonyms have been used and given to nurses and patients within the study to protect their identity.

All interviews were transcribed verbatim. However, to make assist the reader understand the meaning of the spoken word when written some editing has taken place to make it flow. Take the following example from Beatrice final interview

*Do - what do people do and do people take the next - do they think of all the options or what do they do?*

However to assist with the flow of reading the spoken word, some words are removed and the symbol // are inserted. The following transcript would appear

*//what do people do // do they think of all the options? What do they do?*

Further to this, the hospital where the study took place has not been identified in any way in the body of the thesis, and is simply referred to a Capital Hospital. All correspondence on letterhead has been removed to ensure the hospital setting remains anonymous. All hospital policies, procedures and communiqué have been de-identified. A number of policies and procedures have been copyrighted, in these instances the publication year and the title is identified, however the hospital organisation is not identified to protect the identity of the participants.

## ABSTRACT

Infection control is concerned with the control of infectious agents; that are defined socially as much as they are medically. Socially, germs are perceived as dirt, pollution and danger. Medically, they represent infection, illness, disease and risk. Symbolically, infectious agents engender fear, isolation and separating practices. In healthcare this fear, isolation and separation is located in infection control policies and practices that prevent cross-infection and the outbreaks widely discussed in scientific and tabloid papers.

By focusing on infection control practices this research explores how nurses navigate their work in intensive care units (ICU), providing nursing care within infection control guidelines. Using ethnographic methodology, this study explored nurses' practice in ICU to discern infection control practices in the everyday. Nursing practices were explored by applying Bourdieu's theoretical approach to practice to ascertain how different forms of knowledge, such as policy or practice, were underpinned by knowledge embedded within that practice.

Moreover, Bourdieu's concepts of field, knowledge and capital enabled exploration of the ethnographic data. Firstly, nursing practice was noted as constructed around objectified forms of knowledge such as standard precautions, accepted as *doxa*, to manage the risk of exposure to blood and bodily fluids. Nurses demonstrated what Bourdieu terms their cultural 'feel for the game' as they navigated between the distinct cultural fields of intensive care and infection control. This navigation was dominated by requirements of intensive care and the patient's critical status.

Secondly, this study showed the subjective in the field of nursing through application of the idea of *habitus* as embodied practice to how nurses worked to identify matter out of place within their daily work.

Finally, Kristeva's notion of abject and bodily boundaries enables nurses' infection control practice to be explained as containment within ambiguity. Infection control is aimed at controlling matter that is invisible. Current orthodoxy created confusion, fear and conflicts with infection control nurses. Nurses demonstrated that in trying to control out of place matter, they experienced infection control simultaneously as a subjective and abject space, locating nursing in-between the lived spaces between dirty/clean and infectious/non-infectious.

By focusing on actual accounts of everyday nursing, infection control practices are understood as *within* nursing and not separate *from* nursing. They form the fabric of nursing within a context of intensive care work. Hence, nurses were often considered non-compliant with infection control policy because their infection control practices were intertwined with ICU knowledge, where patients' acuity dominated what ruled practice in each case.

Infection control is often viewed as an activity that is added to keep nurses and their patients safe. Nursing practice across two fields threatens assumptions about the privileging of what infection control (in its forms of standard and additional precautions) *are* and *should* be. As such, accounts to date of non-compliance and surveillance of infection control practices fail to explore this incorporation and interplay of different forms of knowledge at work in nursing practice. Now the challenge is to not locate infection control outside of, or separate from, practice but to recognise and value infection control within practice.

## **CANDIDATE'S DECLARATION**

I, Allison Roderick, certify that this thesis does not incorporate with acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed

Allison Roderick

Dated 30<sup>th</sup> July 2014

## ACKNOWLEDGMENTS

This thesis would not have been possible without an incredible team of friends, family and colleagues cheering me on—I am incredibly indebted to them all. First and foremost I would like to thank my principal supervisor, Professor Trudy Rudge. Your patience and persistence has been remarkable. Your belief in my ability, this idea and a wonderful friendship began in that bar in London. Working as a nurse in London opened my eyes to many things and you gave me a means of exploring and explaining what ‘it’ is in nursing and what ‘it’ is that makes the profession of nursing unique. Your wisdom and mentorship have been incredible.

