

# Experiences of patients living with chronic wounds

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Mini-Dissertation submitted in *partial* fulfillment of the requirements for the degree *Magister* in Professional Nursing at the Potchefstroom Campus of the North-West University

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May 2014



## FOREWORD

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Sometimes in our lives, the Lord sends Angels to walk with us when our legs are too weak to carry us.

Herewith my sincerest appreciation for my 'Angels' that accompanied me on my journey:

- My Heavenly Father for the grace and love that You have given to me to live my passion and make my dream a reality, even when times were difficult during my life
- My husband, Jim-Allen for all your patience and the way that you always have an answer, even when I feel discouraged. You are my soul mate and I will love you forever.
- To my children, Janico en Michaela, you are my whole world and thank you for keeping yourselves busy when mommy had to work. I love you guys so very, very much!
- To Ingrid van der Walt for your help and assistance
- To all my family who always believes in me and motivate me to do even more
- To all my patients who made this study possible. Without you I wouldn't have been able to discover all that I have on this journey. Thank you very much for letting me into your deepest emotions and pain and making me a part of your journeys, even though it was difficult. I am blessed.
- Last, but definitely not least. To my study leader, Dr Petra Bester. Without you I wouldn't have made it to the end. You have done so much more than what I could ever imagine or expect. I am honored to have been mentored by you.

*"For I know the plans I have for you, declares the Lord. Plans to prosper you and not to harm you. Plans to give you hope and a future"*


*Jeremiah 29:11*

## DECLARATION

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I hereby declare that this work is my own and has not been submitted to any institution before. I declare that this work has not been plagiarized, nor did I violate copyright restrictions. I declare that I gave due reference to all sources used in this document and that these sources are completely and accurately referenced in the list of references.

  
\_\_\_\_\_  
**Yolandi van Deventer**

  
\_\_\_\_\_  
**Date**

## **RESEARCH OUTLINE**

The research in this study is presented in an article format and include the following:

1. Chapter 1: Introduction and overview of the study
2. Chapter 2: Part A: Research methodology and Part B: Literature review
3. Chapter 3: Article, as follows:

### **Article title:**

“Wholistic care for patients living with chronic wounds

### **Journal submitted to:**

*Wound Healing South Africa*

4. Chapter 4: Evaluation, limitations and recommendations

Note that the dissertation is submitted in article format and that the following apply to the list of references in the dissertation:

For Chapter 1, 2 and 4: The reference list compiled according to the Harvard style as prescribed by the Postgraduate guidelines of the North-West University.

For Chapter 3: Reference list compiled in the format set forth in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals as prepared by the International Committee of Medical Journal Editors as preferred style according to the Wound Healing South Africa Journal. Chapter 3 is also presented in the Times New Roman font as stipulated by the author guidelines.

**CHAPTER 1**  
**INTRODUCTION AND OVERVIEW OF THE STUDY**

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## CHAPTER 1

### INTRODUCTION AND OVERVIEW OF THE STUDY

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#### 1. INTRODUCTION AND BACKGROUND

Chronic wounds are defined as “wounds that fail to progress through an orderly and timely sequence of repair, such that healing does not take place in a predictable time frame.” (Widgerow, 2009:9). *For the purpose of this research, a chronic wound refers to a wound that takes longer than 8 weeks to heal, with or without complications, regardless of acute or chronic illness being present and regardless of the nature and site of the wound, e.g. ulcers or complicated wounds due to other extrinsic or intrinsic factors.*

There is a common perception that patients living with chronic wounds are associated with old age, but a deeper investigation into this phenomenon revealed contradictory factors. Every chronic illness has the potential to develop into a chronic wound, such as: diabetic foot ulcers for diabetic patients, arterial ulcers in hypertensive patients, injuries due to old age, use of medication such as blood thinners or immuno-suppressive drugs, as well as the high prevalence of HIV in South Africa (WHASA, 2008:22).

