What are the factors that guide an osteopath during the process of technique choice?

Pearl Albertson

1177412

A thesis submitted in partial fulfilment of the Masters of Osteopathy, Unitec New Zealand, 2011
Abstract

Osteopathy offers a method of treating dysfunction in the body that is drug and surgery free. The osteopathic practitioner applies his knowledge of anatomy and physiology to the condition of each patient he is presented with, in order to choose the most appropriate manual technique, which will best bring about a state of health. The osteopath must choose from an extremely wide range of osteopathic techniques available, even though the outcome from many techniques will be essentially the same. Factors that may influence this decision, if understood, may assist in this decision-making process. As the factors influencing osteopaths during their technique choices is an under-researched topic, this was the subject chosen for exploration in the research study presented here.

To determine the factors influencing osteopathic technique choice, a qualitative, interpretive description study design was employed so that themes relating to this under-researched topic could be defined and explored. Participants were recruited by the use of purposive sampling, six osteopaths with varying osteopathic experience were selected, three of these male and three female. Exploratory, in-depth interviews were conducted with each of these osteopaths, so that transcript data could then be thematically analysed using the interpretive description method.

After extensive analysis of the interview transcripts three main themes emerged; technique choice was shown to be the result of patient, practitioner, or outcome-based factors. Patient-based factors include those clues and signs gained from the practitioner’s osteopathic physical examination and case history, pertaining to each patient; and those that were influenced by any intuitive impression, or knowing, that the osteopath may receive from their patient. Practitioner-based factors describe decisions made in response to the practitioner’s personal values, philosophies, beliefs, goals and morphology. Outcome-based decisions were those made because the practitioner had an expectation of their therapeutic outcome. Through experience osteopaths subconsciously or consciously create their own repertoire of techniques. The discussion was aimed towards deeper understanding of technique choice and of the journey osteopath’s travel, as their experience increases. The use of intuition in osteopathic decision-making is discussed, as is the effect practitioner’s individuality has on their eventual choices. The use of intuition in clinical decision-making is
controversial, so the osteopathic community may learn to be reflective practitioners, in order that they may better understand each intuitive choice. As experience, knowledge, recognition of self, osteopathic skills and the use of intuition increase and are recognised, each osteopath becomes a confident expert, who may make a confident decision when choosing the most appropriate technique for each situation. Knowledge and understanding of the factors responsible for technique choice therefore has the potential to benefit the osteopathic community as whole.
APPENDIX A

Declaration of work

Name of candidate: ......................................................................................................................

This Thesis/Dissertation/Research Project is submitted in partial fulfillment for the requirements for the Unitec degree of ...............................................................

CANDIDATE’S DECLARATION

I confirm that:

• This Thesis/Dissertation/Research Project represents my own work;
• The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
• Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

Research Ethics Committee Approval Number: .................................................................

Candidate Signature: ............................................................... Date: .......................

Student number: ........................................
Acknowledgements

Firstly, to my irreplaceable supervisors, Elizabeth and Clive, thank-you for all your support, guidance and never-ending patience. To all of the six participants, for giving your time and sharing your personal clinical experiences. The knowledge you imparted has not only shaped this thesis but taught me many valuable lessons that I will strive to implement, in my own future as an osteopath.

To my family, including Mum and Dad, Gran and Grandad, my beautiful sisters Clare and Jayne, Uncle Tim and everyone else, thank-you for encouraging me. Mum, your unfailing energy and faith in me has inspired me, thank-you so much for all you’ve done. Grandad, I know you’ve always believed in this, I’m sorry it has taken this long, that’s all!

To Leo, you’re a star. Life will be different now! It’s been a long and sometimes difficult process living with me and this I know, what a great guy you are. To ‘baby’, my little source of motivation and endless excitement, time for a new chapter. To my partner Kovi, your patience, love and support has seen me through until the end. Thank you for all the effort and time you also have added into the mix, to see this completed well. Now, I can’t wait for the rest of our lives together.
## Contents Page

Abstract .......................................................................................................................... ii  
Appendix A – Declaration of work ........................................................................ iv  
Acknowledgements ....................................................................................................... v  
Table of contents .......................................................................................................... vi  
Table of figures ............................................................................................................. ix  

### CHAPTER ONE - INTRODUCTION

*Introduction* .................................................................................................................. 1  
*Background* .................................................................................................................. 2  
*Why study ‘the factors that influence osteopathic technique choice’?* ...................... 3  
*Rationale for study* ....................................................................................................... 4  
*Aims and objectives* ...................................................................................................... 5  
*Summary* ......................................................................................................................... 6  

### CHAPTER TWO - LITERATURE REVIEW

*Introduction* .................................................................................................................. 8  
*Introduction to osteopathy* ............................................................................................ 10  
  *The role of the osteopath* ............................................................................................. 10  
*The osteopathic process* ............................................................................................... 12  
*Osteopathic techniques* ............................................................................................... 14  
  *Osteopathic scope of practice* ..................................................................................... 14  
  *Myofascial release* ....................................................................................................... 15  
  *Strain counter-strain* .................................................................................................... 16  
  *Functional technique* .................................................................................................. 16  
  *Balanced ligamentous tension* .................................................................................... 17  
  *Visceral technique* ....................................................................................................... 17  
  *High-velocity low-amplitude (HVLA) thrust technique* .............................................. 18  
  *Soft-tissue technique* .................................................................................................. 19  
  *Muscle energy technique* ............................................................................................ 19  
  *Articulatory technique* ................................................................................................ 20  
*Clinical decision-making* .............................................................................................. 22
Clinical decision-making in general medicine ................................................................. 26
Clinical decision-making by the nurse ................................................................. 28
Clinical decision-making by the physiotherapist ............................................... 29
Clinical decision-making by the osteopath ......................................................... 29
Summary ................................................................................................................. 32

CHAPTER THREE – METHOD
Introduction ................................................................................................................. 33
Methodology to method .............................................................................................. 33
Research method ........................................................................................................ 35
Sample ......................................................................................................................... 35
Inclusion criteria .......................................................................................................... 35
Exclusion criteria .......................................................................................................... 36
Sample selection .......................................................................................................... 36
Data collection method and process ............................................................................ 37
Data analysis method ................................................................................................. 38
Ethical considerations ................................................................................................. 40
Anonymity and confidentiality ..................................................................................... 41
Withdrawal from study ............................................................................................... 41
Risks and benefits of participation in the study ......................................................... 41
Rigour and credibility ................................................................................................. 42
Summary ...................................................................................................................... 44

CHAPTER FOUR – PRESENTATION OF FINDINGS
Introduction .................................................................................................................. 46
Technique choice according to a patient-based decision ............................................. 48
Technique choice according to the physical examination .......................................... 49
Palpatory led technique choice .................................................................................. 51
Technique choice derived from evaluation of the patient as a whole ......................... 52
Technique choice according to a practitioner-based decision ..................................... 54
Technique choice based on personal philosophies .................................................... 54
Technique choice based on the practitioner’s goals ................................................. 57
Technique choice based on the practitioner’s morphology ........................................ 59
Technique choice according to an outcome-based decision ...................................... 60
Knowing the steps .................................................................................................................. 61
Knowledge of human physiology creates confidence for technique experimentation .... 63
Summary .................................................................................................................................. 67

CHAPTER FIVE – DISCUSSION AND CONCLUSION

Introduction .............................................................................................................................. 69
Review of findings .................................................................................................................. 69
The osteopath’s journey from novice to expert and the integration of intuition ............ 71
Practitioner individuality and osteopathic balance .............................................................. 75
Personal reflection on osteopathic practice ......................................................................... 79
Limitations of this study ........................................................................................................ 80
Recommendations and implications for the profession ....................................................... 81
Osteopathic education providers ......................................................................................... 81
Professional bodies ............................................................................................................... 81
Individual osteopaths ........................................................................................................... 82
Areas of future research ....................................................................................................... 83
Summary .............................................................................................................................. 85
Concluding thoughts ............................................................................................................ 88
References ............................................................................................................................. 89

Appendix B – Participation information sheet ................................................................. 100
Appendix C – Consent form ................................................................................................. 102
Appendix D – Interview question guide ............................................................................. 103
Appendix E – Ethics approval letter .................................................................................... 104
# Table of figures

**Figure 1** – Clinical reasoning model for clinical therapists to assist with hypothetico-deductive reasoning ........................................................................................................................................... 23

**Figure 2** – Model of clinical decision-making ........................................................................................................................................ 70
Chapter 1

INTRODUCTION

Introduction

*What osteopathy offers is the hypothesis that there is a somatic component to disease: that manual techniques applied to the human form affect body physiology; and thus that manipulation can intervene in homeostasis and effect the inherent healing mechanisms of the human form.* (Stone, 1999, p. vii)

As Stone (1999) makes us aware, osteopathy is a system through which knowledge of manual techniques may be used by the osteopath to elicit healing change in their patients. The scope of somatic dysfunction with which an osteopath may be presented is vast - symptoms may be present in one or many of the different components of the human body, which may include any neural, vascular, musculo-skeletal or visceral structures. A large number of osteopathic techniques exist and can be chosen to treat somatic dysfunction. There are over 40 osteopathic techniques listed in the *Glossary of Osteopathic Terminology* (Ward, 2003) and many of these techniques are intended to produce the same therapeutic response. For example, in order to decrease stiffness of a joint, an osteopath can choose from at least six different techniques, including strain counter-strain (Chaitow, 1999; Ward, 2003), functional technique (Greenman, 1996; Parsons & Marcer, 2008; Ward, 2003), high-velocity low-amplitude thrust (Greenman, 1996; Hartman, 2001; Ward, 2003), muscle energy technique (Chaitow, 1987; Greenman, 1996; Hartman, 2001; Ward, 2003), balanced ligamentous tension technique (Parsons & Marcer, 2008; Sutherland, 1990; Ward, 2003) or articulatory technique (Greenman, 1996; Hartman, 2001; Ward, 2003). As there are so many
techniques which may be chosen in order to achieve a similar outcome, it is suggested that each decision may be influenced by many factors. Currently, factors that may influence technique choice amongst osteopaths are not defined or explained in the literature. The question that arises from this introduces the research question, which this thesis aims to address: ‘What are the factors that influence an osteopath during technique choice?’ If these factors were understood, it may mean that technique choices could ultimately increase the productivity of the practitioner and allow each patient to be matched with the appropriate technique that will be most beneficial.

Background

Osteopathy offers a method of treating the physical manifestation of the whole human being with manual techniques. An osteopath will apply techniques to encourage their patient’s body back towards a homeostatic state of health. The range of osteopathic techniques is vast, the *Glossary of Osteopathic Terminology* contained in the book widely used in osteopathic education *Foundations for Osteopathic Medicine* lists over 40 possible osteopathic techniques (Ward, 2003). Additionally, the osteopath may choose between an indirect, direct (Hartman, 2001; Ward, 2003) or combined indirect-direct treatment approach (Hartman, 2001; Parsons & Marcer, 2008; Ward, 2003), which increases the alternatives to consider during the decision-making process of technique choice.

Current literature argues that application of an osteopathic technique should be made in accordance with osteopathic principles and philosophies (Di Giovanna, Schiowitz, & Dowling, 2005; Thomson, Petty, & Moore, 2011). Therefore, the main principles comprising the foundation of osteopathy are outlined in brief:

- The body is a unit.
- Structure and function are reciprocally inter-related.
- The body possess self-regulatory, homeostatic mechanisms.
- Rational treatment is governed by these principles.
A recent awareness of the need to incorporate evidence-based medicine in clinical practice means the osteopath is required to be able to explain their clinical reasoning processes (Thomson et al., 2011), which include those of technique choice. This shift towards using a strong evidence-base to assist with decision-making reflects the general trend in modern health care. As primary health care providers, osteopaths have a responsibility to stay aware of relevant, current, evidence-based medicine (EBM) research into best clinical practice. These understandings may also assist the osteopath with their decision-making, in order to maintain our status as a viable, modern, efficient form of health care.

Research about the way in which an osteopath selects the techniques that they will use during each osteopathic treatment is under-represented in the literature. A study conducted by Johnson and Kurtz (2003) on osteopathic technique choice show that age, gender and level of osteopathic experience are factors that can influence technique choice. Such information is useful, as it was helpful in the design of the study, it can also provide a starting point for further investigations. However Johnson and Kurtz (2002) and Thomson et al. (2011) suggest that there is a growing awareness that the factors regarding osteopathic technique choice need to be more clearly understood and explained.

**Why study ‘the factors that influence osteopathic technique choice’?**

The topic of this research, osteopathic technique choice, is a topic of personal interest, explained below using the personal voice. The first person narrative used allows my goal, to research factors influencing technique choice, to be explained. Maxwell (2005) suggests the outlining of personal goals is an important part of any study, as they help guide the study design and are essential in the justification of a study. During my osteopathic training, technique class was, at times, one of my least enjoyable aspects of the course. Technique class consisted primarily of the context-free learning of osteopathic techniques, usually accompanied by an explanation from the tutor of when they may be used. This out-of-context ‘memorising’ of techniques and their correct application during technique class was difficult. Compared to a
general aversion to practicing techniques in technique class, applying osteopathic techniques in the clinical setting at the student osteopathic clinic was something I thoroughly enjoyed. This experience was influential enough to create a desire to practice and expand my technique repertoire. However, the confidence that I had chosen the best technique, for each patient or situation, was often lacking, as I knew many techniques could essentially achieve the same outcome. This uncertainty led me to question: ‘What are the factors that guide an osteopath during the process of technique choice?’

This wondering led to further research of this question, and to the study conducted by Johnson and Kurtz (2003), who had researched conditions and diagnoses leading to technique selection. Their study also brought to light some factors, which may influence these technique choices. Continued research on ‘factors influencing technique choice’ yielded no further results, leading me to the conclusion that understanding of these factors was limited. As osteopaths are primary health care providers they have a responsibility to provide safe, consistent treatments (Tyreman, 2008), which may be easier to achieve if the factors influencing technique choices (making up each osteopathic treatment) were understood. My experiences as a student of osteopathy thus gave me desire to explore the topic of osteopathic technique choice. This was based on a developing awareness that if the factors influencing technique choice were better understood, technique choice may become easier and lead to more effective outcomes (Thomson et al., 2011), especially those technique choices of the novice osteopath.

Rationale for study

Several authors write about the importance of being able to fully explain decision-making processes, in order to practice as practitioners who are accountable for the outcomes of their decisions (Edwards, Jones, Carr, Braunack-Mayer, & Jensen, 2004; M. A. Jones, 1992; Thomson et al., 2011). These arguments were influential, in the development of this study. Explaining clinical decisions and being aware of factors
influencing these decisions, including the factors that influence technique choice, is also important to the practice of EBM.

Technique choice is just one aspect of clinical reasoning and represents a clinical decision-making process, which exists in each osteopathic treatment encounter. Thomson et al. (2011) suggests such clinical reasoning processes are the ‘foundation’ of all clinical practice. This statement may suggest that research into factors which influence the clinical decision-making process of technique choice, may provide of knowledge and understanding that may enable osteopaths to explain their clinical decisions regarding technique choice, (thus following EBM guidelines) and begin to understand the factors behind their technique selections. Jones (1992) suggests that the understanding of factors influencing clinical reasoning processes will in turn lead to more reliable clinical decisions being made, which also supports the importance of this study.

**Aims and objectives**

The aim of this research paper is to begin to explore the factors that influence osteopaths during the process of selecting techniques, during a treatment.

The objectives of this study were to:

- Identify the factors that influence technique choices made by osteopaths.
- Identify ways in which these influential factors may be realised so that even an osteopath with limited experience may gain an understanding of technique choice, allowing selection of the most appropriate technique for each situation.
**Summary**

Technique choice is an important element of clinical decision-making in osteopathy, as the application of whichever manual technique is chosen is one way in which an osteopath may bring about their desired therapeutic outcome, for their patient. In addition, other non-specific effects – such as the natural course of an injury - may contribute to this healing process. The current osteopathic literature does not address the topic of technique choice so it is poorly understood. As osteopaths are primary health care providers, there is a need to be able to explain clinical choices made, in order to stay relevant in the current medical environment that insists upon using EBM in both clinical practice and decision-making processes. An overview of the format and material included in this thesis exploring the factors that influence an osteopath during technique choice follows.

Chapter 1 provides an introduction to this topic as well as the personal reasoning that led to the formation of this research question, the rationale behind the undertaking of this study and aims and objectives of this research. Chapter 2 contains a review of relevant literature to this topic. Here, the origin of osteopathy is discussed, clinical decision-making is explained and a review of the current literature about technique choice, treatment choice and clinical decision-making by osteopaths and other health professionals is presented. Chapter 3 describes the qualitative methodology and the process that was used to gather data. Interpretive description is used in analysis of interview transcripts to allow the emergence of themes that best represent the factors influencing technique choices of the participants in this study. Chapter 4 contains the findings of this study. Here, the findings are outlined thematically, using relevant excerpts from the interview transcripts obtained to support and describe these themes, which relate to factors influencing technique choice. Chapter 5 consists of the discussion and conclusion. In this chapter the findings relating to the three themes, or factors that were found to influence technique choice, are discussed with reference to relevant literature. The findings of this study are explored further, to enable or promote a deeper understanding of osteopathic technique choice. Implications and recommendations of this study for the osteopathic profession are suggested.
Limitations of this study are noted and areas of future research relating to the topic of osteopathic technique choice are suggested.
Chapter 2

LITERATURE REVIEW

Introduction

This chapter contains a review of the literature relevant to the topic of osteopathic technique choice. An introduction to osteopathy is offered first, with sections about the origin of osteopathy, the role of the osteopath and of osteopathic philosophies, an outline of the osteopathic process used to guide osteopathic treatment and a brief explanation of a selection of osteopathic techniques. A section follows this on clinical decision-making of osteopaths and other health professionals and an introduction to evidence-based medicine. To assist in the understanding of osteopathic technique choice, which is the result of clinical decision-making, sections on clinical decision-making in general medicine, nursing and physiotherapy precede the section on osteopathic technique choice that concludes this chapter. This chapter aims to provide the ‘analytic framework’ suggested by Thorne, Reimer Kirkham and O’Flynn-Magee (2004), from which the design sampling and early analytic decisions of a study may come from.

Osteopathy is a relatively new health profession, created a little over 100 years ago during the late 19th Century, by the medical physician, Andrew Taylor Still. The philosophies proposed by AT Still relate to the ability of the osteopath who is able to help to reproduce a state of homeostasis in their patient’s tissues, which is an often repeated, but seldom explored, statement. This may be achieved through the osteopath’s knowledge of anatomy and physiology and their skills in palpation and application of manual techniques, which are the osteopath’s primary tools. During their education the student osteopath gains access to this academic knowledge, however, the standard text Lleweylln McKone (1997) suggests, the important skills of sensitive palpation and application of manual techniques can only be perfected to
elicit optimal healing change following much practice. These palpatory skills may then serve to assist the osteopath, as they carry out the techniques they have chosen. Literature regarding osteopathic technique choice is limited even though it may be considered an important aspect of osteopathic practice.