Secondly, my thanks go to my co-supervisors Associate Professor Alison (Ally) Hutton and Associate Professor Charmaine Power. Charmaine, it has been a long journey, one that started in the Master of Nursing program. The PhD journey took a long time and retirement beckoned, happy retirement Charmaine. To Ally, my dear friend, colleague and who became my co-supervisor for the last nine months of my PhD journey when Charmaine retired. Thank you for your kind words, encouragement and friendship. Thank you for the many years of support.

To the incredible nurses and patients at Capital Hospital: for allowing me to share the colourful tapestry that is called nursing practice. To my colleagues and friends at Flinders University School of Nursing and Midwifery, thank you for listening to the whingeing, complaining and allowing me to sort my ideas in our many conversations.

This thesis could not have been achieved without the commitment of my family. Thank you for believing in me and allowing me to try and achieve something that I believed was out of reach. To my two beautiful children, Georgia and Jacob, my beautiful gifts during my PhD journey; thank you for letting mummy ‘write her

book'. Let this be a testimony to you both that with a little hard work and giving it a go you can achieve anything.

To my parents and my in-laws thank you for your constant support of me and us as a family. Special thanks go to Brian and Elizabeth Roderick (my in-laws) who put in extra effort and helped with the children (and the house) so that my masterpiece could be completed.

I would also like to acknowledge the assistance of Michael Russ for his assistance with the floor plans and Tina Thornton for her meticulous attention to detail in the editing of this thesis. To Lee Cain who is like a sister and who constantly encourages me. To Anne Davies and Uncle Clive who teach me bravery. Finally, to Tran my postie and barista who serves me coffee with a smile and who constantly reminded me what it means to work hard.

Last, but not least, my dear husband Stephen. The idea of 'dirty nursing' (Roderick 2010) has been with us for nearly as long as there has been an 'us'. Thank you for believing in my ability to get this done. No words can actually describe this moment or what this means, but thank you.

## LIST OF ABBREVIATIONS

ACCCN	Australian College of Critical Care Nurses
ACHS	The Australian Council on Healthcare Standards
AIDS	Acquired immunodeficiency syndrome
AIHW	Australian Institute of Health and Welfare
ANCA	Australian National Council on AIDS
ANMC	Australian Nursing and Midwifery Council
BOOP	Bronchiolitis obliterans with organising pneumonia
BP	Blood pressure
BSI	Bloodstream infection
CDC	United States Centers for Disease Control and Prevention
CLABSI	Central line acquired bloodstream infection
CN	Clinical Nurse
CNC	Clinical Nurse Consultant
CPAP	Continuous positive airway pressure
CT	Computerised tomography
CVC	Central venous catheter
DHA	Department of Health and Ageing
ECG	Electrocardiogram
ED	Emergency Department
EN	Enrolled Nurse
ET	Endotracheal tube
GBS	Guillian Barré syndrome
HAI	Healthcare-acquired infections
HCW	Health care worker
HIV	Human immunodeficiency virus
H1N1	Influenza A virus
IDC	Indwelling urinary catheter
ICU	Intensive Care Unit
IV	Intravenous
MERS-CoV	Middle East respiratory syndrome coronavirus
MRO	Multidrug-resistant organism
MRGN	Multiresistant gram-negative bacillus

MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
NG	Nasogastric
NHMRC	National Health and Medical Research Council
NM	Nurse Manager
NMBA	Nursing and Midwifery Board of Australia
OPA	Orthophthaldehyde
PICC	Peripherally inserted central catheter
PC	Pressure control ventilation
PPE	Personal protective equipment
RN	Registered Nurse
SARS	Severe acute respiratory syndrome
SIMV	Syncronised intermittent mechanical ventilation
UTI	Urinary tract infection
VAP	Ventilator-acquired pneumonia
VCAIC	Victorian Advisory Committee on Infection Control
VRE	Vancomycin-resistant <i>enterococcus</i>
VISA	Vancomycin intermittent <i>Staphylococcus aureus</i>