In South Africa the prevalence of patients living with chronic wounds are high and increasing. This may be due to the fact that HIV and TB are more prevalent amongst the population (Stats SA, 2010). “Two thirds of the world’s AIDS cases occur in Africa leaving us with a huge burden on the health sector with regard to improved health status of healthcare users. With immunological meltdown comes total healing meltdown if not managed well” (Brooker & Waugh, 2009:682-686). Spinal Tuberculosis might lead to paraplegia (Garg & Somvanshi, 2011:442), which may develop in a pressure ulcer, where with HIV the immune system is compromised, which can lead to impaired wound healing (Maderal, Vivas, Eaglstein & Kirsner, 2012:996) and regression of a minor wound to a complicated wound. According to the 2010 mid-year estimate, the total population of South Africa is 49.99 million (Stats SA, 2010). The estimated HIV prevalence is 10.5%, which is a total of 5.24 million infections (Stats SA, 2010). 17% of South African people between the ages of 15 to 49 years of age are HIV positive (Stats SA, 2010). The estimation is that 4.1 million infected people in 2001 have increased to 5.24 million infected people in 2010 (Stats SA, 2010).

Large numbers of patients worldwide are affected by chronic wounds. In the United States of America (USA) 2.8 million patients are affected by chronic wounds annually (Coetzee,

Coetzee & Hagemeister,2010:9). In Germany there is a prevalence of 4 million patients with chronic wounds (Coetzee, Coetzee & Hagemeister,2010:9). The prevalence is about 120 patients per 100 000 of patients between the ages of 45 to 65 years. This has increased to more than 800 patients per 100 000 that are over the age of 75.2 years (Coetzee, Coetzee & Hagemeister, 2010:9).

Although multiple studies have been conducted to investigate which product to use in the support of the wound to facilitate healthy healing, few qualitative studies have been conducted to explore the patient's experiences regarding himself (also referred to as herself) and his wound and minimal focus has been awarded to the comprehensive care of the patient with a chronic wound (Mudge, Spanau & Price, 2008:21). The qualitative studies that have been done, have focused on selected types of wounds, however this research focuses on a variety of wounds in order to gain an understanding into the experiences of living with a chronic wound, regardless of aetiology. Comprehensive care should be rendered on a physical, psychological, social, as well as spiritual level (Dealy, 2005:13). In order to compile a successful care plan for the patient with a chronic wound, there should be a thorough assessment of the nutritional status, sleeping patterns, smoking habits, medication use and anxiety levels of the patient. Eagle (2009:14) formulates this aptly by saying: "Focusing on the whole patient and not just the 'hole' in the patient is essential to ensure that the underlying cause of the wound is known, and that the subsequent treatment plan is optimal for each individual".

Wound healing is a complex (Dealy, 2005:1) and intricate process and there are many factors that influence it. Local factors refer to the influence on the wound itself, namely oxygenation, infection, foreign body and venous sufficiency (Guo & DiPietro, 2010:221). Systemic factors refer to the condition of the patient in terms of his/her (will from now on be referred to as his but entails both his and her) overall health and disease state that affect his/her ability to heal. Systemic factors include age and gender, stress, medication, alcohol use and smoking, immuno-compromised conditions, as well as obesity (Guo & DiPietro, 2010:221).

In an effort to take all these factors into consideration, the TIME framework was developed by a group of experts in 2003. The TIME principle is considered as part of a systematic and holistic evaluation of the patient and their healing environment (Leaper et al., 2012:2).

The TIME framework is explained by the following acronym:

- T =Tissue.
- I=Infection.
- M=Moisture.
- E=Epidermal margins.

According to Leaper et al. (2012:3), the tissue type should be viable for ideal wound healing. If infection or inflammation is present, wound healing will be delayed to bacterial overgrowth, which influences granulation of tissue. The wound margins also play an important role in assessing the wound. If there is a moisture imbalance, wound healing will also be delayed and excessive exudates will decrease the patient’s quality of life (Leaper et al., 2012:10). All the factors considered by the TIME principle have an impact on choosing the correct wound product, as well as the correct treatment options with regard to the wound (Leaper et al., 2012:1-19). Refer to Table 1 for a description of the TIME model.