A small number of research studies aiming to determine factors that may influence osteopathic technique choice have been conducted, primarily in the USA, but also in the UK and Australia (Fryer, Morse, & Johnson, 2009; Johnson & Kurtz, 2003). Literature based on the technique choices of osteopaths in New Zealand was unavailable to the researcher during conduction of this study. The studies that were found, were influential in determining the shape and content of this research study. However, due to the need for more information relating to technique choice with which to form the foundation of this study, research was sought into clinical choices made by other health professions, that exhibit similarities to osteopathy. Research relating to treatment choice and clinical decision-making from the fields of nursing, general medicine and physiotherapy are discussed in this literature review.

As osteopathic technique choice may be determined using knowledge relating to osteopathic principles and practice, there was no date range set for osteopathic texts used in this review, in order to include some original writings of osteopathy’s founder, AT Still. This is because what may have been significant in osteopathy around 100 years ago, when AT Still wrote some of these texts, may not be so now. The date range set for research articles was 1970-2011, as some older, foundational research papers regarding decision-making in nursing are still relevant today as illustrated by their ongoing citations in current health literature. Nursing is a health profession similar to osteopathy in that there is much patient-participant contact. Therefore, research pertaining to nursing was deemed suitable for inclusion in this study.

Literature was gathered primarily from the Internet in the form of electronic articles, which were also obtained via the use of many Internet-based databases. Comprehensive Internet searches were made primarily from the databases EbscoHost, ScienceDirect and the Cochrane Collection, and via the search engine Google, at the web address http://google.com and Google Scholar, at the web address http://googlescholar.com. Search terms used to specify this thorough Internet and
database search included the following key words: osteopathic philosophy, technique choice, treatment choice, clinical decision-making, decision-making, intuition, evidence-based medicine and specialty choice, all in reference to either osteopathy, nursing, general medicine or physiotherapy. In addition to these Internet based searches, the reference sections of many key research articles were checked for the inclusion of any further literature applicable to osteopathic technique choice. Hand searches amongst relevant texts in Auckland libraries and private collections of fellow researchers enabled relevant information from a selection of reputable books to be included in this review.

**Introduction to osteopathy**

AT Still coined the word ‘osteopath’, in 1885. The word is taken from two Greek derivatives, ‘osteon’ and ‘pathos’; the meaning of these words in light of the complete word, ‘osteopathy’ may cause some confusion. ‘Osteon’ may be translated into ‘bone’, however ‘pathos’ is translated ‘suffering’, or ‘disease’. This means the word osteopathy, if translated in the medical context, is translated ‘bone disease’. Another derivative of the word ‘pathos’, could lead it be defined as ‘being sensitive to’ or ‘responding to’ incoming impressions. Parsons and Marcer (2008) therefore suggest that an appropriate translation of the word ‘osteopath’ could be a person who is sensitive to, and responds to, incoming impressions they receive from the bones (and hence general structure) of their patients.

**The role of the osteopath**

Once he had made clear to himself his understandings about the role of the blood, the nerves, and the state of disease, AT Still had founded osteopathy (Still, 1908). He also established the role of the osteopath, who, with their knowledge of anatomy and physiology, would be a practitioner who could to help bring healing to their patients. In his own words he says:
Osteopathy is based on the perfection of Nature’s work. When all parts of the human body are in line, we have health. When they are not the effect is disease. When the parts are readjusted, disease gives place to health. The work of the osteopath is to adjust the body from the abnormal to the normal; then the abnormal condition gives place to the normal and health is the result of the normal condition. (Still, 1910, p. xi)

What AT Still seeks to convey here, is a statement that almost completely summarises the four founding principles of osteopathy that are taught to osteopathic students today. Di Giovanna et al. (2005) states that these osteopathic philosophies should not only be applied to osteopathic treatment but to the over-all health of each individual. Following the review of work by several current osteopathic writers and their interpretations of osteopathic philosophy, an interpretation of the founding philosophies is:

‘The body is a unit’
All parts of the body are interconnected and integrated. Every individual function of each cell in the body combines to form the over-all functioning of the individual. The body will compensate and adapt for any dysfunctioning tissue, to maintain over-all functioning of the whole. The body, mind, spirit, soul and emotions all make up the body unit and disharmony in any of these elements will affect the body as a whole (Parsons & Marcer, 2008; Stone, 1999; Ward, 2003).

Structure governs function
An implicit understanding of anatomy and physiology enables an understanding of each structure in the human body and of its function. Correctly positioned, a structure will function how it is meant to, however any structural deviation, or mal-aligned structure will cause altered function not only to the particular structure but all those attaching to it (Parsons & Marcer, 2008; Ward, 2003).
The body possesses self-regulatory mechanisms

The body possesses homeostatic mechanisms so that it is able to self-regulate and self-heal, given that an adequate state of health exists. Disease can only result if this homeostatic balance is disrupted in some way. The osteopath may then intervene to address the dysfunction present, so that the body can be restored to its normal functioning state (Parsons & Marcer, 2008; Ward, 2003).

Rational treatment is based upon these principles

The osteopath has a holistic understanding of the structure and functioning of the human body. An understanding of the ‘body unit’, functionality determined by body structures and of the body’s homeostatic self-healing mechanisms allows treatment to be based in these understandings (Di Giovanna et al., 2005; Ward, 2003).

The osteopathic process

For most of this century the basis of an osteopathic treatment has been on the somatic dysfunction (originally called the osteopathic lesion), which a patient is presenting with (Fryer, 1999). An accepted definition of this term is offered in the Glossary of Osteopathic Terminology:

Impaired or altered function of related components of the somatic (body framework) system: skeletal, arthrodial and myofascial structures, and their related vascular, lymphatic, and neural elements. Somatic dysfunction is treatable using osteopathic manipulative treatment. (Ward, 2003)

A somatic dysfunction is a term used to describe an alteration of the normal structure or function of a particular somatic structure. Conditions including fractures, sprains, degenerative processes and inflammatory processes are not classified as somatic dysfunction (Di Giovanna et al., 2005). In order to re-introduce a homeostatic state in
their patient’s somatic structures while keeping in line with AT Still’s founding principles, the osteopath must choose which techniques they will apply to their patient. To assist with this choice one may choose to apply one of the mnemonics that define somatic dysfunction. Parsons & Marcer (2008) offer their interpretation of T-A-R-T, which stands for:

- Tissue texture abnormality – the soft tissue changes that occur vary depending on acuteness or chronicity of the dysfunction.
- Asymmetry – this may include postural change, atrophy or hypertrophy of muscle, or mis-aligned joints.
- Range of motion abnormality – following motion-testing, normal physiological range of motion is found to be reduced.
- Tenderness – to palpation of the area, compared to other areas where there is no somatic dysfunction.

Another mnemonic used to diagnose somatic dysfunction is S-T-A-R. Here, ‘S’ represents sensitivity changes, including numbness, paresthesia, or any other such change noticed by the patient. ‘T’ still represents texture changes, the ‘A’ and the ‘R’ represent asymmetry and restriction of motion as described above (Sammut & Searle-Barnes, 1998). Either one may be used, this choice is up to each osteopath (Di Giovanna et al., 2005), however, some osteopaths will choose to use either of these models of somatic dysfunction.

The application of either of these descriptors of somatic dysfunction allows the osteopath to reach their diagnosis. An adequate diagnosis describes the nature of the tissue disturbance, which includes both the site and source of the pain. The osteopath must make their technique choices based on their diagnosis. An effective treatment will result from techniques which are adequate and suitable for the diagnosis reached (Hartman, 2001). In order to reach an osteopathic diagnosis, a thorough case history, combined with a mechanical and palpatory examination, should first be completed.

Taking a case history allows the osteopath to question their patient about their presenting complaint. This helps them to gain an understanding of what may be causing the discomfort, pain, or altered functioning their patient has presented with. It also enables the practitioner to start to identify what will be evaluated in the physical
examination. In this way, the case history may allow the attentive practitioner to gain an overall understanding of their patient and their presenting complaint. This means that an initial hypothesis, or hypotheses, regarding their patient’s possible somatic dysfunction, may be reached (Sammut & Searle-Barnes, 1998). After a case history has been taken, the osteopath will conduct a physical examination of their patient.

After completing the case history and physical examination, the osteopath commences treatment. Within the scope of osteopathy, treatment force is applied to tissues in either an indirect or a direct manner; or a combination of these two approaches can be used. As defined in the *Glossary of Osteopathic Terminology*, an indirect technique is one where the restrictive barrier is not breached and the dysfunctional body part is moved away from the restrictive barrier until tissue tension in one or all directions of movement is equal (Ward, 2003). A direct technique is one where the restrictive barrier is engaged by taking the dysfunctioning body part to meet this barrier. Somatic dysfunction is corrected as this restrictive barrier is breached, with or without the use of a final activating force (Ward, 2003). Choice of technique must also comply with the osteopathic scope of practice.

### Osteopathic Techniques

**Osteopathic scope of practice**

Since the introduction of the Health Practitioners Competence Assurance Act (2003), the Osteopathic Council of New Zealand (OCNZ) has been responsible for regulating the practice of osteopathy in New Zealand. Following consultation with osteopathic practitioners the OCNZ introduced the osteopathic scope of practice. This formal guideline was created to ensure that osteopathic treatments consist of osteopathic techniques, which are safe for application to members of the public. The current scope of practice, as defined by the OCNZ is as follows:

---

1. A restriction to motion. The normal physiological range of motion is limited to a functional range, at a palpable barrier point to motion, or palpable end-feel (Ward, 2003).
Registered osteopaths are primary health care practitioners who facilitate healing through osteopathic assessment, clinical differential diagnosis and treatment of dysfunctions of the whole person. Osteopaths use various, recognised techniques to work with the body’s ability to heal itself, thereby promoting health and wellbeing. These osteopathic manipulative techniques are taught in the core curriculum of accredited courses in osteopathy. The ultimate responsibility for recognition of practice lies with the Osteopathic Council of New Zealand. ("Scopes of practice," n.d.)

A selection of osteopathic techniques, both indirect and direct, which are taught during the osteopathic education at Unitec, New Zealand, are described next. This is not an exhaustive list of techniques an osteopath may choose to use. Instead, it is an overview of possible osteopathic techniques and their most commonly documented outcomes. It is also a demonstration of the wide variety of osteopathic techniques that exist. The outcome each of these techniques may be expected to produce, is suggested below however, the physiological mechanism in which these techniques achieve these outcomes cannot be explained.

**Myofascial release**

The muscles and fascia are considered as one functional unit and treated as such, when using this technique. Myofascial release technique may be used for local or regional dysfunction and aims to achieve symmetrical and pain-free posture and movement of the musculo-skeletal system (Greenman, 1996). Myofascial release may be applied in an indirect or a direct manner:

- **Indirect myofascial release:** “dysfunctional myofascial tissues are guided along the path of least resistance until release occurs” (Ward, 2003).

- **Direct myofascial release:** “the loading of myofascial tissues at the restrictive barrier with constant force until release occurs” (Ward, 2003).

In his review of peer-reviewed research on the efficacy of myofascial release Paolini (2009) proposes that myofascial release is effective in relieving pain. This finding
would be considered trustworthier if the reader were informed that sound research methods (for example a randomised-controlled study design) were used in the studies reviewed. The mechanism by which a myofascial achieves therapeutic outcomes such as these proposed has not been conclusively shown (Paolini, 2009). The opinion of Walton (2008) and Paolini (2009) following their research, is that a myofascial technique generates the outcomes described by causing a decreased sympathetic tone of blood vessels, nerves and connective tissue associated with the somatic structure treated.

**Strain counter-strain**

Strain counter-strain (SCS) is a technique that was developed by DO Lawrence Jones. His definition of this technique is:

[SCS] relieves spinal or other joint pain by passively putting the joint into its position of greatest comfort, or … relieving pain by reduction and arrest of the continuing inappropriate proprioceptive activity (cited by Yates & Glover, 1995, p. 14).

It is an indirect method of treatment, as it involves a mild application of force opposite to the direction of the strain pattern or reflex present in order to achieve reduction of muscle spasm and restoration of normal movement patterns (Chaitow, 2000; Ward, 2003). An SCS technique is also referred to as a ‘positional release’ or a ‘facilitated positional release’ (McPartland & Goodridge, 1997; Wong & Schauer, 2004).

**Functional technique**

Functional technique was developed in the 1950s through the work of several American Osteopaths, namely Drs Hoover, Bowles, Johnston and Laughlin (Greenman, 1996). It is an indirect method of treatment, of which the goal is to find the ‘dynamic balance point’ of the particular area or joint (Ward, 2003). The principle that all body parts are inter-related may explain the outcome of a functional technique. The restoration of balance to one part of the body resulting from a functional
technique, may cause other body parts to “adjust their functions harmoniously so that the whole body functions in an optimum steady state, a reciprocal and homeostatic balance” (Hoover, 1956, p. 191). The outcomes of functional technique are related primarily to movement. These outcomes include increasing the range of motion (ROM) and quality of ROM at a dysfunctional joint, or removing a restrictive barrier and addressing faulty joint position (Greenman, 1996; Parsons & Marcer, 2008; Ward, 2003).

**Balanced ligamentous tension**

Balanced ligamentous tension (BLT) is a state of being of a joint and is the middle point between free ROM and strain in that particular articulation (Ward, 2003). BLT is also the name of a technique that was developed by the one of the founders of cranial osteopathy, William G. Sutherland. He suggested that BLT should be used in the case of a ‘ligamentous articular strain’ (Sutherland, 1990), which is when there is abnormal tension present in a particular articulation (Ward, 2003). Therefore it is suggested that BLT may remove any abnormal strain in a joint, allowing the joint to re-establish its correct ‘tensegrous harmony’ (Parsons & Marcer, 2008). The use of a BLT is usually associated with a very light practitioner touch and the use of the patient’s co-ordinated respiration at certain stages of the technique (Di Giovanna et al., 2005).

**Visceral technique**

Three body cavities (intracranial, thoracic and pelvic) contain our viscera or internal organs. Viscera are not stationary structures as they demonstrate passive movement or mobility – due to movements of the musculoskeletal system for example. Various authors (Barral & Mercier, 1988; Parsons & Marcer, 2008; Stone, 2007) claim that they also show motility, which is the inherent movement of each individual’s visceral structures. Any restriction of either category of movement may lead to visceral dysfunction (Barral & Mercier, 1988). Visceral dysfunction also extends to include any impairment of the movement or relationship between visceral components including ligaments, fascia, lymphatic and vascular channels, neural connections and
the skeletal system to which these aforementioned structures attach (Ward, 2003). Therefore, visceral dysfunction may be treated via visceral techniques, which may be indirect, direct, or a combination of both of these approaches. Barral and Mercier (1988) suggest that a motility problem should be treated via a direct or combined approach, and a mobility problem should be treated via an indirect approach.

**High-velocity low-amplitude (HVLA) thrust technique**

HVLA is included in the list of ‘direct’ techniques (as defined earlier), whereby a brief, rapid force is transmitted through a joint and engages the restrictive barrier of that articulation, with the aim of releasing the restriction present in that joint (Ward, 2003). Greenman (1996), in his osteopathic text on the principles of manual medicine, suggests the outcome of an HVLA may be to realign skeletal joints, if they are no longer in their “normal anatomic arrangement”. Other outcomes of HVLA include reduced hypertonicity of the muscles and connective tissue surrounding the manipulated joint (Greenman, 1996). Fernandez-de-las-Penaz et al. (2005) showed using functional x-rays, that a single cervical HVLA technique improved cervical spine movement at the manipulated segment in each of the 15 participants of this study. The results of the controlled, single-blinded study conducted by Hamilton et al. (2007) show that HVLA to the upper cervical spine, combined with a muscle energy technique to the sub-occipital muscles, causes decreased sub-occipital tenderness. Licciardone et al., (2005) in a systematic review and meta-analysis of randomized controlled trials of osteopathic manipulative therapy (OMT), suggest that the reduction in pain achieved from OMT can be attributable to manipulative techniques, such as HVLA, that are used. HVLA is one of the most commonly used manipulative techniques (Gibbons & Tehan, 2006) and form of manual medicine applied (Greenman, 1996), suggesting it is one of the more important techniques an osteopath may select.

---

2 An Osteopathic Manipulative Therapy (OMT) is the US usage for the term ‘osteopathic technique’ that is widely used in New Zealand.
Soft tissue technique

Soft tissue technique is a widely used technique. It was shown to be the most commonly chosen technique by American practitioners who use osteopathic techniques, in a study conducted by Johnson and Kurtz (2003). Soft tissue technique is a direct technique, which usually involves lateral or linear stretching, deep pressure, traction or separation of the attachments of a muscle, which is continued until palpable change in the tissue or increased mobility in an articulation occurs (Greenman, 1996; Hartman, 2001; Ward, 2003). As well as stretching muscular structures, the application of a soft tissue technique causes decreased oxygen demand. Standard texts used in osteopathic education Di Giovanna et al. (2005), Hartman (2001) and Ward (2003) suggests it will decrease pain, soft tissue technique can enhance circulation and reduce congestion of related vascular structures. Standard texts Greenman (1996) and Ward (2003) also suggest the application of soft tissue technique may also be used to prepare the tissues and joints for other technique procedures, and on people manifesting an acute or a chronic somatic dysfunction.

Muscle Energy Technique

The founder of Muscle Energy Technique (MET) was Dr Fred Mitchell Snr who first published his ideas on MET in the 1958 *Yearbook of the American Osteopathic Academy*; he had however been developing his theories on this technique during the previous 20 years. Mitchell’s definition of MET is as follows:

MET is a system of manual therapy for the treatment of movement impairments that combines … passive mobilisation with … re-education therapies and therapeutic exercise (as cited in Parsons & Marcer, 2008, p. 194).

MET can be used as an indirect or direct technique; the practitioner’s force can be directed towards overcoming the restrictive barrier present in their patient’s tissues or it can be directed in the direction opposite to the barrier (Chaitow, 1987). The application of MET has many varied outcomes, including stretching muscle and fascia, increasing tone of weakened muscle, mobilizing a restricted joint and removing congestion (Chaitow, 1987; Greenman, 1996; Hartman, 2001; Ortega,
Even though the application of MET is suggested to produce these satisfactory results, its effectiveness has not been thoroughly researched and thus proven. Evidence-based research that may inform the practitioner of the most efficacious method of applying a MET also does not exist (Fryer, 2011).