## GLOSSARY OF TERMS

<p><b>Additional precautions:</b> a range of precautions used for patients known or suspected of being colonised or infected with an infectious agent that cannot be controlled with standard precautions alone. Precautions are based on source of transmission: contact, airborne or droplet transmission.</p>
<p><b>Alcoholic hand gel or rub:</b> a means of sanitising hands without the use of soap and water.</p>
<p><b>Anteroom:</b> a small room between rooms.</p>
<p><b>Asymptomatic infection:</b> infection that does not display any clinical symptoms, but can still be capable of transmitting disease.</p>
<p><b>Asepsis:</b> a method of preventing infectious agents contaminating the skin, the human body or sterile instruments.</p>
<p><b>Bacteria/bacterium:</b> small unicellular organisms otherwise known as a germ or microbe.</p>
<p><b>Cardiac arrest:</b> where the patient's heart stops causing a lack of oxygen to the body and vital organs.</p>
<p><b>Cardiac medications:</b> a range of medications that improve the activity of the heart by increasing or decreasing blood pressure or how fast the heart beats.</p>
<p><b>Cardiac output:</b> the measure of blood volume ejected from the heart in one minute</p>
<p><b>Central venous catheter:</b> an intravenous catheter that is inserted into a vein to administer fluids, medication or monitor pressures in the heart.</p>
<p><b>Cleaning:</b> the physical removal of foreign material, for example, dust, soil, organic material such as blood, secretions, excretions and microorganisms.</p>
<p><b>Clinical contact:</b> staff who have contact with patients as part of their treatment.</p>
<p><b>Colonised:</b> the presence of microorganisms without causing disease or damage.</p>
<p><b>Contamination:</b> moving microorganisms or foreign matter to an area that is considered sterile or living tissue.</p>
<p><b>Continuous positive airway pressure (CPAP):</b> an ambiguous term that refers to a mode of ventilation and a form of assisted positive pressure to assist breathing.</p>
<p><b>Clinical Nurse Consultant:</b> the nurse in charge of the overall running of the ward or unit.</p>
<p><b>Dialysis:</b> a treatment for patients experiencing kidney failure to remove excess fluid and wastes from the body.</p>

<b>Disinfection:</b> inactivation of non-sporing microorganisms using either thermal (heat alone, or heat and water) or chemical means.
<b>Guillain-Barré syndrome:</b> an autoimmune/immune mediated disorder causing peripheral nerve weakness. Characterised by a quick and progressively worsening state of muscle weakness following a viral illness.
<b>Hazard:</b> an agent (biological, chemical or physical) that has the potential to cause harm.
<b>Healthcare-associated infection:</b> the terms health care associated, hospital-acquired and nosocomial infection are terms used interchangeably. A healthcare-associated infection is an infection contracted while in a health care facility.
<b>Infection:</b> presence of microorganisms that cause disease.
<b>Infectious:</b> refers to an organism capable of causing disease.
<b>Infectious agent:</b> a term used to include all substances that could potentially cause disease this includes bacteria, virus, parasites and fungi.
<b>Inotropes:</b> drugs that improve cardiac/heart activity by improving blood pressure or improving the amount of blood pumped by the heart.
<b>Laminar flow:</b> (also known as negative pressure). Denotes a type of ventilation/air conditioning system that creates a negative pressure in relation to surrounding air pressure.
<b>Mechanical ventilation:</b> assisting with breathing through the use of a ventilator, often referred to in tabloid press as artificial life support.
<b>Microorganism:</b> any organism requiring a microscope to see.
<b>Nasogastric tube:</b> a tube threaded into the stomach via the nose to assist with gastric emptying or feeding the patient.
<b>Pathogen:</b> any microbe capable of causing a disease.
<b>SIMV:</b> see under Ventilation.
<b>Skin disinfectant:</b> an antiseptic applied to skin to prevent the transmission of transient or resident skin bacteria from person to person.
<b>Standard precautions:</b> basic level of infection control to protect people from exposure to blood and bodily fluids. This includes hand hygiene and the use of personal protective equipment such as gloves or goggles.
<b>Sterilisation:</b> complete destruction of all microorganisms, including spores.
<b>Ventilation:</b> in most instances ventilation refers to mechanical ventilation by using a ventilator. Ventilation can be used to optimise a patient's respiratory and gaseous

exchange function. This can include a range of modes that partially or fully support the patient's breathing needs: common modes include SIMV and PC.

**Virulence:** the ability of a microorganism to cause disease.

# DEDICATION

*Dedicated to Stephen, Georgia and Jacob*

*In loving memory of Nana Gran  
Elaine Alison  
(1926–2013)*

## PREFACE

As a registered nurse (RN) I have been lucky, no privileged, to have travelled with my nursing career; from the small rural hospital to the bustle of tertiary intensive care units (ICUs) in Australia and the United Kingdom (UK). The similarities and differences have enriched my practice and made me the RN that I am today. The majority of my career has been as an ICU RN, providing bedside care to the most critically ill patients. It was while working in this busy life and death environment that I began to reflect on nurses' infection control practices.