**Table 1: The TIME model will also be influencing the research as a model to assess the wound(Smith & Nephew, 2013)**

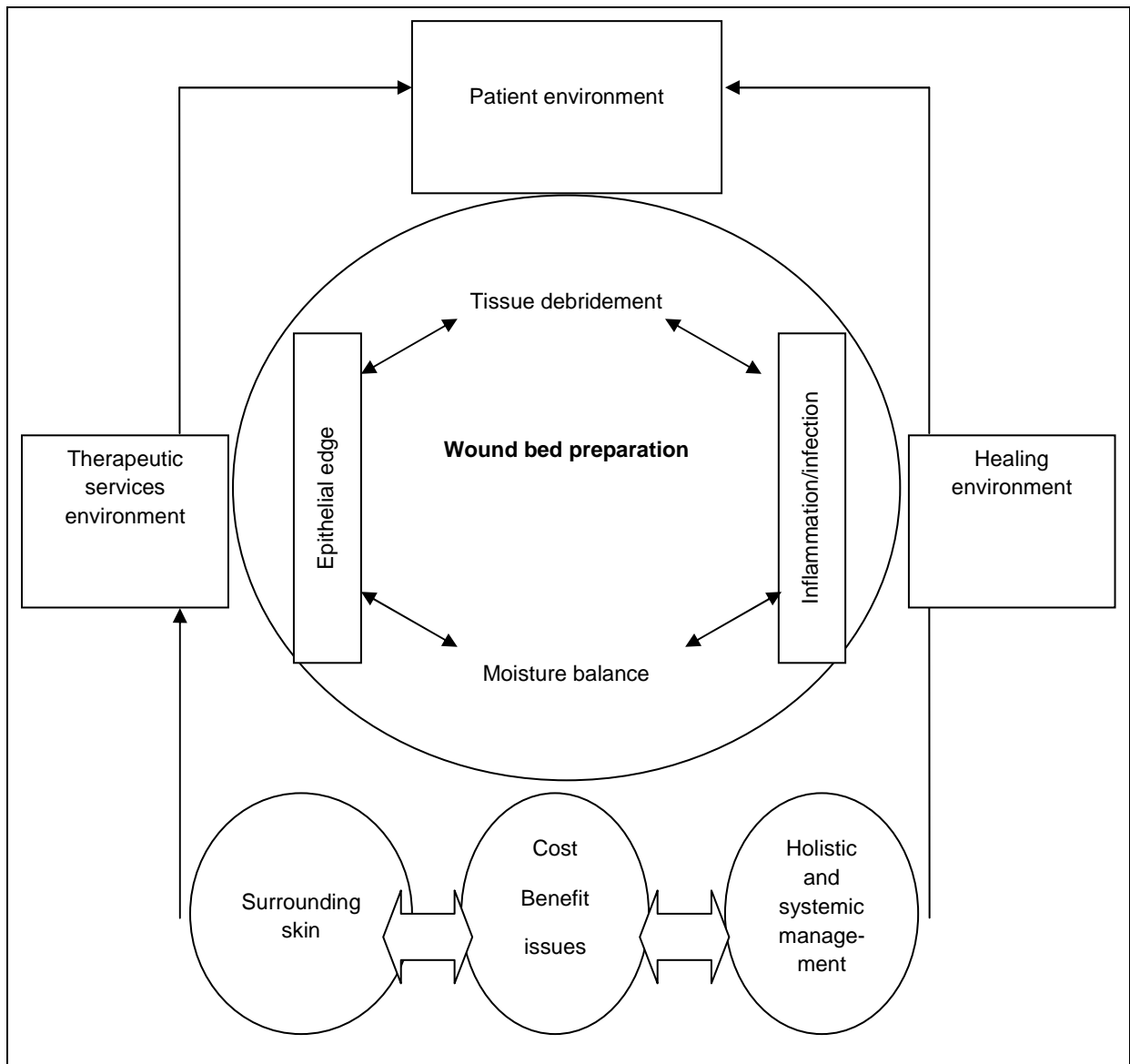
<b>T</b>	Tissue
<b>I</b>	Infection / Inflammation
<b>M</b>	Moisture
<b>E</b>	Epidermal margins

In addition the HEIDI principle is an example of the wound bed preparation care cycle and it involves an initial assessment of the background status of the patient before the initial assessment of the wound is done (Harding *et al.*, 2007:3).