The pilot study conducted by Wilson et al. (2003) showed that application of a MET could result in decreased spinal pain and discomfort in the symptomatic patient. A similar outcome is presented in the study conducted by Ballantyne, Fryer & McLaughlin (2003) who found that application of a MET to a symptomatic muscle could result in the reduction of pain and discomfort caused by this somatic dysfunction. Even following studies aiming to discover how a MET works and achieves its desired outcome, research outlining the physiological mechanisms causing these therapeutic effects remain speculative (Fryer, 2011).

**Articulatory technique**

Articulatory technique is a direct technique whereby a joint is carried through its full ROM with the therapeutic goal of increasing ROM of that particular joint (Hartman, 2001; Ward, 2003). Articulatory technique is also described by the following names: ‘springing’ or ‘long lever technique’ (Hartman, 2001; Ward, 2003), ‘low-velocity-high/moderate-amplitude technique’ (Parsons & Marcer, 2008; Ward, 2003) or ‘mobilization without impulse’ (Greenman, 1996). The proposed outcomes of articulatory technique include increased joint ROM (Greenman, 1996; Hartman, 2001; Ward, 2003); and stretching of the connective tissue surrounding the previously restricted joint (Greenman, 1996; Parsons & Marcer, 2008). Articulatory technique is also suggested to influence the joint receptors thus restoring normal reflex activity in the related spinal cord segments (Greenman, 1996; Hartman, 2001). Authors Hartman (2001) and Parsons & Marcer (2008) agree that the influence of this technique is not limited only to joints as it may also promote fluid drainage of tissues and a decrease in any inflammation present.
A number of possible reasons may be used to explain the vast range of techniques an osteopath may choose to use, or select, included within the scope of practice in New Zealand. One possibility could be the fact that an osteopath is encouraged to tailor each osteopathic treatment to each individual (Di Giovanna et al., 2005; Licciardone, King, Hensel, & Williams, 2008; Stone, 1999). Based on differences in age and morphology alone, the extensive list of osteopathic techniques may begin to be explained. For example, different techniques will be required when treating a frail 78-year-old woman with osteo-arthritis, compared to a fit and muscular 30-year-old rugby-playing male. The osteopath-patient relationship is also one which is dynamic, as each technique should be personalised to each patient, and may need to be adjusted or refined, based on the patient’s response to each technique (Licciardone et al., 2008).

An osteopathic practitioner is one who treats the ‘whole body’, with appropriately chosen techniques ("Scopes of practice," n.d.). The ‘whole body’ consists of not only the neuro-muscular-skeletal, and vascular structures, but of body constituents that are less tangible. These include the personal domains of emotions, spirit and soul - which are influenced by each patient’s relationships, environment, beliefs and morals (Fryer et al., 2009). Each patient may also present with any one of the multitude of conditions, diseases or physiological states that exist in today’s world. Penney (2010) also suggests that an osteopath may wish to use the biopsychosocial model when perceiving a patient, so that aspects including culture, social interaction, illness behaviour, distress and physiological dysfunction demonstrated by the patient can be considered. Use of this model is one way to ensure “rational treatment”, which must include the patient, their condition, the (evidence-based) holistic view of the patient and the individual context of the patient (Penney, 2010). Johnson & Kurtz (2003) suggest that as a patient may present with various states of health – including acuity or chronicity of the presenting complaint – the osteopath needs a broad array of available techniques so that they can select one which their advanced clinical judgment tells them will give the most beneficial outcome.

The choice of which technique to use is the result of a clinical decision made by the health professional. It is for this reason clinical decision-making is outlined in the following section. Models of clinical decision-making used by general practitioners,
nurses, physiotherapists and osteopaths and what is known about the factors that have been shown to influence these choices, is also discussed.

**Clinical decision-making**

Clinical decision-making represents the decisions made in the clinical setting by the health professional, which is an integral part of the clinical process for each practitioner (Tanner, 2006; Thomson et al., 2011). A concise description of clinical decision-making may be used to describe the complexity of these decisions:

> Health professionals are required to make decisions with multiple foci (e.g. diagnosis, intervention, interaction and evaluation), in dynamic contexts, using a diverse knowledge base (including an increasing body of evidence-based literature), with multiple variables and individuals involved. In addition, clinical decisions are characterized by situations of uncertainty where not all the information needed to make them is, or can be, known. (Higgs, Jones, Loftus, & Christensen, 2008, pp. 89,90)

Bauchner, Simpson and Chessare (2001) suggest that decisions made in the clinical setting must therefore include consideration of multiple factors, in dynamic or changing contexts – in a situation that may be characterised by uncertainty. Jones (1992), states that clinical reasoning is influenced by three factors. These are metacognition (awareness and monitoring of thinking processes), the therapist’s knowledge base and their cognitive skills of data analysis and synthesis (Jones, 1992). In order to avoid common errors of reasoning and to enhance a therapist’s organisation of knowledge and recognition of clinical patterns, he suggests that the hypothetico-deductive model of clinical reasoning be used. To assist therapists to apply hypothetico-deductive reasoning, he offers a model for clinical reasoning which may be used in the clinical setting, presented on the following page.
Figure 1: Clinical reasoning model for clinical therapists to assist with hypothetico-deductive reasoning

Taken from Jones (1992).

This model is included here as it demonstrates the clinical decision-making process. It also shows how hypotheses made about the patient and their presenting complaint ought to be tested and modified at all stages of a physical therapy consultation, from the patient interview through to treatment. Useful as it may be in assisting clinical decision-making, it is not suggested that this is the best model to use, or the only one used by therapists. Norman and Eva (2003) suggest the assumption one “problem-solving strategy”, or clinical decision-making model, is consistently superior, means taking an overly simplified approach to clinical decision-making. However, the understanding of different models may serve to assist the therapist during clinical
decision-making, when directed by each new patient in the clinical setting towards the approach that is most fitting.

Clinical prediction rules (CPR) are guidelines developed to match certain musculo-skeletal presentations to a particular treatment. In order to apply a CPR in clinical practice, the diagnosis must be made clear. Flynn et al. (2002) conducted a study in which he investigated a CPR for patients with lower back pain (LBP) who would benefit from spinal manipulation. He stated that the development of effective, clinically adequate methods of classifying LBP can improve both clinical decision-making and treatment outcomes, allowing a patient to be matched to the treatment, from which they could most benefit (Flynn et al., 2002). Therefore, this suggests that if such a classifying system for diagnosis did exist and was widely used, CPRs could be developed and reliably applied in the clinical setting. Such classification systems have been suggested for patients with LBP (Flynn et al., 2002) and neck pain, however more research is needed to validate these findings. Continued development and integration of CPRs and these diagnostic classification systems could assist a practitioner with their technique choices. This would enable them to choose a technique for a patient, because they are demonstrating the clinical presentation or diagnosis which indicates that a particular treatment be used.

Evidence-based medicine (EBM) as a term and concept originated at the McMaster University, Canada. The introduction evidence-based medicine followed a call from Archie Cochrane, author of the book published in 1971, ‘Effectiveness and Efficiency”, suggested to be an “influential mark on healthcare”, initiated a call for an organised database of randomised, controlled trials (Shah & Chung, 2009). This resulted in the formation of the Cochrane Collaboration (OpenClinical, 2002; Shah & Chung, 2009). This was created to enable the best available evidence to be accessible for health care professionals, so they may base their clinical healthcare decisions on this body of evidential research (OpenClinical, 2002). Sackett (1996) defines EBM as the “conscientious, explicit and judicious use of current best evidence in making decisions about the care of patients” (p. 71). It was developed so that findings of relevant, experimental research may be applied to clinical settings so that clinical decisions could be based upon outcomes that have been objectively proven. The paradigm shift bought about by EBM was the result of a general increasing
dissatisfaction in the medical professions with the concept of decisions being made on the claim of a health professional’s ‘expertise’ and the clinical knowledge and experience possessed at this ‘expert’ state. This method of decision-making was based on the viewpoint that a health professional can make their clinical decisions because of their previous clinical experience and understandings of the mechanisms of disease (Haynes, 2002). EBM does not deny the existence of an expert’s knowledge, however, it states that individual clinical expertise must be combined with knowledge from the best external evidence gained through systematic research (Sackett, Rosenberg, Muir Gray, Haynes, & Richardson, 1996). Barratt (2008) explains, “…there was a need to move beyond clinical experience and [a clinician’s knowledge of] physiological principles” (p. 407). The argument was, that the decisions of the expert were not strong enough to hold up in the clinical setting as only one person had reached this conclusion. This led to the introduction of EBM to the health sciences, as a direct commitment to raising the standards of clinical care (Greenhalgh, 2002). Even so, the introduction of the new decision-making process was met with scepticism from many of the health professionals it had been designed to complement (Greenhalgh, 2002).

Much literature exists on the validity, use and development of EBM in osteopathy and other medical professions (Barratt, 2008; Fryer, 2011; Haynes, 2002; Humpage, 2011; Lucas & Moran, 2011; McAlister, Graham, Karr, & Laupacis, 1999; Thomson et al., 2011). This literature is also joined by seemingly contradictory research advocating an expert’s use of a more intuitive approach, where clinical decisions can be influenced by the practitioner’s intuitive thoughts (Benner, 1984; Offredy, Kendall, & Goodman, 2008; A. Smith, 2007; Steel & Adams, 2011; Stolper, Van Royen, & Dinant, 2010). Adherence to a practitioners’ intuition is supported in the literature due to a claim that these intuitive thoughts are the result of experientially-based knowledge and skills, which are domain-specific (Benner, 1984).

In the following section, literature relating to decision-making in osteopathy and other professions is outlined, as technique choice is one aspect of decision-making. Therefore an understanding of decision-making may assist in the comprehension of factors influencing this clinical decision-making process of technique choice. The majority of the literature regarding decision-making comes from the fields of general
medicine and nursing. Decision-making processes in the fields of physiotherapy and naturopathy are also briefly outlined.

**Clinical decision-making in general medicine**

Dordevic & Jankovic (2006) stress the importance of understanding decision-making in the field of general medicine, so that the general practitioner (GP) may deliver effective services to their patients. As with the GP, the osteopath may strive to better understand clinical decision-making processes, so that they may make effective decisions. Many large-scale research studies have investigated factors that influence decision-making in GP’s and some of these are now briefly outlined. Dordevic & Jankovic (2006), Eva et al. (2010), McAlister et al. (1999) and Weiss (2011) consider a GP’s personal experience to be influential when making decisions in the clinical setting. This personal experience may derive from the education and age of the GP, two factors which are also considered influential during decision-making by Dordevic & Jankovic (2006). Arocha et al. (2005) consider decisions made by the GP to be primarily influenced by their own pre-existing knowledge base. McAlister et al. (1999) suggests that the GP may also make their clinical decisions in deference to the opinion of colleagues and that basing a clinical decision on EBM may help with the decision process. The application of evidence-based research outcomes is considered imperative by Barratt (2008), who suggests that a GP should show that they can practice EBM in order to comply with professional standards.

Different models of decision-making can also be used by the GP to assist in their clinical decision-making. These may be roughly divided into two groups, the analytical and the non-analytical (Weiss, 2011). One analytical method is the analytic hierarchy process, which is a method of prioritizing alternatives when multiple criteria must be considered in the decision. Liberatore & Nydick (2008) suggest that the use of this model to assist clinical decision-making, can result in effective outcomes. Another analytical method is the hypothetico-deductive model (Weiss, 2011) whereby generation of hypotheses is followed by hypotheses testing, or deducting, in order to reach a diagnosis. Factors that affect this model are the GP’s existing knowledge, associations, and personal experience (Weiss, 2011). However, Liberatore & Nydick
(2008) suggest that the application of a formal method of decision-making is not generally the way in which a GP will reach their conclusions in the clinical setting. Research also suggests that the more experienced a practitioner becomes, the less they rely on analytical methods, without causing a loss of diagnostic accuracy (Eva et al., 2010; Weiss, 2011).

A method of decision-making which incorporates analytical and non-analytical methods, is that proposed by Norman et al. (2009), of ‘iterative diagnosis’. This is when the hypotheses are reached, following the GP’s initial impressions of their patient and their patient’s presenting complaint. These impressions are gained non-analytically or even intuitively by the GP and then tested in line with their experience and knowledge using analytical reasoning (Weiss, 2011). Therefore, analytical and non-analytical methods may be used together. Eva et al. (2010) proposes that a combination of these analytical and non-analytical methods may allow the GP to make the most optimal decision, as analytical and non-analytical methods of decision-making work best if they are used together.

A non-analytic approach that can be used to assist decision-making is that of pattern recognition (Elstein & Schwartz, 2002; Weiss, 2011). To employ this method, the GP rapidly, unconsciously or subconsciously compares their current patient with the diagnoses of previous patients they have seen who presented similarly. A probability judgement of their current patient fitting with this particular diagnosis can then be made (Weiss, 2011). To make these comparisons, a GP must have adequate experience and be able to refer to their personal memory bank of the diagnostic features of previously seen patients. Stolper, Van Royen et al. (2009) suggests the GP may often allow their ‘gut feelings’ about their patient to influence clinical decisions as these feelings can alert the practitioner to a problem with their patient before the machines being used have detected any detrimental change. A ‘gut feeling’ can be described as either a sense of alarm, or a sense of reassurance (Stolper, Van Royen et al., 2009). Stolper et al. (2010) proposes that if a GP experiences this patient-related sense of alarm, this can stimulate decision-making processes leading to the diagnosis of their patient’s condition and initiate commencement of the required treatment. Weiss (2011) states that intuitive decisions such as the ones triggered by a GP’s ‘gut feelings’, can be prone to cognitive bias if made in uncertain circumstances. Therefore
the practitioner who allows their intuitive feelings to influence their practice, should ensure decision made during uncertain situations are not primarily influenced by their own intuitive impressions of their patient’s condition.

Clinical decision-making by the nurse

Conflicting literature exists in the field of nursing on the topic of the role of intuition, during clinical decision-making. Benner (1984) suggests that the use of intuition in decision-making is the sign of an expert nurse and encourages the expert’s use of their intuition. Jones (1988) introduces the opinion that a decision based on intuition alone can allow a less than optimal decision to be made, and inconsistencies in choices made. The nature of intuition is that it is not easily explained, as it exists in the realm of the subconscious or unconscious. In the current, increasingly evidence-based practice (EBP) nursing environment, nurses are required to explain the basis of their decisions, leading Lamond & Thompson (2000) to suggest nursing decisions be based on more systematic approaches, rather than the traditional intuitive approach.

However, the use of intuition to assist clinical nursing practice is widespread. This may result from the understanding that a nurse’s intuitive thoughts about a patient will be domain specific and result from the nurse’s previously gained knowledge and experience (Benner, 1984; Hams, 2000). This may explain why A. Smith (2007) describes intuition as a recognised, important component of decision-making processes used in nursing.

As in general medicine, nurses may also employ analytical processes in order to make sense of clinical situations, or to evaluate the outcomes of treatment alternatives indicated for their patient – so the most optimal treatment choice can be made (Tanner, 2006). The hypothetico-deductive model as used by the GP can also be used by the nurse to assist their decision making (Banning, 2007). Offredy (1998) suggests this model is used by nurses especially when they are faced with uncertain, or complex situations. Use of this model promotes the nurse to gather initial cues presented by the patient and their past experience will play a major role in the hypotheses testing which follows (Banning, 2007; J. Jones, 1988).
Research relating to clinical decision-making amongst nurses has increased in recent times (Tanner, 2006), however conclusive research to explain the factors behind these choices is not currently available (Scherb, Specht, Loes, & Reed, 2011).

**Clinical decision-making by the physiotherapist**

Clinical decision making is a fundamental part of the physiotherapy process (M. Smith, Higgs, & Ellis, 2007) and this may result from the patient-direct access to physiotherapy (Miller Spoto & Collins, 2008). Research also demonstrates that physiotherapists have an awareness that they should incorporate EBM into their clinical practice so they may become more accountable (Herbert, Jamtvedt, Mead, & Birger Hagen, 2005) and be able to explain processes used when choosing a diagnosis (Miller Spoto & Collins, 2008).

As used by the GP and the nurse, the physiotherapist may also use the methods of hypothetico-deduction, and pattern recognition (M. Smith et al., 2007). However, the literature is not clear on which system is the most influential, or most commonly used by physiotherapists during the clinical reasoning process of diagnosis (Miller Spoto & Collins, 2008).

**Clinical decision-making by the osteopath**

Recently, there is a growing call from both inside and outside the osteopathic profession to incorporate a greater evidence base into the practice of osteopathy (Lucas & Bogduk, 2011). Conclusive research on the outcomes of osteopathic techniques is currently lacking, which can make the incorporation of EBM into clinical decision-making difficult (Fryer, 2011). Lucas & Moran (2011) suggest that a solid base of osteopathic research would allow relevant information gained through research to form an essential component of osteopathic practice, and a way for osteopaths to be “less wrong”. Humpage (2011) conducted a research study into the attitudes towards EBM and osteopathy amongst osteopathic practitioners, which showed that not all osteopaths agree that EBP is essential in osteopathy. The findings of Humpage’s (2011) study suggest that a “fear exists” amongst some members of the
osteopathic profession who were interviewed about the impact evidence-based research may have on the current practice of osteopathy. Humpage (2011) also presents the general opinion of participants in her study, which is that it is vital to preserve osteopathic principles and maintain the uniqueness of osteopathy as a profession when considering how to incorporate EBM into osteopathy.

Johnson & Kurtz (2003) conducted a study relating to osteopathic technique choices, which is one aspect of osteopathic clinical decision-making, amongst American medical physicians and osteopathic practitioners. Therefore, the results of this study are not purely reflective of osteopaths. However, the findings of this study include several factors that may influence technique choice, which can be applied to the current research study on factors influencing osteopathic technique choice. Some of these factors include the effectiveness of the previous treatment given to a patient, the physician’s expertise with various technique methods, and the practitioner’s age and gender. Generally, direct techniques are favoured over indirect techniques and are used more commonly. This was affirmed by Fryer et al. (2009) following their review of research on technique choices made by osteopaths in Australia and the UK.

Gender differences regarding technique choice are also evident. Compared to male practitioners, female osteopaths use more MET and soft tissue techniques on their patients (Fryer et al., 2009; Johnson & Kurtz, 2003). Overall, male practitioners use HVLA more than their female counterparts (Fryer et al., 2009; Johnson & Kurtz, 2003). These gender differences are mentioned in both of these studies, however no percentage or other numerical value is offered, to demonstrate these differences. Fryer et al. (2009) suggests that women may choose an indirect approach more frequently as a reflection of their physical strength or their differing patient populations, as these may consist of primarily women and children who prefer or request what he terms “gentler techniques”.