In my experience, infection control rarely was spoken about, the exception being when there was a diagnosis of methicillin-resistant *Staphylococcus aureus* (MRSA). More commonly referred to in lay terms and in the tabloid media as a superbug, MRSA is a bacterium that is resistant to many of the usual antibiotics used to treat infections. In the hospital setting, MRSA required the use of additional precautions, and patients would often be moved to an isolation room. To the outsider the physical layout of the isolation room did not appear any different to any other room or bay in the ICU. The room contained typical items, such as the bed, ventilator, monitor and the benches full of the usual accoutrements: medication, intravenous giving sets, linen and resuscitation equipment. But the more notable difference was in the staff that entered and left the bay. Draped in gowns, gloves and mask, there was the swish and rustle of the plastic gown, the muffled voices of the nurses behind masks and nurses standing at the 'edge' of the bay calling for assistance. On one such day an academic colleague said to me: 'What must it feel like?' It was at that moment that I considered what it must feel like for patients waking from a drug-induced coma to see a set of eyes above a face mask, only to be touched with latex gloves and to hear conversations like 'You can't come in. They have got MRSA. You must wear a gown' or 'Have you washed your hands?'

These concerned words from a nurse regarding their patient's infectious status and as a way of protecting others was not always so subtle. I recall caring for a dying woman in an isolation room. On this occasion she had several multiresistant organisms (MRO), *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*. Due to her medical condition and the infection her time in hospital was prolonged and painful. During this admission she had undergone drastic surgery to remove (amputate) both her hands and feet. Her weakened state meant that even though she was alert and aware she remained ventilated. As the weeks passed by and her condition deteriorated she took pleasure from the simple comforts of friends, family and the television. One simple request, however, was overlooked. She wanted to die in her own clothes. She simply wanted to put her own pyjamas on and go to sleep. She was not asking for euthanasia or to be put to sleep; no she wanted to die in her own clothes, a request that was denied as she was in the isolation room. To this day I still wonder why.

At other times concern led to panic or reprimands. While I was working as an RN in the UK, a patient newly diagnosed with MRSA was quickly moved to the isolation bay. I watched from the sidelines to see a critically ill and very unstable patient move the short distance from the general ICU to an isolation bay. In what appeared to be a rushed and panicked exercise the patient's central venous catheter (CVC) became disconnected and with it the inotropes that maintained the patient's blood pressure. Next, the patient had a cardiac arrest, but thankfully the patient survived. Reflection on this event indicated there are many ways to interpret what happened. Was it junior staff (medical and nursing) or panicked staff? Was the patient going to have a cardiac arrest anyway? Was it equipment failure, or an unsecured central line at the centre of this debacle? There are many factors that interplayed in this event. But one thing that was central to this situation was the panic and concern to move the patient as

promptly as possible to the isolation room. In my own reflection of this situation I asked myself ‘would not standard and additional precautions protect healthcare workers and others from the transmission of these highly infectious agents such as MRSA? Was it really necessary to move the patient immediately?’

This panic and fear of spread was also demonstrated in a number of forms of surveillance. Personally I was the recipient of this surveillance when one day as I walked out of the isolation bay wearing a wrist watch. The infection control nurse was in the corridor outside the isolation bay and when she saw that I was wearing a wrist watch I was promptly reprimanded for wearing it in the isolation room. There was no questioning or discussion about my practices or what I had been doing in the room. I was just told in no uncertain terms ‘remove that watch!’ and berated like a naughty child. Now the debate about wrist watches continues and it is quite evident that items such as wrist watches can be a microbial source, but my concern was how did my wrist watch have the capacity to get into an open wound, an endotracheal tube (ET) or an invasive line? It reminds me of the biblical tale of attempting to remove the plank of wood from your brother’s eye. How did these single objects and procedures become enshrined as rules, laws and habits, even rituals of nursing to be passed onto the next generation of nursing, in the guise of practical knowledge and know how? In nursing work there are different forms of knowledge that underpin practice. There appeared to be a lack of understanding of how infection control knowledge is embedded in nurse’s daily practices.