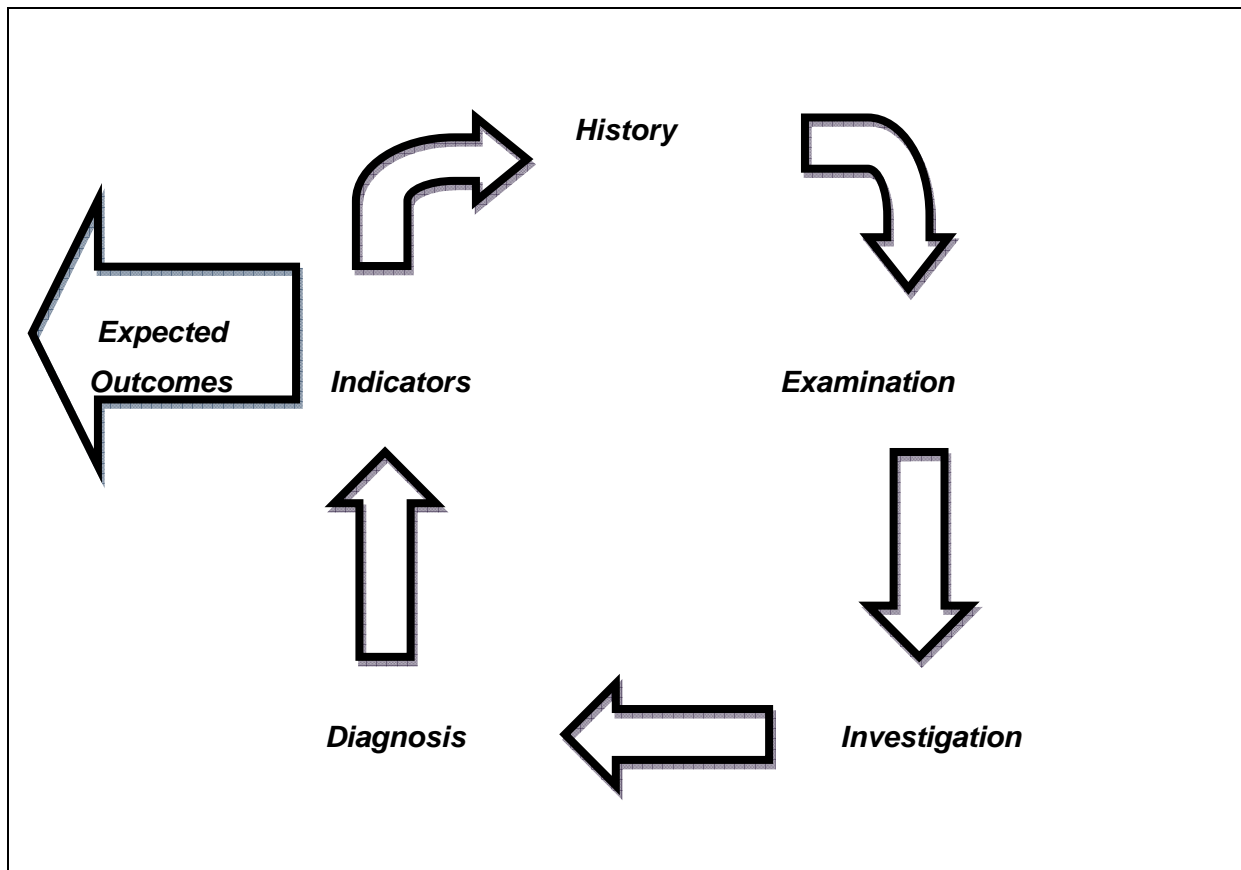
The HEIDI principle is explained by the acronym as follows (see Figure 2):

- H=History.
- E = Examination.
- I = Investigation.
- D= Diagnosis.
- I=Indicators.