Thomson et al. (2011) suggests that osteopaths may also employ the hypothetico-deductive model used by other health professionals and discussed previously in this chapter, to assist them in their clinical reasoning. Di Giovanna et al. (2005) and Thomson et al. (2011) also encourage osteopaths to use the osteopathic principles to help guide their clinical practice.
Results of the study by Johnson & Kurtz (2003) also revealed that older practitioners use more indirect techniques, whereas younger practitioners use more direct techniques. Research regarding the physiological effect of aging on neuromuscular function, may explain why older practitioners have been shown to prefer gentler, indirect techniques, as performing direct techniques such as an HVLA require an amount of physical strength from the practitioner (Fryer et al., 2009). Aging muscle is exposed to oxidative stress, which can cause sarcopenia, or a decrease in muscle mass, and muscle weakness (Barreiro et al., 2006). Sarcopenia is also the result of decreased physical activity, altered hormonal status of estrogen, androgen and growth hormone, altered muscular protein synthesis and inflammatory mediators (Barreiro et al., 2006; Raj, Bird, & Shield, 2010). This decrease in neuro-muscular function of aging muscle creates a lack of strength and power (Raj et al., 2010). This loss of strength is seen mainly in the movements or flexion\(^3\) and extension\(^4\) of the ankle, knee and elbow joints (Raj et al., 2010). It is possible that a decrease in strength in any of these articulations will hinder the application of stronger, more forceful techniques.

---

\(^3\) Joint movement of skeletal bones that decreases the angle between two adjoining bones, such as bending the elbow, which decreases the angle between the humerus and the ulna.

\(^4\) Joint movement of skeletal bones that increases the angle between two adjoining bones, such as straightening the leg, which increases the angle between the femur and the tibia.
Summary

The application of an osteopathic technique is the means by which an osteopath may initiate healing change in their patient. To create this change, the osteopath must select a technique from the vast range of osteopathic techniques available. However, research that provides insight into factors that influence technique choice amongst osteopaths is limited, meaning only a basic understanding of these influential factors may be gained from the current osteopathic literature and research.

The lack of research relating to the outcomes of osteopathic techniques could make it more difficult to practice in an evidence-based manner – which is a practice requirement of today’s health professionals. It is also becoming increasingly important that the osteopath is able to explain their clinical reasoning processes (Thomson et al., 2011) in order to comply with current models of practice embraced by the medical professions – including the incorporation of EBP. Therefore, in relation to these expectations, the limited amount of literature on technique choice and the importance of technique choice in achieving the most optimal patient outcome, this study into the factors that influence osteopathic technique choice is warranted.
Chapter 3

M E T H O D

Introduction

This chapter outlines the methodology and method used during this study of factors that influence an osteopath, during the process of technique choice. The methods used are discussed in this section, these include purposive selection of research participants, data collection via interviews, thematic and interpretive data analysis, ethical considerations and the processes undertaken that contribute to rigour and credibility of this study.

Methodology to method

In order to determine the factors that may guide an osteopath during technique choice a qualitative thematic analysis using interpretive description was chosen as the most suitable. A qualitative methodology was chosen as Thorne, Reimer Kirkham and MacConald-Emes (1997) suggest it is an appropriate way of structuring an inquiry that may “reveal processes of applying aggregated knowledge to individual cases” (p. 170, in this case to study how a small group of individual osteopaths take their accumulated knowledge into consideration when selecting a technique. Interpretive description is a qualitative methodology which employs an inductive form of reasoning, where general observations (for example observations of technique choices made by osteopaths) may lead to the formation of broader generalisations or theories about the phenomenon under study (Thorne, 2008). Thorne suggests this methodology allows the researcher to “search for underlying meanings that might further illuminate
what is happening” (2008, p. 50), which may promote a greater understanding of the clinical phenomenon under study. As the topic of technique choice is also an under-researched one, this is a further indication to use interpretive description. Thorne (2008) states one reason to use this methodology is when researching a subject in which themes and patterns are not well documented, as they are in relation to ‘factors which influence osteopaths during the process of technique choice’.

The use of phenomenological hermeneutics was also considered as a possible methodology, so that this research could aim for understanding rather than an explanation of human phenomenon, technique choice, under study (Mackey, 2005). Laverty (2003) states the goal of hermeneutic phenomenology is to capture seemingly trivial aspects of the life world of the participant so that the essential meaning of the phenomenon under study may be captured. Therefore, ‘trivial aspects’ of osteopathic technique choice would be pondered upon, so that their importance in the participants life world may be understood, thus serving to illuminate factors which influenced these decisions. Lindseth and Norberg (2004) state that the use of phenomenological hermeneutics enables emergent themes to be considered in relation to (an appreciation of) the meaning of this lived experience. In this way a “comprehensive understanding [of the phenomenon under study] is formulated” (Lindseth & Norberg, 2004, p. 145). Technique choice as a research topic is very under-represented in the literature, meaning a small-scale study such as this one will not allow for the generation of a ‘comprehensive understanding’ of factors which influence technique choice. Therefore an exploratory study design incorporating interpretive description was again indicated, in order to take the limited information available on this topic and use it as a ‘foundational fore-structure’ (Thorne et al., 1997).

In order to gain knowledge relating to technique choice from the research participants, exploratory, in-depth interviews were undertaken. An exploratory interview is in essence a heuristic interview, in which ideas and research hypotheses can be developed. The aim is to understand how participants think and feel about the topic of the research study (Oppenheim, 1992; Thorne, 2008). In order to provide insights to a qualitative enquiry, a research participant must have lived experience of the phenomena under study, and they must be willing to talk about their experiences (Laverty, 2003; Thorne et al., 1997). In an interpretive description research study, the
strategy of purposive sampling can be applied in order that the correct groupings of participants are recruited. This also means that the eventual findings “have the potential of ringing true” (p. 91) to the intended audience (Thorne, 2008).

**Research method**

The use of processes determined by interpretive description, as proposed by Thorne (2008) that were used in this study, are presented in this section. These processes include sample selection, data collection and data analysis.

**Sample**

According to the study conducted by Johnson and Kurtz (2003), factors that can act as determinants of technique choice amongst osteopaths are gender and years practising as an osteopath. Therefore, the sample population was selected to contain equal numbers of osteopaths of both genders and osteopaths who had varying experience in osteopathy, measured in years practising as an osteopath. In addition, in order to be selected, the osteopath must use a varied selection of techniques in their daily practice. The inclusion and exclusion criteria are outlined next.

**Inclusion Criteria**

Firstly, participation in this study was limited to practising, registered osteopaths. To allow inclusion in this study, the registered osteopath must also use a wide variety of techniques in their daily practice and apply the words ‘direct technique’ and ‘indirect technique’ as techniques pushing either through a barrier or techniques not going through a barrier, respectively, as outlined in Ward (2003). To evaluate this, osteopaths were asked if they used a wide variety of techniques daily and if their understanding of the terms direct and indirect technique matched that outlined in Ward (2003). Half the participants to be selected were required to have no more than
five years practising osteopathy, the other half were required to have been practising osteopathy for six or more years and an even gender balance was sought, as it has been suggested that experience and gender may influence technique choice (Johnson & Kurtz, 2002).

**Exclusion Criteria**

Any osteopath not registered or qualified was not suitable for inclusion in the study. If the osteopath identified themself as a ‘cranial osteopath’, or as practising solely with the application of a single technique or approach they would not be suitable for this study. The reason behind this was that this research study aimed to find how osteopaths choose between the many available osteopathic techniques and not how they had decided that their preferred modality was ideal for every patient and every presenting complaint.

**Sample Selection**

Participant selection was via purposive selection, as this method of sampling made it possible to select osteopaths with varying experience practising osteopathy and to ensure an even gender balance, two factors which have been suggested to affect technique choice (Johnson & Kurtz, 2002). Studies using interpretive description often employ sample selection which is purposive and theoretically generated, as Thorne et al. (2004) suggest this makes it possible to “reflect an awareness of expected and emerging variations within the phenomenon under study” (p. 6). The sample selection process was initiated following meeting and conversing with practising osteopaths who were fellow attendants of an osteopathic seminar on visceral technique, about the topic of this research study. Two participants were recruited in this manner.

Three participants from the teaching staff of the osteopathic school at Unitec were selected next, as their daily practice included varied osteopathic techniques and they fit into both the gender and experience criteria required by this study.
Selection of the final participant followed the suggestion of a colleague that I approach this osteopath, as her varied technique repertoire made her an ideal candidate for inclusion in this study.

Initial contact with participants was made by either face-to-face communication or telephone. After explaining the study to each participant, an information sheet on this study (Appendix B) was either given to them in person or sent via email.

**Data collection method and process**

Exploratory, in-depth interviews were selected as the method of data collection because the environment created during such an interview allows the interviewer to develop and pursue relevant themes which arise, in order to add depth to the knowledge which is sought (Brink & Wood, 2001; Oppenheim, 1992). The freedom allowed by this kind of interview allows for the exploration of an under-researched or poorly understood topic (Thorne, 2008). During the process of the interview it is essential that the interviewer can limit their influence, including any personal bias or opinions, so that the data gained is reflective of the participants (Denzin & Lincoln, 2008). In order to achieve this, any personal preconceptions and pre-existing understandings on this topic of osteopathic technique (described therein as ‘personal ideals’) were reflected on before the commencement of the interviews. These ideals were recorded in the research journal and are outlined below, under the heading ‘rigour and credibility’. Recording any personal ideals relating to this topic meant they were recognisable if they came up during an interview. In order that the data gained would reflect only the participant views, consciousness was maintained in relation to these personal ideals when the participants raised any similar or contrasting sentiment, during the conduction of the interviews.

After the gaining of informed consent and the signing of the consent form (Appendix C) by each participant, an audio recording of the interviews, using the ‘voice recorder’ application on a HTC Magic Smartphone® was made. A pre-determined list of open-ended questions (Appendix D) was used as a guide during each of the interviews, and to ensure questioning was consistent in each individual interview (Krueger & Casey, 2000). Immediately following each interview, the recording was
transferred to a password-protected file on the researcher’s laptop and the recording was deleted from the mobile phone.

Data analysis method

The method of data analysis used was interpretive thematic analysis, which may enable the researcher to find similarities and differences in data associations, patterns and themes that exist. This was achieved through the use of four main cognitive processes: comprehension of the phenomenon under study, meaning synthesis, theorising about relationships that occur in the data and re-contextualising the data into pre-existing knowledge on the phenomenon (Thorne, 2000, 2008).

Each interview was transcribed by the researcher, in order to gain a depth of knowledge and follow Thorne’s (2008) suggestion to “hear more deeply” (p. 143) what it was the participants were saying. This was made possible by hours of immersion in each interview, listening to each participant and the tone of voice used while discussing each topic in their interview. By the time each transcript was completed and printed out, the reading of each transcript was in effect accompanied by the voice of the corresponding participant. This may be the reason Thorne suggests self-transcription is the best way in which to transform spoken interviews into text, due to the familiarity with the data that it creates (Thorne, 2008). Periods of “immersion in the field”, or time spent researching technique choice and conducting interviews, were interspersed with periods of time immersed in the research data, as suggested by Thorne et al. (1997), enabling the refining of the enquiry and the testing of developing conceptualisations.

Any non-verbal verbal cues were added to each transcript during the transcription of each interview and any ideas or themes that would emerge in the transcripts were written in the research journal. Referring back to this journal served as a reminder of thought processes occurring during this transcription process, which was important information as it helped to inform the thematic analysis of the interview transcripts. This is also a process insisted upon by Thorne (2008), as each issue which may arise can then be both acknowledged and reflected on, so any influence of the ideas on the design and implementation of the study may then be seen.
The proposed number of interviews was six to eight, so that an even number of participants of each gender and experience measured in years practising could be studied. Interviews were conducted with three female and three male osteopaths. Coincidentally, the female participants all fell into the 1-5 years, or less experienced, category and all the male participants in to the six or more years, or more experienced group. An even number was used to reduce bias, even though no strong conclusions could be drawn with such a small number of participants. In addition, previous research conducted by Johnson & Kurtz (2002) indicated that there could be difference between genders, making it important to have both male and female participants. After the sixth interview ideas and themes that had started to surface in the previous five interviews were suggested, however no new ideas or themes started to emerge. The repetition of ideas relating to technique choice signalled that there had been adequate data obtained.

Reading and re-reading each transcript several times brought to light significant sections which related to this research question of factors influencing technique choice. These sections of the transcript were tagged for ease of finding them during the next step of data analysis. As interpretive methodology dictates, this process should take place before the process of coding of themes or ideas as premature coding of research findings can frustrate and discolour the analytic process (Thorne, 2008).

The exploratory, in-depth nature of these interviews allows the participant to repeat points that they deem important and to answer questions exactly as they please, even if this also causes reiteration of their point of view. When such repetition was found, the quote was not discarded; instead, it was included in the analysis and served only to strengthen the participant’s individual view.

The next step of the thematic analysis process was to replay and listen to each interview whilst reading the transcript and taking note of any recurring sentiments relating to factors influencing technique choice that arose, which were duly noted in a separate ‘themes’ document. Each interview was analysed in this way and relevant information was added to the themes document. To check whether any personal ideals had influenced the findings, previously determined personal understandings or ideals, (previously recorded in my research journal), were also reflected upon here. With
these ideals in mind the data was read through again and the conclusion was made that they had not influenced interpretation of the data obtained.

Initially, it seemed that the sentiments / excerpts relating to technique choice that were recorded in the themes document indicated that technique choice was simply individualised to each osteopath. However, with further study of these excerpts and time spent also stepping out of the hermeneutic circle, common themes began to emerge. With these emerging themes in mind, the data was read through again and it became apparent that the rough data obtained could start to be explained or sorted into these theme groups. After much deliberation, three main themes were selected that best reflected the data.

The participants’ transcript excerpts were then carefully organised into the three main theme groups, a process that was completely repeated three times, to help ensure the interpretation of each quote resulted in the meaning the participant intended. This process was deemed necessary, after reading through the initial sorting to discover that many excerpts would be better placed under another theme group, as understanding of choice making grew. The re-sorting process took over a month, with a day or two between finishing each sorting phase. In order to ensure the final sorting of interview transcripts was indeed an interpretation of what each participant had intended with their comment, and that there was only a minimal influence of personal ideals in the final data, some assistance from the appointed supervisors was received during the third and final sorting process. These discussions served to give a better understanding of what the participants were trying to portray, as conversation about each hard to place comment eventually helped the sense-making of these difficult, or ambiguous comments.

**Ethical considerations**

In order to conduct this research according to ethical considerations which must be present in any qualitative study, the information provided by participants must be used in a manner which respects their interests and needs (Thorne, 2008). In
accordance with this a full ethics application was submitted and accepted by the Unitec Research Ethics Committee on the 24 July, 2009 (Appendix E). Ethical considerations pertaining to this study addressed in this application include anonymity and confidentiality, security of research materials, withdrawal from the study and the risks and benefits to participants associated with involvement in this study.

Anonymity and confidentiality

At the beginning of each interview, the participant was asked to choose a pseudonym that would not betray their identity to any reader of this dissertation. As I personally typed each interview there was no need for a transcriber, and all information including interview transcripts were stored on my computer in a password protected file to which nobody else had access, anonymity and confidentiality were maintained.

Withdrawal from the study

On the participant information sheet each participant was given before the interview withdrawal from study procedures were outlined. I also reiterated these before commencement of each interview. Each participant was also offered the opportunity of being sent a copy of their interview transcript if they wished to review it and make any corrections or changes they deemed necessary. One participant did wish to see their transcript, however they did not request any changes be made.

Risks and benefits of participation in the study

A risk of participation in this study was the awareness of the participant, on the re-telling, that perhaps they had used a technique out of context. However, this realisation would not be harming the participant thus breaching any ethical standards, instead, it is a by-product of reflective practice, which can only serve to improve their over-all performance as an osteopath.
Rigour and credibility

The interpretive process in any research, must be sound in order that the conclusions reached reflect an account of the main findings of the research as dictated by the participants in the study (Conroy, 2003; Oppenheim, 1992; Sandelowski, 1998). A credible, rigorous interpretive description of the interview findings must therefore reflect the experience as it is lived by the interviewee, or the life world as it is seen through the eyes of the interviewee in relation to the topic under study (Thorne et al., 2004).

However, in order for rigour to be attained in a study conducted in this manner in which the products of the research are “co-created” by the researcher and participant, the researcher must fully explicate their preconceptions and prejudices and their effect on the interview process (Lowes & Prowse, 2001; Thorne, 2008). Therefore, ‘personal ideals’ and preconceptions about technique choice were documented before the commencement of any data collection, as described earlier in this section. These personal ideals include a personal preference for indirect techniques, as they are easy for me to apply and generally very well accepted by the patient. In highlighting this personal ‘positioning’ and any personal bias were made clear, meaning the influence, or existence of personal thoughts could be acknowledged during interpretation of the data.

It is essential to be able to show a clear audit trail during a research project, as this is absolutely necessary in order to produce trustworthy, credible research (Thorne et al., 1997). To ensure a clear audit trail, the processes that were undertaken have been outlined and described in detail, including: how participants were selected, the interview and transcription process and subsequent data analysis.

One way to enhance credibility, or to ensure what is interpreted is actually what the participant means, is to have participants read the transcript of their interview to check all is as they said. Therefore, each participant was asked if they would like a copy of their transcript for this purpose. Only one participant requested this, and they changed nothing in the transcript. It was a goal of this research that the results of this study reflect the understanding of osteopathic technique choice and the factors which influence these choices, as described by the participants of this study. If upon reading
the results of this study, each participant can see such a reflection of their views on technique choice, credibility has been achieved (Thorne et al., 2004).

In addition, in order to ensure the quality and integrity of the findings, the developing themes were presented to an experienced osteopath, along with the interpretation of sections of the transcript data. This osteopath has many years experience as a practising osteopath. He has held positions of importance as a teacher of osteopathic technique and philosophy at both the British School of Osteopathy and Unitec and both written and supervised a great deal of osteopathic research, thus qualifying him for this role. At the time of the sorting process described, this osteopath was working as a tutor at the osteopathic school at Unitec and was recruited to assist because of this. This was another way in which credibility and rigour were achieved in this study, as the osteopath read through the data presented to him and agreed that the emerging themes were relevant and applicable to the data. He also affirmed that the interpretation of the data could be indeed, what the participants of this study were meaning to portray.
Summary

This study was an exploratory study into the under-researched phenomenon of factors that guide technique choice amongst osteopaths. The aim and research question are aligned with the philosophy behind conduction of depth, exploratory interviews in the context of qualitative research of an under-researched area (Brink & Wood, 2001; Thorne, 2008; Thorne et al., 2004).