The following cycle illustrates the TIME concept as part of the overall patient evaluation:



**Figure 1: The TIME concept as part of the overall patient evaluation (Leaper *et al.*, 2012:3)**



**Figure 2: The HEIDI principle (Harding *et al.*, 2007:2)**

Previous research has suggested that stress can delay wound healing (Leaper *et al.*, 2012:12; Dealy, 2005:26). The patient living with a chronic wound may experience stress due to a number of factors such as:

- Roles and responsibilities the person fulfilled previously are limited now due to the fact that the patient is immobile, mostly due to pain, which can be a frustrating event for the patient as well as the family (Walburn *et al.*, 2009:265).
- Wound care products are very expensive. This places a financial burden on the patient and his family. Most medical aids do readily pay for wound care, but for the patient who has no medical aid it can cause affordability issues that influences wound healing due to stress.
- Self-efficacy refers to the coping mechanisms that the patient has in dealing with situations and the level of control the patient has over situations in his life (Mudge, Spanau & Price, 2008:22). If his self-efficacy levels are decreased, this will influence the degree to which he is willing to help himself, follow health care advice, or the extent to which he copes with his situation. The patient's wound healing and carrying out his

normal daily living activities may be influenced negatively (Mudge, Spanau & Price, 2008:22).

- Pain is a major factor that influences a patient living with a chronic wound (Mudge, Spanau & Price, 2008:19). When a patient is experiencing pain, his quality of life is decreased, as well as his levels of self-efficacy. In this context pain can be both chronic due to the wound, and acute due to the wound cleaning process.
- Anxiety manifests as a result of the wound cleaning procedures that are painful to the patient and the fact that the patient does not know the outcome of the wound. Patients also experience an altered body image due to the presence of the wound (Martinson Neil, 1998:5).

“Chronic wounds generate strong negative feelings and people not only suffer painful physiological trauma, but also psychological difficulties” (Morison, Ovington & Wilkie, 2004:312). People have different coping mechanisms, and due to the fact that the duration and outcome of a chronic wound cannot be predicted, negative feelings might arise, which includes anxiety and depression. Coping measures should be set in motion in order to assist the patient living with a chronic wound to adapt to his changed circumstances. As the patient’s circumstances change, he must learn to cope with the change and adapt to his new circumstances. This change also affects the family, as the patient might feel isolated and uncertain in his attempt to restructure reality. This highlights the practitioner’s vital role in order to support the patient as well as the family during the restructuring phase (Morison, Ovington & Wilkie, 2004:313).

The grieving process should also be taken into consideration when dealing with a patient who is living with a chronic wound. The process might be initiated due to loss of a limb, a function or role that was modified or attractiveness that has been lost (Morison, Ovington & Wilkie, 2004:312). According to Morison, Ovington & Wilkie(2004:315), the grieving process can be applied to wound care in the following way:

**Table 2: Four tasks associated with grieving (Morison, Ovington & Wilkie, 2004:315)**

<b>TASK 1</b>	Accept the reality of the loss
<b>TASK 2</b>	Work through the pain of the physical or emotional loss or change
<b>TASK 3</b>	Adjust to a changed environment
<b>TASK 4</b>	Get on with life

According to Morison, Ovington and Wilkie (2004:316), the patient in this context has many complex feelings. These feelings are influenced by factors such as family structure, social support and the attitudes of practitioners. Support is an important factor when dealing with a patient who is living with a chronic wound. Previous research has shown that it is beneficial for a patient that is living with a chronic wound to have a support system in the form of family and nurses to cope with their wound (Mudge, Spanau & Price, 2008:26). This reflects the important role that the professional nurse plays in dealing with a patient who is living with a chronic wound, as well as the patient's family.

Morison, Ovington and Wilkie (2004:320) suggest implications for practice when dealing with a patient who is living with a chronic wound, namely to:

- Offer an individualized, effective care plan unique to every patient, based on accurate assessment that recognizes the contribution of physical, psycho-social and spiritual well-being, which is a determining factor of the patient's quality of life in general.
- Costs to the patient should be limited.
- Nurse's attitudes should be positive to enhance the patient's own attitude and self-esteem.
- Concrete information should be given to reduce uncertainty.
- The wound care nurse should be able to recognize and support coping strategies.
- The nurse should take time to listen to the patient's concern and feelings.
- The family should be involved in the care of the patient.
- Pain should be managed adequately.
- Share positive messages of improvement; don't focus on the worsening wound.
- If adequate support is given, compliance will improve.
- A sensitive approach should be taken, ensuring that all activities offered are relevant to the person.

In the light of the recommendation made by Morison, Ovington and Wilkie (2004:320) it is clear that in practice patients who are living with a chronic wound are not treated by using a comprehensive approach and assessment.

## **2. PROBLEM STATEMENT**

The impact of chronic wounds includes more than just the physical. Although literature refers to the comprehensive aspects of patients living with chronic wounds, there are insufficient support guidelines for nurses who perform primary wound care on comprehensive or

“wholistic” assistance to the patients. Based on the statement above, the following research questions arise:

- What are the experiences of patients living with a chronic wound?
- How can support guidelines be formulated to assist professional nurses to provide comprehensive emotional support to the patient living with a chronic wound?

### **3. AIM AND OBJECTIVES**

The overall aim of this study is to enable professional nurses to provide emotional support to patients living with chronic wounds by means of the formulation of support guidelines. In order to reach this aim, the following objectives are stipulated:

- To explore and describe the experiences of patients living with chronic wounds, and
- To formulate support guidelines to assist professional nurses to emotionally support patients living with chronic wound(s).

### **4. CENTRAL THEORETICAL ARGUMENT**

Knowledge regarding the experiences of patients living with a chronic wound might equip the professional nurse with a better understanding of the multi-dimensional aspects that influence the patient during the process of chronic wound care. A better understanding of these experiences might assist the researcher to formulate support guidelines that can assist professional nurses to provide support to patients living with chronic wounds.

### **5. RESEARCHER’S ASSUMPTIONS**

As the researcher has her own paradigmatic perspective that influences this research, this perspective is presented for reflection as meta-theoretical, theoretical and methodological statements.

#### **5.1 Meta-theoretical assumptions**

The researcher’s perspectives are based on the Christian religion, which implies that humans are created in the image of God. Although humans are sinful, they are washed clear of any form of sin by the blood of Jesus Christ, the Son of God. The researcher believes that life is precious and should be cherished. The instruction from God is to love one another as we love ourselves. By having sympathy and empathy for our neighbour, we are fulfilling the purpose that God has set out for us. The researcher believes in the Bible as the only truth and compass to a life filled with the grace of our God and the Holy Spirit.

The researcher's assumptions are described below with reference to the following core ideas: human, health, environment and nursing:

- *Human*

In this research 'human' refers to the Professional nurse as wound care specialist, the patient, as well as the patient's meaningful other.

- *Health*

"A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). For the purpose of this research, "health" applies to the patient living with a chronic wound who is comfortable in all regards, such as physically, mentally and socially, and not just referring to the absence of the wound. This includes the emotional support that is provided by the nurse. This entails a comprehensive approach when dealing with the patient who is living with a chronic wound, so that a balance is reached between the physical, psycho-social and spiritual levels.