Six participants were purposively selected for inclusion in this study, on the grounds that they fit the selection criteria of gender and experience, they used a variety of techniques on a daily basis and based on their definition of indirect and direct techniques. Purposive selection allowed only participants who fit into the inclusion criteria to be selected. Purposive selection also meant that information given would “have the potential for ringing true” (Thorne, 2008, p. 91) to the intended audience, or would make sense or feel familiar to any practising osteopath or other manual therapist who may read this thesis. Due to the nature of in-depth interviews, a checklist of key question incorporating important questions was used during each interview. However the participant had the largest influence on the direction of answers given, in response to techniques regarding their technique choice.

Data analysis was via the interpretive description methodology introduced by Thorne et al. (1997). Following transcription of each interview, prolonged immersion and thematic analysis of the interview transcripts eventually led to the organisation of all data into three main themes which it is proposed, may help the osteopathic community to better understand factors leading to technique choice amongst osteopaths.

Rigour and credibility were achieved in this study via the clear audit trail outlined in this chapter and by the recognition and documentation of pre-existing, personal ideals relating to osteopathic technique choice held by the researcher, before any data collection. Participants were given the opportunity to change or omit any information given by them in their interview, to ensure that the information given clearly reflected their experiences and understanding of the phenomenon of technique choice in their own practice.
Ethical issues that may have arisen include anonymity, the ability to withdraw from the study and risk to the participants due to uncomfortable topics that may arise in the interviews. Consideration was given to each of these areas. To ensure anonymity each participant was assigned a pseudonym and geographical or personal information given during interviews was removed, without affecting the validity of the information given by them.

The following chapter outlines the findings of the data analysis described in this chapter. These findings are described and interpreted, by using quotes from the interviews, to begin to explain factors that may affect osteopathic technique choice.
Chapter 4

PRESENTATION OF FINDINGS

Introduction

This chapter outlines the main findings of the six exploratory, in-depth interviews that were analysed using interpretive description. The findings are presented as three main themes that best reflect the technique choices of the study participants. These themes suggest that technique choice may result from a patient-based decision that is influenced by factors relating to the patient; a practitioner-based decision where each choice is influenced by the factors relating to the practitioner; or an outcome-based decision, where the practitioner’s experience of the outcome of certain techniques stimulates the compilation of a repertoire of techniques, allowing technique choices to be made by selecting a technique from this list.

The decision-making process may be influenced not only by one, but by many factors (Harries & Hardman, 2002). When this became evident in some sections of a participant’s interview transcript, the quote was placed with careful consideration under the theme that seemed to encapsulate its meaning most strongly.

For a practitioner with minimal experience, the process of technique choice can seem a daunting and difficult task, as their limited experience may not always allow them to make a technique choice quickly and easily. The importance of technique choice is that the selected technique may enable the osteopath to match their technique to their patient’s specific need.
The first theme is: *Technique choice according to a patient-based decision.*

This theme relates to situations where patient-based factors influence the osteopaths technique choice. Information about a patient’s presenting complaint is gathered by the taking of a case history, a physical examination and palpation of the patient’s somatic structures. Palpatory, verbal and other diagnostic cues thus obtained are often sufficient to allow and inform technique choice. In addition, the practitioners’ intuitive impressions relating to various patient factors may assist in these choices.

The second theme is: *Technique choice according to a practitioner-based technique decision.*

This theme is based on an understanding that some technique choices are based on factors primarily concerning the practitioner. This choice may represent a personal informed choice, influenced by factors such as the practitioner’s personal philosophies, ideals, understandings, knowledge and morphology. Technique choice may also be made in order to meet the practitioner’s goals for each patient, or because of what they feel needs to be done, in each treatment.

The third theme is: *Technique choice according to an outcome-based technique decision.*

Through experience, a practitioner will learn the therapeutic outcomes of specific techniques and may then use this knowledge to make a decision based on this expected outcome. This clinical experience enables the creation of a repertoire of tried and successful techniques that is personalised to each osteopath. The compilation of this personal repertoire could be likened to practice wisdom. (The word ‘repertoire’ was used here as it was taken directly from one participant’s interview. Also, this word may mean more than ‘list’ of techniques, as it could be described as a collection of wisdom, responses, knowledge and techniques). Included here are choices resulting from the practitioner’s experience of the most appropriate treatment plan that may provide the desired outcome, described in this study as the osteopath ‘knowing the steps’. Choices also included here are those made in accordance with the
practitioner’s knowledge of what not to do. Increasing osteopathic experience and knowledge of the physiological behaviour of the human body may also promote confidence to experiment with new techniques, some of which are added to this list.

**Technique choice according to a patient-based decision**

‘Technique choice according to a patient-based decision’, is a name chosen to describe technique choices that have been influenced by a range of incoming impressions from a patient’s somatic structure. This can be achieved by the gathering of cues from their patient using skills learnt during osteopathic education, with or without the use of the practitioner’s intuition to aid decision-making. The mention of the practitioner’s intuition in patient-based decision-making refers to the ability of the osteopath to choose an appropriate technique, influenced by cues intuitively gained from their patient. Other, more visible osteopathic skills are also used to generate a decision that is based on the patient. These include the ability of the practitioner to perform an appropriate physical examination, using palpation and the ability to transform these findings into a diagnosis.

In the literature, a ‘patient-based’ decision is described as one that the patient has personally made relating to their treatment, after their doctor has given their diagnosis and medical advice and has made known to them their treatment options (Entwistle & Watt, 2006; Evans, 2003; Ubel & Loewenstein, 1997). The benefits of these patient-based decisions can include greater trust in the practitioner and a greater effort on the patient’s part to “do their own bit in relation to their health care” (Entwistle & Watt, 2006, p. 273). In the current research study, a patient-based decision differs to this, as technique choice is influenced by patient-related factors, not directly chosen by the patient. Patient-related factors that were shown to influence a patient-based decision include objective findings relating to the patient’s physical form and also their less tangible domains (such as emotional, cultural), discovered via physical examination and questioning. Examples are: leg length discrepancy, local tenderness / redness / swelling, altered joint range of motion, apprehensive feelings regarding an injury or
particular technique or the patients demeanour – stressed, nervous, fragile, or seemingly quite unaffected by their current physical situation but simply in pain.

**Technique choice according to the physical examination**

One of the steps during each consultation is when the practitioner collects information from their patient in order to discover what is responsible for causing the symptoms that have led them to seek treatment (Fryer et al., 2009). This may be achieved through a thorough case history and a physical and palpatory examination (Kuchera, 2007). An array of skills can be called upon, including those of gentle persuasion that help a patient to describe difficult or painful experiences; those of palpation and intuition; and the ability to sort through all of this information gathered in order to determine a diagnosis. Hartman (2001), writing about osteopathic techniques, explains, “The criteria on which … the choice of technique to be used is to be governed by the diagnosis or pre-treatment assessment” (Hartman, 2001). Nelly explains this in the following way:

> And of course, you’ve got this information [from the case-history], in your head when you are doing the examination. Because everything’s accumulative, you proceed with a treatment, or a therapeutic encounter. As soon as you put your hands on somebody’s tissues, you’re informed by the interview process, by the information you’ve got from that. And then once you’ve got your hands on, it’s just palpation really, and passive range-of-motion [testing] which start giving you information about what sort of tissue changes you want to bring about in what sort of tissue you are dealing with. (p. 1) – Nelly –

A combination of palpation, movement testing and conscious referral to information gained in the case history is shown here, which leads Nelly to her diagnosis. A detailed knowledge of anatomy and physiology is required for the formation of a diagnosis, as it is needed to accompany the sensitive palpatory sense that an osteopath must use during their examination (Stone, 1999). This experiential knowledge contributes towards sound clinical judgement (Benner, 1984). Knowledge of which
dysfunctional structure is under the palpating hand is essential, in order for the osteopath to interpret the information they are receiving from palpation of their patient’s body, into the technique that will be most effective.

The physical examination, used in order to determine each patient’s diagnosis, is so important to John that he has adapted a story based on a Chinese magistrate to osteopathic diagnosis – he now calls it his “mantra”.

_There is a paragraph that I use almost as a mantra for osteopathic work and it’s actually from a 12th century Chinese magistrate detective. I’ll give you the rough outline; it is wonderful. It essentially says that even though he is investigating a crime; any facts that come to light he considers. And he doesn’t make a diagnosis until he has sufficient facts. If he doesn’t have sufficient facts he doesn’t make a diagnosis and he waits until he has sufficient facts. If he has sufficient facts and makes a diagnosis and then some new facts come to light that don’t agree with his diagnosis he does not discard the facts. He discards his diagnosis and then looks at all the facts he has to see what diagnosis or pattern he can get from that._ (p. 7) – John –

John highlights the importance in making use of all of the patient-given information to guide his diagnosis and thus choice of technique. His decision is made due to patient-led factors as he accepts all of the information offered, even if it does not fit his pre-determined diagnosis. Here, John demonstrates “diagnostic flexibility” (Eva et al., 2010) as he is able to discard one of his own judgements in order to allow the patient’s actual state to influence his thinking, once new information has become available. Osteopath William Slann also mentions this phenomenon and describes it as a practitioner who is diagnostically trained, as they are “constantly vigilant to signs, as it is their main goal in keeping individuals well” (Slann, 2008).


**Palpatory led technique choice**

To participants in this study, the use of palpation and allowing the patient’s tissues to influence technique choice was often mentioned as way of selecting a technique. A sensitive palpatory sense is one of the defining features of an osteopath. Participants of the current study affirm the importance of palpation in determining technique choice, as this may allow them to sense the state of their patient’s tissues. For John, using his palpatory skills allows him to tailor his treatments to suit each patient, so that his technique choices are appropriate for each individual. John explains: “*My approach to each patient will be different. In what ways? I don’t know until I put my hands on them.*” (p. 2). Becky also stated that a palpatory impression of her patient’s tissues was generally the first factor involved in choosing the most appropriate technique. When asked at what point of the treatment does she decide what technique to use, Becky replied, “*Usually it’s when I first get my hands on the patient.*’ (p. 1).

Sometimes, this patient-based factor influencing choice of technique, obtained through palpation, is also influenced by a practitioner’s intuition. An intuitive feeling may be described as one which has unknown origins (Claxton, 1998; A. Smith, 2007). When asked to elaborate on this feeling of being ‘led’ during palpation, most of the participants had difficulty explaining the origins of their intuition, or the reasons behind these feelings. This suggests that the feeling of ‘being led’ is indeed an intuitive impression that may be aided by palpation. After some discussion, Kate realised this; some of her decisions were sometimes intuitive, thus making them hard to explain:

> Some of [my technique choices are due to] conscious decision-making, but I think a lot of it comes with feeling. And it comes with in a way, letting the patient’s body decide what technique you need to use. So I think a lot of it comes from that, which I think is probably why I’m struggling with a lot of the questions, because it makes you realize how much of your intuition that you are using, your palpation, I mean you’re treating them with your hands, it’s your hands that do the treating. (p. 9) – Kate –
As Kate mentions here, palpation is a key skill the osteopath must possess to assist them with their diagnosis and treatment of their patient’s tissue dysfunction, largely via the use of sensitive palpation. Using these palpatory skills an osteopath can assess tissue quality and joint positioning and may be able to adapt these factors following choice of techniques which will promote a state of homeostasis in their patient’s somatic structures (Sammut & Searle-Barnes, 1998).

**Technique choice derived from evaluation of the patient as a whole**

Aside from clues drawn from the physical examination and palpation of their somatic structures, other factors may lead the practitioner to be guided by the patient as to which approach to take. These factors may be acquired from past knowledge or history of the patient, or following recognition of the patient’s expectations of the osteopathic treatment. Sometimes it can be a combination of all or many of these patient-led factors that influences choice; the summation of these factors gives the osteopath a clearer view of the ‘patient as a whole’.

Dave tells about one situation where his realisation of a patient’s expectations led him to choose the most appropriate technique, based on his view of his patient as a whole. He recalls one illuminating moment he had whilst treating this patient, an endurance sports woman, whom he had seen in his clinic more than once and “who could happily run two marathons on end” (p. 10). Dave says:

… and she said to me the other day: ‘Do you know, you’re the first osteopath who hasn’t clicked my back.’ And then it dawned on me that that was perhaps actually what she wanted, if I’d click a joint somewhere then she’d be that much happier. It wasn’t necessarily what she needed just what she expected. Dealing with expectations is part of the equation. (p. 11) – Dave –

Before his patient had voiced her own expectations of her osteopathic treatment, Dave had assessed that she would respond best to the treatment he had designed, following his evaluation of this patient as a whole. He had been using techniques and designing his management plan in way that he thought would be “right up her street” (p. 10). Recognition of his patient’s expectations about her osteopathic treatment influenced
Dave to find a way of incorporating these expectations into the most optimal treatment. After further assessment of his patient’s spine, a somatic dysfunction related to the patient’s initial presenting complaint was diagnosed. This meant the use of HVLA was indicated, and was thus performed. Dave goes on to explain that his assessment of this patient as a whole had influenced his previous technique choices – which had then produced successful therapeutic outcomes. The resolution of his patient’s presenting complaint was primarily obtained through previously applied functional (indirect) techniques. His patient’s expectations, however, were included in his evaluation of his patient as a whole, allowing the selection of a technique both necessary to the patient and based in osteopathic philosophy to facilitate healing change.

Dave explains that during the treatment a summation of many factors is used to create a picture of the patient as a whole. From this evaluation, the techniques that will be best suited for each patient can be chosen. John, when asked at what point in the treatment he would start to consider which technique he would choose, answered:

> As soon as I put my hands on them. And I would have a lean before that from how they speak, whether there’s tension in their voice, whether they’re talking about themselves, their history, or whether they’re past patients that it’s that old lower back again.

(p. 1) – John –

Patient-led technique choice in John’s case is clearly based on more than the findings of a physical examination, or from palpatory findings. Rather, it is a combination of these plus an awareness of other clues about the patient’s emotional state, as well as their personality, history and expectations; thus creating a view of the patient as a whole. In essence, the osteopath may find that their patient is guiding them towards technique choice only after they have formed a holistic view of their patient as a whole.

This section explains how the practitioner’s reflections showed that patient-based factors could influence their technique choices, demonstrating the importance of this issue and allowing it to stand out more clearly. Patient-based cues come from the physical examination and case history. Also illustrated in this section are instances
when the osteopath’s intuition may influence patient-led technique choice. There are also many situations where the patient does not inform choice. For example, the practitioner can choose a technique based on factors that primarily concern themselves. The following section outlines the next main theme relating to technique choice – when a practitioner-based technique choice has been made.

**Technique choice according to a practitioner-based decision**

It is suggested in this theme group that a practitioner-based decision is made when personal philosophies, goals and morphology affect choice.

*I use HVLA in most of the patients I see, in some form or another…*  
*HVLA will remove mechanical restrictions that have been developed by that inappropriate muscular tone in the first place. If you want to keep it good then HVLA is necessary.* (p. 15) – Dave –

Participants demonstrated in this study that choices could be influenced by factors relating to themselves. Each osteopath interviewed also showed some preference for a certain technique, group of techniques, or an osteopathic philosophy. This preference was sometimes related to factors including education, past experiences, their own morphology, or was simply not specified. However, what was clear was this: one method of choosing a technique, as demonstrated by the participants in this study, is to base this decision on factors relating to the practitioner.

**Technique choice based on personal philosophies**

The word ‘philosophy’ comes from the Greek ‘philosophia’, which can be literally translated into a ‘love of wisdom’. Through his disillusionment with the outcomes of modern medicine of his day and his desire to heal the body without surgical or pharmacological means, AT Still was inspired to create osteopathy and the philosophies that embody it. Fryer (2008) suggests that these older models are still being taught, however educators now also have a responsibility to include critical
thinking and evidence-based approaches in their teaching. Higgs & Titchen (1995), in their book on clinical reasoning, suggest that profession-specific knowledge (such as awareness of the osteopathic philosophies), create a foundation unique to each practitioner as pre-existing philosophies and knowledge, new knowledge, beliefs, values and attitudes are merged. This may create a group of personal philosophies, which could influence technique choices.

Therefore, clinical problem solving, including technique choice, has been shown by the participants to be influenced by a practitioner’s personal philosophies. A personal philosophy, as interpreted from the interview transcripts, is taken to mean the knowledge and teachings that have been instilled in each individual practitioner. Nelly states:

\[
\text{But I’m also thinking, well I’m not thinking it’s actually intrinsic to what I do, is the basic osteopathic principles. The body is a unit. Structure and function. The rule of the artery… And I’ve also branded an osteopathic principle of my own! ‘Drain it, feed it!’}\]

(p. 2) – Nelly –

In describing her osteopathic principles as being ‘intrinsic’ to what she does, Nelly clearly demonstrates that a strong factor in a practitioner-led decision is the personal philosophies that may help define each osteopath.

Nelly continues to say:

\[
\text{Every single patient I treat, I use some form of soft tissue [technique]. You can’t articulate a joint without doing some deep soft tissue. By default you’re doing that as well. Because it’s part of draining it and feeding it. (p. 15) – Nelly –}\]

Therefore, Nelly’s philosophy underpins her explanation of what she wants to achieve, leading to the selection of a favoured technique that is used on every single patient she sees. Kate also mentions this selection of a favoured technique, based on personal philosophies:
In most cases, I would probably use an indirect [technique] first. Because, that’s not so much of a shock to the system. So we’re going in slowly. (p. 4) – Kate –

These two practitioners both demonstrate the use of a personal-philosophy, allowing for a practitioner-based decision. Nelly treats to her philosophy of ‘draining and feeding’ the body tissues, while Kate wishes to approach her patient’s body slowly, using techniques that will not cause ‘much of a shock’ to their system. These practitioner’s personal philosophies have led to the adoption of favoured techniques that best represent and support these individualised ideals.