- *Environment*

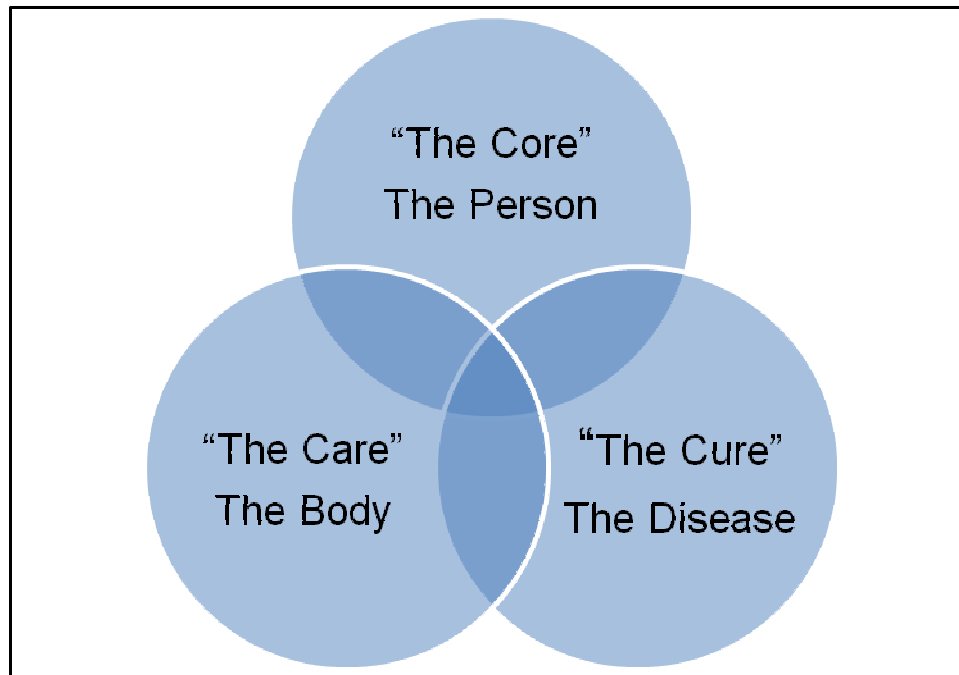
Environment is described as the internal environment, namely the bodily, psychiatric and spiritual aspects of the human being, or the external environment namely the physical, social and spiritual aspects of the human being. These internal and external factors interact with each other and influence the human being's health status (Bester, 2001:6). The internal environment in this study refers to the spiritual level and the external environment refers to the physical, as well as the psycho-social factors that should be recognized when supporting a patient who is living with a chronic the wound. The environment also refers to the wound itself, as well as the experiences of the patient living with a chronic wound.

- *Nursing*

Florence Nightingale described a nurse's proper function as 'putting the patient in the best condition for nature (God) to act upon him or her.' She proposed that care of the sick is based on knowledge of persons and their surroundings (Alligood & Tomey, 2010:5). In this study 'nursing' refers to the support that patients receive from nurses in dealing with a chronic wound. Knowledge is needed regarding the experiences of patients living with chronic wounds in order to provide comprehensive support to the patient.

## 5.2 Theoretical assumptions

The researcher supports the Core, Care, and Cure Model of Lydia Hall (Alligood & Tomey, 2010:60). There are three interlocking circles to represent aspects of the patient, namely the person (core), the body (the care) and the disease (the cure) aspect.



**Figure 3: Core, Care and Cure Model (Alligood & Tomey, 2010:60)**

*The person* refers to social sciences. It is the therapeutic use of self and includes all aspects of nursing.

The *body* consists of natural and biological sciences. It includes intimate bodily care and includes all aspects of nursing.

The *disease* refers to pathological and therapeutic sciences. The main function of the 'cure' is seeing the patient and the family through the medical care and includes aspects of nursing.

The circles in the model change in size and overlap in relation to the patient's phase in the disease process. The nurse functions in all three circles, but to different degrees, depending what the need and phase is. The circles are shared by people in another environment (Alligood & Tomey, 2010:5).

*For the purpose of this study the body refers to the patient who is living with a chronic wound, the person refers to the experiences as lived by the patient who is living with a chronic wound, as well as the inner feelings and management of the patient. The disease refers to the chronic wound and all the aspects of a chronic wound. The overlapping of the circles refers to the role that the wound care nurse plays in the care and support of the patient who is living with a chronic wound.*

The theoretical statement that is used in this research is defined as conceptual descriptions.