Education has the potential to greatly influence the personal philosophies that may influence each practitioner during their osteopathic practice. For example, at the British School of Osteopathy (BSO), one of the main ideals taught, relating to the application of an osteopathic technique is that minimal force, combined with maximal specificity should be used to achieve osteopathic change (Hartman, 2001). Ideals regarding what is taught at the BSO particularly, are mentioned here as this was the place some of the participants received their osteopathic education. One of these participants is Dave, who explains in his way, this educational influence on one’s personal philosophies:

The approach that I feel that I left the BSO with was that the body was able to unwind itself, given the right environment and instructions… So the idea is subtly getting into a joint to find the appropriate lever that allows the joint to go, ‘whew!’ underneath your hand, that is the ideal. That is what we’re all aiming for… What you’re aiming to do is to try to find the appropriate combination of levers to allow things to fall apart, at that barrier point. And again, it’s using the body’s natural ability to correct itself, rather than trying to impose yourself on it.” (p. 7) – Dave –

Here, Dave suggests that his personal philosophy has influenced his belief that ‘the body can unwind itself’. The most appropriate technique is one considered by Dave to be capable of allowing “things to fall apart, at that barrier point” (p. 7). At the moment of ‘falling apart’, Dave has enabled the dysfunctioning tissue to become
functional once again due to the application of his chosen technique. Thus, Dave demonstrates that allowing personal philosophies to influence decision-making may lead to an efficacious technique choice.

A personal philosophy may be a reason for choosing a technique, or it can be the reason to avoid a technique. John explains this in giving his reasons why he believes HVLA is an “unsuccessful long-term technique” (p. 8), therefore unworthy of use:

I would possibly have done one or two HVLA in the last two or three years. Simply because it won’t take a minute, ‘sorry about that’, I say to the patient… But when you come back next week, you’ve probably got it locked up again. Therefore it’s an unsuccessful long-term technique… Because why is the joint locking up when you’ve freed it? But that’s from my point of view. Because I’m seeking to correct the body because that’s what osteopathy, in my opinion, is all about. To achieve a whole body balance. So all the structures of the body, whatever they may be, all function in harmony, coherently, and the person feels well. (p. 8) – John –

This statement demonstrates that in John’s experience, the use of an HVLA technique on a patient will not bring about the long-lasting results he is seeking. His personal philosophy of achieving ‘a whole body balance’ prevents him from applying a technique that is widely used by the majority of the practitioners interviewed in this study and osteopathic practitioners in general. The very fact that John does not choose to use the popular HVLA technique demonstrates the strength with which an individual’s philosophies may influence decision-making.

Technique choice based on the practitioner’s goals

Another way in which the practitioner may lead the decision-making process was demonstrated in this study to be technique choice that is influenced by the practitioner’s goals, or their ideals relating to what needs to be done. Technique choice is then made, so that these goals may be achieved. Setting of these goals may be described as a result of each practitioner’s unique assessment of their patient,
combined with their personal preferences regarding osteopathic treatment. Becky explains:

[MET] is not my first choice really. So I’ll do an HVLA and then I’ll do some soft tissue, rather than doing MET and that not quite getting it as good as I want it and then having to do something else. So it’s time driven. Because people don’t come in with one thing. They come in with a list of things… [my aim is to] make a change today, to the bit that’s sore. (p. 13,14) – Becky –

Becky’s personal goal, which she is striving towards during each patient’s treatment, is to “make a change today, to the bit that’s sore” (p. 14). With this parameter consciously in place, Becky feels she has no time to waste on techniques that are not going to help her to achieve this goal quickly. Treating according to this personal goal allows Becky to get as much achieved as she can, within the time constraints that exist for each treatment.

Robert also considers time constraints to be a factor when choosing a technique in his busy practice: “I’m very busy in my practice, and I can’t see people for repeat visits for a long time… So I do as much as I can in one visit to get them fully stable.” (p. 4). He illustrates that he has a similar goal to Becky. He aims to get as much done as he can in one visit, so that his patients leave ‘fully stable’. Therefore, a personal goal is to choose techniques that achieve the desired result in the shortest possible time, so he may maximise the limited time he has with each patient.

Another practitioner goal mentioned was to take advantage of the patient’s position on the table. By doing this, the practitioner is saving time, as well as saving their patient from any extra discomfort. In some cases, the changing of the patient’s position on the table can cause the patient pain. Kate says:

… another thing I would probably consider would be just using the position I have them on, on the table. I don’t want to be moving a patient around too much. (p. 9) – Kate –

Nelly shares Kate’s goal of not moving a patient too often. She explains, “You do as much as you can while you’ve got the patient in that position”. (p. 17). It may be suggested that the setting of this goal may also be in part due to time constraints, by
avoiding many changes of their patients position on the table, the practitioner may maximise the treatment time available to them.

**Technique choice based on the practitioner’s morphology**

The physical shape, size and strength of a practitioner may also be a factor in technique choice, due to the physical nature of the job of the osteopath. This means that for some practitioners, certain techniques are simply impossible to perform without putting the practitioner, or the patient, in danger of injury. The practitioner’s morphology may directly influence technique choice. However, as the following participants go on to explain, size need not always be a hindrance. Becky states:

> I’m not particularly big, so if the patient is huge I’m just going to bounce off a thoracic vertebrae. So I might put them prone and toggle it… And then I would get more of a sense of what’s going on, because sometimes I can’t physically reach around them. For me, that’s another driving force of how I choose, what I choose to do. You know, can I physically do it? But you can always make a change. (p. 9) – Becky –

In order for Becky to ‘make a change’, she must be able to adapt, or change, her techniques to accommodate both her own, and her patient’s morphology.

Another factor found relating to a practitioner’s morphology, which may lead an osteopath to adjust their technique, is the awareness of self-preservation. Dave explains:

> If someone’s very big, then certain techniques may be more appropriate. [I’ll be thinking about] doing things that use [the patient’s] body strength to help them. Because I’m a smaller person, and if they’re bigger than me, then I’ll try to utilize their body strength and their weight and so on, rather than trying to push myself so much. (p. 1) – Dave –

By adjusting his technique, Dave may treat patients who would have otherwise proved difficult to treat, with more ease. By adopting this rule, Dave is conscious not
to physically push himself too far. Instead he will choose techniques that can allow the patient’s ‘body strength and weight’ to assist him in his treatment. Thus, the practitioner may also be guided towards technique choice in relation to their own morphological characteristics.

Each practitioner has a different collection of life experiences, philosophies, goals, values, attitudes and physical features, which define them as an individual. As a result of this, an osteopath may choose their technique due to a factor that is the result of their individuality. Some of these factors have been presented in this section: technique choice due to the practitioner’s personal philosophies, technique choice due to the practitioner’s goals and what must be done and technique choice due to the practitioner’s morphology. Up to this point, technique choice has been demonstrated to be due to either patient, or practitioner-led factors. In the next section, factors influencing technique choices that are ‘outcome-based’, due to the use of a practitioner’s experientially compiled repertoire, are presented.

**Technique choice according to an outcome-based decision**

Technique choice that is ‘outcome-based’ is so, if the reason behind its selection is due to the osteopath’s expectation of its therapeutic outcome. Through experience, each osteopath compiles a list of tried-and-tested techniques, consciously or unconsciously. Dave says: “HVLA is definitely a big part of my repertoire.” (p. 15). Therefore, if the participants are faced with the same or similar presentation repeatedly, their experience may enable them to choose a technique from their own personal ‘repertoire’, according to its therapeutic outcome.

The collation of this technique repertoire is made possible because of many different factors, with experience as an over-arching theme. Previous experience was shown to equip participants with an understanding of knowing the best steps, or sequences of steps to take, which will ultimately end with the most efficient resolution of the patient’s presenting complaint. John uses a particular technique because, “… that is the last technique I would use on a person and it is called tidying up.” (p. 4). Just as a
personalised list of techniques is compiled, a list of techniques that an osteopath would choose not to use is generated. In this study, it was observed that experience could inform the participant’s physiological knowledge of body tissues. This enabled the practitioners to experiment with new techniques, or apply newly learned techniques, so that their personal technique ‘repertoire’ may then be added to.

Knowing the steps

Previous osteopathic experience was shown to provide the participants with an expectation of the therapeutic outcome that may be obtained following the application of appropriate techniques. Nelly explains that application of a SCS technique to an acute shoulder injury can result in a reduction of inflammatory pain:

> And I think it’s beneficial to put the patient into a position of ease.  
> Because people don’t like to hurt! And then you’re changing the sensory feedback, and raising the pain threshold a bit too hopefully.”

(p. 9) – Nelly –

Therefore, the theoretical knowledge that the outcome of a SCS technique could promote healing to this particular tissue injury, has led Nelly to choose this technique. Her knowledge of inflammation and its progression from injury to healing, may help her with her consideration of how certain osteopathic techniques may have a therapeutic effect on an acute presentation.

The formation of a treatment plan was another factor guiding technique choice that was mentioned by the majority of the participants in this study. Parsons and Marcer (2008) suggest that a treatment plan must have both long and short-term goals, and may enable the osteopath to also make a prognosis about the patients’ presenting complaint. In order to implement a successful treatment plan, the practitioner must have a clear understanding of the tissue causing symptoms, and of the diagnosis. Once this has been ascertained, this understanding may influence the practitioner to recall other patients they have treated who were in a similar condition, and the therapeutic outcomes their treatment plan achieved. For Becky, the application of a soft tissue technique will fit at the beginning of her treatment plan, with most of her patients. Her reasoning for this is:
The main time I [would use a soft tissue technique] would be, first off, and I use it a little bit diagnostically. It’s kind of just assessing tissues and that. See if things are going to release or not. If things are going to release, great, let’s release it! (p. 2) – Becky –

Becky’s experience has led her to realise that the application of a soft tissue technique as a starting procedure creates a beneficial therapeutic outcome – the ‘releasing’ of tissues. Furthermore, the placement of this technique at the beginning of her treatment plan allows some guidance for the remainder of her treatment.

The selection of a technique according to its ‘finishing’ qualities, as Dave explains below, was also often mentioned in this study. A technique was chosen for this purpose if its outcome would be the resolution of the patient’s presenting complaint. Based on this experiential knowledge, the inclusion of this technique in a treatment plan would be as the final technique used. When asked why he might include a specific direct technique, applied to a patient’s thoracic diaphragm, John states: “Because that is the last technique I would use on a person and it’s called tidying up.” (p. 4). Similarly, Dave mentioned that he might choose a technique because it would help to achieve the therapeutic outcome he wanted, at the end of a treatment, or course of treatments. He explains in which situation he may be likely to select an indirect technique:

It can also be a finishing off thing, for me. So, you know, at the end of a course of treatments, perhaps when you have got the patient coming back and they say, ‘Look, I feel nine out of ten, it’s been going great, it’s been a good week’. Then I would use more positional release, perhaps functional approaches... But I don’t want to unsettle the whole thing, by stirring up the muscle tone with soft tissue work, or something stronger with a MET or whatever… I just want it to be happy and quiet, in that order (p. 4) – Dave –

Therefore, Dave’s experience determines the inclusion of a technique within his treatment plan, based on the specific outcome of the technique. At the end of his treatment plan he is looking to include techniques which fit with his ‘finishing off”
plan and any technique known to him that will ‘unsettle the whole thing’ will be avoided here.

The selection of a technique due to an awareness of ‘knowing the steps’ may also be based on knowledge of what not to do. With this knowledge, correct technique choice means the practitioner may create a positive, homeostatic change - instead of an adverse treatment reaction in their patient. Certain patient presentations may require the awareness that this is a delicate situation, that must be dealt with in a manner that causes no harm. Becky explains what she would do if faced with such a situation; for her this may include a very stressed, or what she describes as a ‘sympathetically driven patient’:

*Soft tissue [technique] is generally not going to help. It’s going to inflame things more and make it uncomfortable. So a very well executed HVLA; or a BLT; de-facilitation kind of stuff.*

(p. 3) – Becky

So, in order to not have a negative effect Becky chooses a technique that may achieve de-facilitation and then tissue healing. Knowledge of possible adverse effects is the outcome-based factor driving technique choice that Becky demonstrates here by excluding soft tissue technique from her treatment plan.

Knowledge of human physiology creates confidence for technique experimentation

Knowledge of the physiological behaviour of the human body in response to a selected technique has been demonstrated to influence outcome-based technique choice. Robert states:

*[I use a direct approach the] on pelvis, rotator cuff fascia – I use indirect then direct on those. Cause they don’t fully release otherwise.*

(p. 2) – Robert

---

5 Parsons and Marcer (2008) explain that the sympathetic nervous system is the portion of the autonomic nervous system which “essentially prepares the body for flight” (p. 108), therefore a ‘sympathetically driven patient’ could be described as one who in a high state of stress, alertness, activity or performance; one who seems to be constantly in a state of rushing or extreme activity.
This knowledge does not just help an osteopath determine which technique will be most suitable in certain situations, it also helps to generate confidence within the practitioner. Dave summarises: “And I think when you’ve had a few miracle cures that helps the whole thing!” (p. 22).

For John, his osteopathic experience has taught him the importance of directing a technique at a specific structure, which is the fascia. This is because in his experience, techniques aimed at correcting the fascia, will result in a state of homeostasis – the ‘correction of the structure or dysfunction’, in his patients. He vehemently expresses the importance of aiming treatment at the patient’s facial system in the following statement:

The focus of me trying to correct [the structure or dysfunction] would be on the fascia… As the fascia assumes its normal tension and direction and correct directions of tension it would pull all those other structures into line and it does. It’s much stronger than any muscle or any ligament. Much stronger. (p. 6) – John – (emphasis added)

John’s experience has led to an expectation of the therapeutic outcome from the techniques he selects. This in turn, leads to increased confidence in his own ability to produce this positive therapeutic outcome in his patients. Increasing experience thus leads to increasing confidence and this confidence may then lead to technique experimentation. Nelly summarises:

“When you’re training, you learn specific ways of articulating specific parts. But when you’re in practice it’s amazing how much you make up as you go along.” (p. 19) – Nelly –

When asked why she was able to make up techniques now, and not when she was training, she answered, “Oh, I think you develop the confidence.” (p. 19).

Confidence in her own abilities as an osteopath has led Nelly to start experimenting with creating new techniques that will bring about her desired outcome. In this way, confidence allows the practitioners to trust themselves to create a safe, effective new technique. To create a balanced view of the effect of confidence on outcome-based technique choice, the opposite situation is presented here: a lack of confidence
pertaining to the outcome of certain osteopathic techniques, based on a self-evaluation of skill level. Becky explains:

*I do use [visceral technique], probably not as much as if I was French and I had trained at the European School of Osteopathy, but yeah, it is a technique that I incorporate… But I could probably be better at it, I could do some courses on it for sure.*

(p. 10) – Becky –

As Becky shows, a lack of confidence in one’s own skills may lead to the exclusion of a technique, even as confidence in one’s skills may provide a stimulus for experimentation with new techniques.

Experimentation with new and different techniques may also cause a practitioner to discard certain techniques, and refine their repertoire, as John demonstrates:

*The reason why I discard techniques and seek new ones is when I come across problems I couldn’t fix using those techniques. It wasn’t done lightly; the transitions from favouring a technique style to another might take a period of weeks, months or years. But that has been the motivating factor; there is something wrong here and all the techniques I’ve got won’t fix the problem. And we know or we have checked, there is no pathology… And you invent new techniques… you’ve really just got to go left field and cast around.*

(p. 6) – John –

Therefore, experimentation with new techniques may be due to experience-based confidence in one’s own abilities, as John demonstrates. In saying, “all the techniques I’ve got won’t fix the problem” (p. 6), John indicates that the reason his patient is not displaying the outcome he is striving for is due not to his lack of osteopathic ability to create change. Instead, his experience tells him that his inability to encourage healing and health in his patient is due to application of an unsuitable technique. This understanding then motivates John to ‘go left-field and cast around’ (p. 6), or to begin to experiment with and invent new techniques. This experimentation can then result in the invention of new techniques that enable the practitioner to achieve their desired outcome.
As this section has demonstrated, practitioners interviewed in this study demonstrate the existence of a personal technique repertoire. This means they may then choose a technique relative to the therapeutic outcome they know it will achieve. A technique chosen according to these outcome-based factors can be due to the osteopath knowing the right sequence of steps needed to be taken to achieve their desired outcome; demonstrating technique choice due to the practitioner’s adherence to their treatment plan. The participants of this study who choose a technique relative to the outcome they want to achieve also demonstrate confidence in their ability to affect change. This confidence may be due to their experience, which has given them an understanding of the physiological behaviour of the human body in response to certain techniques. Confidence in one’s own abilities can therefore prompt the osteopath to experiment with new techniques, so that their desired therapeutic outcome may be exhibited in their patient.
Summary

This chapter outlines the findings of this study into the factors that influence the osteopath during the process of technique choice. Interviews were conducted with three female and three male osteopaths who had varying experience as a practicing osteopath. The transcript data was analysed with the use of the interpretive description methodology leading to the emergence of three main themes, each supported by factors that influence technique choice. Interpretive description was used in an attempt to provide a “coherent conceptual description” of the themes which characterise the phenomena of a study (Thorne et al., 2004), in this case that of factors influencing technique choice.

The three themes that emerged in this research relate to factors that may influence technique choice. It is therefore proposed, that osteopathic technique choice is due to combinations of: patient-driven factors, practitioner-driven factors and outcome-driven factors.

Patient-driven factors leading to technique choice are the result of the practitioner interpreting signs and symptoms displayed by their patient and the patient’s description of what is wrong, into the technique choice that will most benefit each patient, in each situation. The findings of this study showed ways in which an osteopath may accomplish this patient-driven technique choice. Tools they may use include: the use of a physical examination, the use of their own palpatory skills, which may allow guidance by their patient’s body, the simple act of listening to the patient voice and an evaluation of the patient as a whole, that leads to the selection of the most appropriate technique. A practitioner’s intuition may also assist in allowing these patient-based factors influence choice.

Practitioner-driven factors pertain to the influence the practitioner has on decision-making, when determining which technique to use. This is based on findings from this study that demonstrate instances in which a technique is chosen due to factors which exist within the practitioner’s individuality. Therefore, a practitioner-based technique choice may be influenced by: each practitioner’s personal philosophies, goals set that determine what they want to achieve, as well as their own morphology.
Outcome-based factors may also influence osteopathic technique choice. An outcome-based choice reflects the practitioner’s personal experience. This may be because a decision to use a technique according to the therapeutic outcome it will produce, can only be made if this experiential knowledge exists. The findings of this study demonstrate that this knowledge allows each practitioner to create a repertoire of techniques, based on their knowledge of its therapeutic outcome, from which they may select a technique. A technique choice was shown to be outcome-based if it were due to the practitioner knowing the steps they must take to achieve their desired outcome, or the practitioner’s knowledge of the physiological behaviour of body tissues. This knowledge also gave confidence that could lead to technique experimentation, which may allow new techniques to be added to a practitioner’s repertoire.

In the following chapter, the findings that have been outlined in this section are discussed with reference to relevant literature. As the topic of osteopathic technique choice is one that is under-researched, treatment choices and decision-making amongst other health professionals, is also explored.
Chapter 5

**DISCUSSION & CONCLUSION**

**Introduction**

This chapter presents a discussion of the findings of this research into factors which are influential during osteopathic technique choice. A comparison is made with osteopathic literature when possible. However, due to the current limitations of osteopathic research, the discussion of themes that emerged from this study is strengthened by research from the fields of nursing and general medicine. Also included in this chapter are sections on the limitations of this study, implications and recommendations that have arisen from this research for the osteopathic profession, and areas pertaining to this topic which warrant further research. This chapter closes with the researcher’s concluding thoughts regarding this research study.

**Review of findings**

The findings of this study have begun to demonstrate factors that are inherent within the topic of osteopathic technique choice. Following the interpretive, thematic transcript analysis of the interviews, three main themes regarding technique choice were discovered. These themes represent that osteopathic technique choice may be attributed to either patient-based factors, practitioner-based factors or outcome-based factors (as described in chapter 4). The lack of relevant osteopathic literature meant that research regarding decision-making and treatment choice amongst osteopaths and other health professionals was gathered. This research regarding clinical decision-making demonstrated relevance to the topic of osteopathic technique choice, as much
of this research material reflected the findings of this study, or served to clarify some of the findings of this study. Bauchner et al. (2001) suggests that one way in which clinical outcomes are reached involves the health professional using a model of clinical decision-making to assist them in their choices. Benefits of the application of a clinical decision-making model may allow the practitioner to make safe and effective decisions regarding treatment outcomes, as they gain an understanding of the factors influencing each decision. A model of clinical decision making is suggested by Bauchner et al. (2001, p. 459), and is presented in Figure 2.

![Figure 2: Model of clinical decision making](image)

This model demonstrates three factors which may influence decision-making: “physician knowledge and characteristics”, “patient characteristics and values” and “external clinical evidence” [of the predicted outcome, of the considered decision]. The model depicted here was discovered near the end of this research process and may serve to strengthen the findings of this study. This is because the factors stated by Bauchner et al. (2001), in the model offered, may be almost directly compared to the three thematic findings that were the result of this research. “Patient characteristics and values” may be likened to ‘technique choice according to a patient-based decision’; “physician knowledge and characteristics” may be likened to ‘technique choice according to a practitioner-based decision’; and “external clinical evidence” may be likened to ‘technique choice according to an outcome-based decision’.
Bauchner et al. (2001) also argues that each clinical decision is made within the realm of social norms and this is an overarching theme, present in the every decision-making process, as demonstrated in the figure above. This is because most social norms are intrinsic to the consciousness of an individual, meaning that they are usually not reflected on during decision-making (Bauchner et al., 2001). A further discussion of the thematic findings of this study, whilst comparing and contrasting them to the relevant literature is thus presented in this chapter.

**The osteopath’s journey from novice to expert and the integration of intuition**

From the outset, one of the most represented or clearest themes to be drawn from the findings of this study was the role that intuition played in osteopathic technique choice. Each participant in this study directly stated that they used their intuition during technique choice. Many also many indirectly expressed this with the same sentiment of ‘letting the patient guide’. Kate expresses this by saying:

*… Because that’s what it felt like it needed. (p. 10) – Kate – (emphasis added)*

Her description of how patient-based palpatory, verbal and visual cues led to a technique choice, could have intuitive elements, due to the many factors present and the speed with which this decision must be made (Lamond & Thompson, 2000).

Intuition has been defined in the literature numerous times by many different authors. Intuition may be described as “knowing without rationale” (Benner & Tanner, 1987, p. 23), or as “a complex set of inter-related cognitive, affective and somatic processes, in which there is no apparent intrusion of deliberate, rational thought” (Hodgkinson, Langan-Fox, & Sadler-Smith, 2008, p. 4). “Vague hunches” and “gut feelings” also represent aspects of intuition (Blum, 2010). Rew (2000) describes intuitive judgement (or intuitive decision-making) as “the decision to act on a certain awareness of knowledge, that is related to previous experience, perceived as a whole and difficult to articulate” (p. 95).
Philosopher Hubert Dreyfus, and mathematician Stephen Dreyfus determined that intuition may be used in decision-making and skill acquisition only by the expert (Dreyfus & Dreyfus, 1986). Patricia Benner has expanded on the Dreyfus theory of the five stages of learning and applied it to the clinical practitioner, as outlined in her book, *From novice to expert: Excellence and power in clinical nursing practice*. Here she proposes and explains the phenomenon of ‘novice to expert’: The progression of a novice student who can make only context-free decisions based upon measurable outcomes, to the expert practitioner who may make their decisions based on an intuitive impression of their patient’s entire situation (Benner, 1984). The expert practitioner, due to the use of their intuition in their clinical decision-making, can thus have difficulty articulating exactly what has prompted them to make the decisions they have made (Benner, 1984; Claxton, 1998). Kate says:

*I think [this] is probably why I'm struggling with a couple of the questions, because it makes you realize how much of your intuition that you are using.* (p. 9) – Kate –

Kate’s statement brings to light the use of intuition, which may assist her with some clinical decisions she makes, including those of technique choice. Ericsson states that an expert is an individual with 10,000 hours, or 10 years of full-time experience in their specific discipline (2004, 2008). Benner (1984) states that once a health professional has reached the stage of an expert practitioner, they may use their intuition in the clinical setting.

Benner (1984) suggests that an expert nurse may make decisions based on their level of skill, understanding, feeling or intuition, by making the statement that a clinical decision was made because “it felt right” (p. 32). This sentiment was also expressed by many participants, as the reason a particular technique was chosen, which may suggest ‘expert’ status. However, a novice may also make such claims. Therefore, if a practitioner justifies their actions because “it felt right”, such justification would be supportable only if they possess the level of experience that also defines an expert. Application of Benner’s (1984) novice to expert theory to osteopathy has not been made in the literature, so the point at which an osteopath reaches the stage of the ‘expert’ and is thus able to use their intuition is not established. However, Becky is
one participant who illustrates Benner’s progressive stages, of integrating intuition into clinical decisions:

… [technique choice] is a bit intuitive, but … you need somewhere to start. You don’t really develop that intuition for a couple of years. (p. 10) – Becky –

This statement illustrates that intuition is built upon, developed and learnt due to increasing experience that simply does not exist in the novice practitioner. The experiential knowledge a practitioner has gained may lead to their use of intuition when making decisions (Zander, 2007). Benner (1984) and Hodgkinson et al. (2008) suggest that the intuition which is developed allows the user to intuit only in the particular domain in which the experiential knowledge is gathered from.

The most accessible research on the role of intuition in clinical decision-making has been made in the field of nursing, where the use of intuition is recognised as an important component of a decision-making process (Thompson, 1999) and even as the defining factor of an ‘expert’ nurse (Benner, 1984). Studies have found that the use of a nurse’s intuition in decision making can result in effective solutions, especially amongst the nurse in the intensive care unit (Arries, Botes, & Nel, 2001) and the nurse with advanced technical skills (Hams, 2000). It is widely believed that an expert nurse may make an intuitive decision only because such intuitive feelings are rooted in each practitioner’s extensive memory bank of past experiences and learning (Banning, 2007; Hams, 2000). Dave also demonstrates this, saying: “And [these intuitive decisions] are based on your own experiences, personality” (p. 23).

Hams (2000) and A. Smith (2007) both report on a common scenario, which sees nurses finding efficient solutions through the use of their intuition, is when they ‘sense’ that something about their patient is not right, there has been a change towards deterioration or instability. Studies of doctors and decision making also mention this ‘sense’, of alarm, or unease. If this is felt by the doctor it can cause them to re-assess their working hypotheses and stimulate further investigations, sometimes even before the machines being used have recognised anything is wrong with the patient (Stolper, van Bokhoven et al., 2009; Stolper, Van Royen et al., 2009).

Even though recent times have seen advances in our understanding of the role of intuition in decision-making, accurate measures by which to measure intuition are still
lacking, as is research which conclusively shows that intuitive thoughts or decisions are consistently correct and can be trusted in the clinical setting (Arries et al., 2001; Hodgkinson et al., 2008; Lamond & Thompson, 2000; McKinnon, 2005). As the findings of this study illustrate, osteopaths may use their intuition to assist them in their decision-making, even though the reasoning behind its use cannot always be explained. In response to my question: ‘Where do your intuitive thoughts come from’, Becky answered: “I don’t know, it just does.” (p. 6).

Nevertheless, not all nurses agree on the use of intuition in decision-making. Many nurses do not feel confident using their intuition in the critical care setting. This means that even though intuition is widely discussed by nurses, a recognition of the legitimacy of using intuition to assist clinical decision-making has not been achieved – some even question the existence of this clinical intuition (Hams, 2000; Lamond & Thompson, 2000; Lyneham, Parkinson, & Denholm, 2008).

The role of intuition in clinical decision-making, of which technique choice is a subset, is therefore a debatable one. Amongst health professionals, a reliance on measurable, objective, evidence-based factors regarding a patient and their presenting complaint, has provided the information upon which decisions are made (Hams, 2000; Lamond & Thompson, 2000). This distrust of intuition may be because of the negative light with which intuition has been perceived, that of telepathy, premonition, unbridled subjectivity and mysticism (Claxton, 1998). Recent studies are beginning to provide more conclusive evidence on the nature and function of intuition and its role in decision making (Hodgkinson et al., 2008) – including technique choice. The results of these studies may enable the clinician to have greater confidence trusting, and thus using their intuition to assist in clinical decision-making. Emergent studies on the role of certain structures in the brain during intuitive thought processes may also help deepen our understanding of this phenomenon (Damasio, Damasio, & Christen, 1996; Hodgkinson et al., 2008; Lieberman, Jarcho, & Satpute, 2004; McKinnon, 2005).

Benner suggests that in order to allow our experts to impart their intuitive knowledge, which to them has become almost unconscious, practitioners may document their journey from novice to expert, outlining each influential experience (Benner, 1984). Therefore the reflective practitioner may look back over these experiences in an
attempt to help explain the origins of their intuitive thoughts or actions, in this way validating to themselves and others the use of their intuition in clinical decision-making (Arries et al., 2001).

Practitioner individuality and osteopathic ‘balance’

Each individual will show personal preferences when perceiving information and making judgements about the situation they are in, as each individual’s personality will determine their individualised decisions, based on their interests, values, needs and motivations (Chan, Othman, & Joned, 2011; d'Anjou, 2011; Sefcik, Prerost, & Arbet, 2009). Regarding osteopathic technique choice, Stone suggests: “It takes an individual to treat another person individually” (Stone, 1999, p. vii). Regarding how the nature of an individual may affect their own decision making, Forsyth (1992) proposes an individual decision may also be influenced by their own personal moral philosophies, an integrated conceptual system reflecting their moral beliefs, attitudes and values. The phenomenon of individuality affecting technique choice was seen in this study of osteopathic technique choice. Descriptions of why techniques were chosen often included a summary of the practitioner’s personal driving osteopathic philosophy, their motivating factors or what they wanted to achieve.

A number of participants demonstrated their individuality within their technique choices; as they would choose techniques that best suit their morphology, or their own interpretation of how best to achieve the four main osteopathic principles or philosophies (outlined in Literature Review). This phenomenon of participants’ individuality affecting their decision-making may demonstrate that personal philosophies have a way of shaping technique choice.

Johnson and Kurtz (2003) carried out a study on the technique choices of American osteopaths, which was partly responsible for the formation of this research question. They, and other authors, concluded that technique choice could be due to individual features such as gender, age and experience as an osteopath, when taking into consideration the choice of a direct or an indirect technique (Fryer et al., 2009;
Johnson & Kurtz, 2003). The results of these studies of osteopathic technique choice show that older, more experienced and mostly female osteopaths prefer indirect techniques, and less experienced and generally male osteopaths prefer direct techniques (Fryer et al., 2009; Johnson & Kurtz, 2003). Influences from the results of these studies are the reason that practitioners were asked to outline situations, which might lead them to select both direct, and indirect techniques. However such a reliance on whether or not to choose an indirect or a direct technique did not seem to exist amongst the osteopaths interviewed. At one point, Dave even went as far as to suggest:

\[\text{[that due to that] intuitive thing about technique [you could just take out] all these subdivisions of technique and just call it osteopathy.} \text{ (p. 23) – Dave –}\]

As the study progressed, it became increasingly obvious that among the participants, the differentiation between choices of an indirect or direct technique was not always an important factor. This meant that the emphasis placed on the choice of either an indirect or direct technique was reduced (this pre-study bias is discussed in chapter 3).

As osteopathic technique choice is an under-researched topic, the subject of specialisation amongst other health professionals is now presented, in order to help explain this subtheme of ‘individuality’. The reasoning behind specialty choice may be seen as an individualised choice amongst general practitioners, as the following section attempts to demonstrate. Each practitioner may choose their speciality based on their own desires, goals, philosophies, personality and lifestyle factors. Studies of the specialty choice of residents in specialty programmes in the UK, Canada and Switzerland show that lifestyle factors, personal preference for the specialty and intellectual stimulation all play a major part in affecting specialty choice (Baerlocher, 2006; Dunkley, Filer, Speden, Bax, & Crisp, 2008; van der Horst, Siegrist, Orlow, & Giger, 2010). The influence of gender was also a predominating factor in specialty choice, as women were found more likely than men to choose their speciality based on work and time related aspects (Baerlocher, 2006; van der Horst et al., 2010). Similar to the individualised choice among medical doctors when choosing a specialty, are the individualised factors which may influence technique choice, as observed in the present study. Therefore, features that were shown to affect both the
participants of the current study and those of the reviewed studies on specialty choice are personal preference, and individualised values and needs (such as lifestyle factors and/or academic stimulation). Both factors may influence a practitioner’s personal moral philosophies and therefore, the choices which are made (Chan et al., 2011; Forsyth, 1992).

Research also demonstrates that individual experiences which occur early on in the medical education, of a certain specialty, can play an important role in their eventual specialty choice (McCann, Clark, & Lu, 2010; van der Horst et al., 2010). Therefore, personal experience is shown to have a strong influence over individual choices. However, these experientially-driven preferences which are made early on in an individual’s education have been shown to change, meaning the individual is susceptible to external influences which may result in a swaying of the practitioner’s choice (Dunkley et al., 2008; McCann et al., 2010; van der Horst et al., 2010). These findings are mirrored by the findings of a UK study of rheumatologists, as two of the four most important factors influencing choice were previous (under-graduate) experience in rheumatology and the meeting of inspirational consultants (Dunkley et al., 2008). The major influence education has been shown to have on an individual’s eventual specialty choice (McCann et al., 2010) suggests that continued emphasis should be placed on the resource of inspirational consultants and senior doctors, and the “powerful influence” they have on junior doctors (Dunkley et al., 2008).

By acknowledging the importance of education on individualised specialty choice, the research reviewed above can be directly related to the some of the factors this study has highlighted, which can influence an osteopath towards making a technique choice. John demonstrates the influence an educator may have on the practice of osteopathy and technique choice. A comment from one of his educators pertaining to a technique so perfectly suited that it could ‘reset’ the body, became his motivation to strive to find the same thing.

Because what he was after was somebody that could reset the body, because that’s what he was chasing. So that was my stimulus to find a vehicle within the body whereby in a relatively short treatment session you could reset the body. (p. 11) – John –
As this study has uncovered, osteopathic technique choice decisions seem to fall into three main themes, these are patient-based, practitioner-based or outcome-based factors, even though no firm conclusions can be taken from a study conducted with such a small number of participants. It could be suggested that the way each practitioner makes their technique choices could be described as an expression of their individuality. When comparing the basis for technique choice between participants in this study, the more experienced osteopaths showed that their choices were relatively ‘balanced’ between these apparent themes of patient, practitioner and outcome-based factors. However, the participants with less experience (five years or less practising as an osteopath) showed only a lesser demonstration of this choice-related ‘balance’ in this study. Two of them showed a definite preference in their choices with one making mainly patient-based and the other mainly practitioner-based technique choices. In the study conducted by Chaffey, Unsworth & Fossey (2010) on the opinions of occupational therapists of the use and understanding of intuition in mental health practice, a similar balance was suggested. Many participants in their study suggested that a balance was needed between evidence-based practice, intuition and analysis, as “too much reliance on intuition led to a lack of credibility and unfounded practice, whereas too much reliance on evidence led to rigidity of practice” (Chaffey et al., 2010, p. 303), meaning that individual patients would not be treated as individuals.

If a less-experienced practitioner wanted to ensure that they, too, made ‘balanced’ osteopathic decisions regarding technique choice, they could make a habit of being a reflective practitioner (Benner, 1984). By reflecting on the factors guiding their technique choices and using their knowledge of factors that have influenced their choices, and keeping a diligent written account of this, the most influential factor (or factors) influencing their decision-making may become apparent.
Personal reflection on osteopathic technique choice

Osteopathic technique choice as a research topic is under-researched in the literature. In addition, standard measures with which osteopathic practitioners may judge the efficacy of their decisions regarding technique choice, are also under-researched. However, through personal reflection on treatments applied and outcomes observed, an osteopath may be able to subjectively judge the efficacy of their treatment decisions. The extent to which osteopaths employ this practice of reflection has also not been considered in the literature. Osteopathy could then borrow from nursing knowledge, as much literature exists in the nursing arena on reflection of professional development.

In the field of nursing, the attainment of expertise and a measure of professional development may be achieved by the Clinical Ladder Program (CLP) (Burket, Greider, & Rohrer, 2010; Scherb et al., 2011). The clinical narrative is a fundamental part of the CLP, which may encourage the nurse to be a reflective practitioner, as their specific knowledge and understanding is documented and can then be evaluated. Each nurse’s strengths and weakness may then be visible. Benefits of advancement in the CLP include increased accountability, further integration of nursing systems or processes and enhanced decision-making skills (Burket et al., 2010; Drenkard & Swartwout, 2005). All of these outcomes can only serve to increase the credibility of the nurse and the decisions they make. This is one way that reflection on practice has been integrated into nursing practice and decision-making. If osteopathy were to embrace the practice of documented reflection of our clinical experiences, in the same way encouraged of nurses, clinical decision-making regarding technique choice could be better understood. Documented reflection on osteopathic practice by practitioners would enable them to explain the factors that influence their technique choices, thus justifying decisions made, relating to the choice of each patient’s treatment.

The lack of research regarding osteopathic technique choice and reflection on clinical decision-making may need to be addressed, especially in the increasingly evidence-based world we live in, that requires health professionals to be able to explain the clinical reasoning processes behind their decision making (Thomson et al., 2011). In order to be able to explain our clinical reasoning processes the factors that influence choice must be understood. Jones (1992) suggests that teaching students to use
reflexion and to be “taught to think and think about their thinking” (p. 50), may also increase awareness and promote integration of new and existing knowledge.

Findings of this study may offer a starting point for this exploration into factors that influence technique choice, as technique choice has been shown to be influenced by patient-based, practitioner-based, and outcome-based factors and also by the practitioner’s individuality as a whole and by the practitioner’s intuition. Continued exploration of this topic of technique choice may then help the osteopathic profession to better understand and describe the expert osteopath, who may use their informed intuition, just as it is encouraged of expert nurses. However, each osteopath may contribute, or indeed may already be contributing to, this exploration, in their own practice. Through reflection we may become more aware of our clinical reasoning processes and will thus gain knowledge of how osteopathic practitioners “attain such expertise, enabling them to safely and effectively treat their patients” (Thomson et al., 2011, p. 72).

**Limitations of this study**

Due to the small number of participants, the findings of this study do not provide a representation of the complete set of factors responsible for influencing practitioner’s technique choices and cannot be generalised across the wider osteopathic profession. However, as this is an under-researched area, a small exploratory study using interpretive description was indicated by Thorne (2008) as a way in which to generate knowledge and better understanding of osteopathic technique choice.

Another limitation of this study is the researcher’s lack of experience as an interviewer. The nature of exploratory, in-depth interviews is such that the interviewer may only introduce the topic of discussion by the use of opening questions. This lack of experience caused several missed opportunities to follow up information or gather that would have assisted in further understanding technique choice. However, the information gained from the interviews was adequate to develop an understanding on the topic of the factors influencing the technique choices of the six participants.
Recommendations and implications for the profession

The findings of this study highlight some implications and recommendations for the osteopathic profession as they relate to osteopathic education providers, professional bodies within osteopathy and individual osteopaths.

Osteopathic education providers

Responsibility for the profession’s identity to a great extent is left in the hands of osteopathic educators. They stimulate what a society thinks about what osteopaths do and what the profession represents within that society. So, no doubt, their position is one of power and influence.

(Sommerfeld, 2008, p. 96)

Sommerfeld, with his suggestion above implicates osteopathic educators as having a crucial role in the ongoing development of osteopathy as a profession, and the identity of osteopathy as a whole. If this is the case, should educators in New Zealand be made aware of this so they may strive to understand the factors behind their own clinical decisions including technique choice, in order that they may pass on this information in their teaching? This may be one way of ensuring that graduating osteopaths continue to strengthen the position of osteopathy in the field of health care through an awareness of the factors that influence their technique choices and their ability to both recognize and explain, these factors.

Professional bodies

The regulatory authority which exists to provide governance and regulation of osteopathy and to determine scopes of practice is the OCNZ. Organisations such as the International Society of Osteopathic Medicine (ISOP), and the Osteopathic Society of New Zealand (OSNZ) provide professional interaction and on-going
osteopathic education through short courses relevant to the practicing osteopath, to enable continued professional development. An implication of this study for these professional bodies is that they may assist in ensuring credibility of osteopathic practice in New Zealand is maintained, through an understanding of factors which influence clinical decisions such as technique choice. Two possible methods of ensuring this, or recommendations for these professional bodies are thus offered.

The first suggestion is the development and implementation of a program similar to the Clinical Ladder Program, or CLP (discussed earlier in this chapter). The CLP exists in nursing and is used to measure and assess professional development. A structured guideline or program such as this may assist in promoting a better understanding of the ways in which osteopathic clinical knowledge is developed and practiced, enabling osteopaths to explain factors influencing their clinical practice and decision-making regarding technique choice. Unlike nursing, osteopathy is not practiced in a hierarchal setting such as hospitals, therefore a program such as the CLP would need to be adapted to suit osteopathy. Secondly, current literature states that decision-making amongst health care practitioners should be made after considering the relevant evidence-based practices (McAlister et al., 1999). However, a lack of osteopathic research demonstrating the efficacy of techniques included in osteopathic practice means that osteopaths do not currently have a strong evidence-base on which to base their clinical decisions, including technique choice. Osteopathic groups could act to stimulate, encourage or conduct sound research pertaining to osteopathic treatment and decision outcomes and reflection on clinical practice, so that osteopathy may remain relevant in the field of health care as evidence-based practices are further determined and understood.

**Individual osteopaths**

The findings of this study demonstrate the importance of reflection on osteopathic practice, as reflection on previous decisions made may enable understanding of the factors that influence choices. The concept of personal reflection on clinical practice is not new to osteopathy. However, current literature does not identify the level of reflection used by osteopaths in clinical practice. By taking a reflective view on
previous technique choices and the outcomes obtained, osteopaths may gain a greater understanding of the factors influencing the decision-making process. This may enable them to explain their choices, to retain accountability and faith from the general public that osteopaths exercise sound clinical judgement when deciding the most optimal treatment for their patients.

**Areas of future research**

One main finding of this study was that of the participants’ prevalent use of their intuition to assist them during decision-making relating to their patients. Most of the participants in this study mentioned instances where they had successfully relied upon their intuition to help guide them to select the most suitable technique, in a range of different situations. The validity of a practitioner using their intuition to make safe clinical decisions was not investigated in this study, as providing an answer for this question was beyond the scope of this study. Therefore, a research study designed to determine whether intuition has a place in making appropriate osteopathic clinical decisions would shed more light on the somewhat controversial topic of the use of intuitive impressions specific to their specialty and based in their clinical experience and knowledge, by the health professional.

The role of EBM in clinical decision-making in the field of osteopathy is another topic that requires further investigation. One of the conclusions drawn from the study conducted by Humpage (2011) on the opinions on research and evidence based medicine within the UK osteopathic profession was that a “fear exists” (p. 48) in osteopathy that the incorporation of EBM may challenge osteopathic principles and practice. However, the current healthcare climate places great emphasis on basing decisions on the outcomes of well-designed clinical trials, which are reflective of the actual osteopathic-patient treatment situation, so that “evidence-based decision-making” (Thomson et al., 2011, p. 74) may become the norm. Therefore, more research on the outcomes of osteopathic techniques and the effectiveness of osteopathic decision-making may assist the osteopathic professional in their clinical practice.
Further research on the factors influencing osteopathic technique choice, is also recommended. The findings of one exploratory study such as this may provide some background information, or an introduction to the topic of osteopathic technique choice. It is hoped that the findings of this study can stimulate further research on the topic of osteopathic technique choice so that osteopathy as a profession may develop a widespread recognition of how clinical outcomes are achieved. Therefore, a study similar to this one with a much larger number of participants may help to achieve this. It would also allow further exploration of the three themes uncovered in this research, which best described the factors influencing technique choices of the participants in this study, and allow for further influential factors to be discovered and understood.

The processes behind osteopathic clinical decision making are currently poorly understood, therefore research of this nature is necessary to enhance to both the osteopathic profession’s and the general public’s understanding of osteopathic clinical practice (Thomson et al., 2011).

Further research on the use of clinical prediction rules (CPRs) in guiding the clinical decision-making process of technique choice, may also be warranted. One such study conducted by Cleland et al. (2007) concluded that the use of a CPR was likely to indicate patients with neck pain who would benefit from thoracic spine manipulation, however more research is required to validate this finding. Therefore future studies that test the efficacy of the CPR used by Cleland et al. (2007), or to explore and create CPRs for conditions other than neck pain may also be useful. If these studies show that the application of a CPR is an efficacious method of choosing a technique, this may also enrich an osteopath’s clinical decision-making processes, including those used during technique choice.
Summary

The determination of factors pertaining to the choice of specific osteopathic techniques was beyond the scope of this study, due in part to the vast range of osteopathic techniques that may be applied in clinical practice. Therefore, a focus was directed towards factors that influence technique choices as a whole. The findings obtained led to this discussion of how intuition and individuality may influence technique choice, and how a ‘balance’ may be achieved when allowing these and other factors influence technique choice.

The use of intuition to assist in technique choice was an influential factor mentioned by all six of the participants of this study. To determine the most appropriate treatment, the osteopath must consider numerous factors relating to each patient and their presenting complaint, alongside hypothetical diagnoses and treatment options, and then choose from the vast range of osteopathic techniques available. The participants’ use of their intuition in assisting them in their technique choices may be due to the osteopaths’ previous clinical experience and specific knowledge (Benner, 1984; Benner & Tanner, 1987). Explained like this, it may be easy to see why the osteopaths interviewed experienced successful outcomes, such as reduction or cessation of pain and improved function and mobility of the dysfunctional structure treated, after allowing their intuitive thoughts to influence their technique choices. However osteopathic clinical decision-making processes are not clearly defined in the literature (Thomson et al., 2011), so allowing intuition to influence choice of a technique remains questionable, as no literature clearly states that an osteopath may, or may not, make a technique decision based in osteopathic philosophy that also has intuitive origins.

Technique choice was also influenced by factors relating to the individuality of each participant of this study. This study revealed that technique choices were made in order to achieve the optimal therapeutic outcome for the patient, even though the choice had been fundamentally influenced by the practitioner’s own goals, philosophies or values relating to osteopathic practice. This perceptual system formed from each participant’s individual philosophies, goals and values represent one
interpretation of the reasoning behind technique choices studied during the conduction of this research.

The attainment of osteopathic balance was defined in this chapter as appropriately allowing patient-based factors, practitioner-based factors and outcome-based factors to determine choice. Each situation should prompt fresh consideration into which factor, or factors, technique choice should be influenced by. As suggested by Chaffey et al. (2010), a balance between intuition, evidence based practice and analysis should be sought, during the clinical decision-making process. Of the participants in the current study, the three with the most experience practicing osteopathy also demonstrated a similar balance and their technique choices that were influenced by each of these three aforementioned factors were remarkably even. The technique choices of the two of the less experienced osteopaths did not display this balance, instead a definite preference for allowing patient-based or practitioner-based factors to influence choice was demonstrated.

To enable a less experienced osteopath to make balanced decisions regarding technique choice without the unwarranted interference of preferences or personal ideals, reflection on previous technique choices may be of assistance. This study has shown that personal preferences (or ideals) are an important factor, that may influence technique choice, however it represents only one factor that may influence choice. This may suggest that the sole influence of personal preferences and ideals during technique choice represents biased decision-making, which may not always best benefit the patient. Close examination of factors influencing previous technique decisions may allow for the most influential factor in each choice to be revealed and the outcome that has been the result of this particular chosen technique, can be measured against this. Reflection on past practice may therefore allow even a less experienced osteopath to determine, in each situation, which factor (or factors) should influence technique choice. This may provide a way for osteopaths to explain their decision-making processes that is both in line with the current expectations of health care providers and the practice of EBM. Lastly, documented reflection on past practice may provide a way in which intuitive decisions may be further understood, as previous clinical experiences incorporating the practitioner’s intuition are closely analysed.
Limitations of this study include the small number of research participants, which was nevertheless indicated in a qualitative, exploratory study such as this relating to the under-researched topic of osteopathic technique choice. The personal inexperience of the researcher in conducting exploratory interviews also represents another limitation. Information which was relevant to this topic and may have assisted understanding was sometimes not followed up on, when hinted at by some participants.

The findings of this study provide both implications and recommendations for osteopathic educational providers, professional bodies and individual osteopaths. Educational providers could provide their students with reflections of their own decision-making processes, including those of technique choice. This may stimulate students of osteopathy to think about their thinking, an important skill (M. A. Jones, 1992). Professional bodies may also be implicated in ensuring reliable decisions are made regarding technique choice, as this is a decision which needs to be explained to maintain credibility as a profession. Therefore, they could provide clinical programs designed to assist osteopathic practitioners, especially those with limited experience, to explain and reflect upon their clinical practice. Individual osteopaths are encouraged to employ reflective practice, so an awareness of factors influencing technique choices and their outcomes may be achieved. In doing this they will also be validating their own osteopathic practices.

Further research may also help to allow increased understanding of the factors that influence technique choice. The role of intuition in this decision-making process was an influential factor mentioned by each participant in this study, even though this is not portrayed in current osteopathic literature. Therefore, research into the validity of using intuition to assist in making safe, ethical clinical decisions in osteopathy may be warranted. There is a general consensus among the modern field of health care that clinical decisions should take into consideration EBM. Research into the applicability of EBM to osteopathy is suggested, as there is a lack of trustworthy research regarding best osteopathic practice. Further research into therapeutic outcomes of osteopathic techniques and decisions made may also assist in the better understanding of the factors that influence osteopathic technique choice, as may further research into the applicability and efficacy of CPRs.
Concluding thoughts

Intuitive feelings during clinical reasoning, such as those mentioned by participants of this study, are generally understood to arise from the existence of specific knowledge relating to a profession and previous clinical experience, which is domain-specific. As intuition relating to these clinical situations has such an experiential origin, health care research and literature clearly explains that only the expert practitioner may allow their intuition to influence choices made. The lack of research on the appropriate use of intuition in the clinical setting by the osteopath, means that no clear boundaries or guidelines currently exist on the role of intuition in technique choice.

Decisions regarding osteopathic technique choice may be influenced by many factors. This research suggests that these may be described thematically as patient-based, practitioner-based and outcome-based factors. Determining which factor has influenced a decision may be achieved through reflective practice and may lead to more effective decision-making. Currently there is very limited research regarding this topic. Throughout its history, the practice of osteopathy has shown that it may provide an effective method of treating the human body. However to withstand scrutiny in this increasingly evidence-based practice environment, the way in which osteopaths practice in the clinical setting through the choice of their techniques, needs to be fully understood.
References


Haynes, B. R. (2002). What kind of evidence is it that evidence-based medicine advocates want health care providers and consumers to pay attention to? *BMC Health Services Research, 2*(3).


judgement in nursing. *Journal of Nursing Administration, 45*(6), 204-211.

Thompson, C. (1999). A conceptual treadmill: The need for 'middle ground' in clinical
decision-making theory in nursing. *Journal of Advanced Nursing, 30*(5), 1222-
1229.

- more than just principles? *International Journal of Osteopathic Medicine, 14*, 71-76.

Thorne, S. (2000). Data analysis in qualitative research. *Evidence Based Nursing,
3*(3), 68-70.


description: A noncategorical qualitative alternative for developing nursing

challenge in interpretive description. *International Journal of Qualitative
Methods, 3*(1), 1-21.

Tyreman, S. (2008). Valuing osteopathy: What are (our) professional values and how

Ubel, P. A., & Loewenstein, G. (1997). The role of decision analysis in informed
consent: Choosing between intuition and systematicity. *Social Science &
Medicine, 44*(5), 647-656.

specialty choice: Influence of gender, time, patient and career. *Medical
Education, 44*, 595-602.

primary Raynaud's phenomenon. *Journal of Bodywork and Movement
Therapies, 12*, 274-280.

Lippincott Williams & Wilkins.

Weiss, M. C. (2011). Diagnostic decision-making: The last refuge for general
practitioners? *Social Science & Medicine, 73*, 375-382.


APPENDIX B – Participation Information Sheet

PARTICIPANT INFORMATION FORM

My name is Pearl Albertson. I am currently enrolled in the Master of Osteopathy degree in the School of Health Sciences at Unitec New Zealand and seek your help in meeting the requirements of research for a Thesis course, which forms a substantial part of this degree.

The aim of this research is to identify factors involved in influencing choice of treatment and composition of a treatment plan of Osteopaths, by providing an answer to the research question:

‘What are the factors that guide an Osteopath during the process of technique choice?’

What I will ask of you: Participation in a discussion/ exploratory interview, which is expected to last 45 minutes to an hour. During which time factors leading to application of indirect or direct approaches to treatment will be discussed; as well as situations in which you would apply certain techniques. The crux of this discussion will be the factors that lead, or cause you to choose a certain technique, or technique approach.

Neither you nor your organization will be identified in the thesis as personal details will be anonymised. You are free to ask me not to use any of the information you have given as long as this request is made no later than two weeks after the interview, and you can, if you wish, ask to see a copy of your interview transcript, or a copy of the thesis before it is submitted for examination. The researcher will transcribe all of the interview tapes and all interview material will be kept in a secure filing cabinet for five years until physical destruction.
If you would like to take part in this research please contact me, email and telephone details below. If I have not heard back from you within a week I will try to contact you to check your availability.

If you have any queries about the research, you may contact my supervisors at Unitec New Zealand, or myself. My supervisors contact details: Dr. Elizabeth Niven, by phone or email; also Assoc. Prof. Clive Standen, by phone or email

UREC REGISTRATION NUMBER: 2009-988

This study has been approved by the UNITEC Research Ethics Committee from 24.07.09 to 24.07.10. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
APPENDIX C – Consent form

CONSENT FORM

PARTICIPANT:

INTERVIEWER: Pearl Albertson

DATE:

RE: Participation in an in-depth, exploratory interview, conducted with the aim of providing an answer to the following research question:

WHAT ARE THE FACTORS THAT GUIDE AN OSTEOPATH DURING THE PROCESS OF TREATMENT CHOICE?

I have been given and have understood an explanation of this research project for the Master of Osteopathy programme. I have had an opportunity to ask questions and have had them answered. I understand that neither my name nor the name of my organisation will be used in this thesis, and that I may withdraw myself or any information I have provided in this interview within a time period no longer than two weeks after this date. I also understand that I may elect to see a copy of the transcript of this interview, if this is so I can contact the researcher, whose contact details I have received.

I agree to take part in this project.

Signed: __________________________

Name: __________________________

Date: ____________

UREC REGISTRATION NUMBER: 2009-988

This study has been approved by the UNITEC Research Ethics Committee from (24.07.09) to (24.07.10). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Interview question guide

Could you outline a situation where you would use an indirect technique?

Could you outline a situation where you would use a direct technique?

Now we will discuss a list of osteopathic techniques, could you please tell me when you would use these and why.

Myofascial technique

Strain counter-strain technique

Functional technique

Balanced Ligamentous Tension

Visceral technique

High Velocity Low Amplitude Thrust technique

Soft-tissue technique

Muscle Energy Technique

Articulatory Technique
APPENDIX E – Ethics approval letter

Pearl Albertson
13a First Avenue
Kingstand
Auckland

29 July 2009

Dear Pearl,

Your file number for this application: 2009-988

Title: What factors guide an Osteopath during the process of treatment choice?
Your application for ethics approval has been reviewed by the Unitec Research Ethics Committee (UREC) and has been approved for the following period:

Start date: 24 July 2009
Finish date: 24 July 2010

Please note that:
1. The above dates must be referred to on the information AND consent forms given to all participants
2. You must inform UREC, in advance, of any ethically-relevant deviation in the project. This may require additional approval.

You may now commence your research according to the protocols approved by UREC. We wish you every success with your project.

Yours sincerely,

[Signature]
Deborah Rainbow
Deputy Chair, UREC

CC: Elizabeth Niven
Cynthia Almeida