### **5.3 Conceptual descriptions**

- Experiences entail the knowledge or skills acquired during a period of practical experience. It especially refers to knowledge or skills gained in a particular profession, or an event or occurrence which leaves an impression on someone(Oxford Dictionary, 2013).
- Chronic wounds: Chronic wounds are defined as “wounds that fail to progress through an orderly and timely sequence of repair, such that healing does not take place in a predictable time frame”(Widgerow, 2009:9).
- Patients living with chronic wounds: for the purpose of this research patients living with chronic wounds refer to humans who have had a chronic wound present for at least eight (8) weeks, and less than one year since it has healed.
- Support guidelines: these are established in order to provide guidance, set quality standards to improve the health of people with specific diseases (NICE, 2013). It suggests the truth of or corroborates a general rule, principle, or piece of advice. (Brown *et al.*, 2006:804-806).
- Professional Nurse: "registered person" means a person registered as such in terms of section 31 (SANC 2005:6).

- Professional nurse as wound care specialist: A professional nurse who provides wound care (as per SANC definition of a ‘registered person’).

#### 5.4 Methodological assumptions

The methodological assumptions that are applicable to this research are based on Botes’ research model. Botes (1995:5) states that research formulates theories, which in turn improves nursing practice. The model describes three inter-dependent levels of nursing activities that are in relation to one another.

The first level refers to the practice or field in which nursing activities are executed. Problems are identified and solutions are found. In this research the theme on level one is the experiences of patients living with chronic wounds.

On the second level, research and theory formulation occur through decision making processes. In this research, in-depth interviews are conducted with patients who have experienced living with a chronic wound to explore and describe their experiences. Thereafter guidelines are formulated to effectively assist nurses to emotionally support patients with chronic wounds. The researcher’s paradigmatic perspectives appear on the third level (see ‘researchers assumptions’).

### 6 RESEARCH DESIGN

A qualitative, phenomenological, interpretive description, explorative, contextual research design is followed in order to gain more in-depth knowledge regarding the experiences of the patient living with a chronic wound.

**Table 3: Research design**

Design	Rationale
Qualitative	Qualitative research study phenomena in their natural setting. It attempts to make sense or to interpret phenomena in terms of the meaning that people bring to it. In this study the researcher attempts to make sense of the experience of the patient living with a chronic wound as these patients experience this in their natural setting (Creswell, 2007:36-37).
Phenomenological	This research probes deeper into what the lived experiences of

	patients living with chronic wounds are and looks for the deeper meaning of the lived experience of the patient. In this study the experience of living with a chronic wound is explored, as it is lived by the patient themselves (Creswell, 2007:57).
Interpretive description	Interpretive description is a qualitative research approach that derives its dual goal from two places, namely a practice goal that is actual and an understanding that is based on the empirical evidence of what we do know, as well as what we don't know (Thorne, 2008:35). During this research the principles of interpretive description is used in all aspects of the methodology.
Explorative	"Explorative studies are not intended for generalization to large populations. They are designed to increase the knowledge of the field of the study" (Burns & Grove, 2009:359). This research has increased the knowledge regarding the experiences of patients living with chronic wounds.
Contextual	This qualitative research is contextual because it considers the impact of the context and the context will consequently be described in detail. The context for this study is the patient who is living with a chronic wound in the North West province and some smaller towns in surrounding provinces (see Chapter 2: Methodology).

## 7 RESEARCH METHOD

The research method is described below with reference to the sample, data collection, data analysis and literature review.

### 7.1 Data collection

**Population:** The population is all patients who had been living with a chronic wound in the past year and was treated by the researcher in the North West province and surrounding towns in other provinces.

**Sampling:** For this study the researcher made use of purposive, voluntary sampling (Botma *et al.*, 2010:201).

**Sample size:** The sample size was determined by data saturation. Data saturation is described as the repetition of patterns of data (Field & Morse, 1985:94; LoBiondo-Wood &

Haber, 1994:302). Interpretive description describes that the sample size is small and purposive sampling is often used (Thorne, Reimer Kirkham & O'Flynn-Magee., 2004:5-6). The researcher made use of non-probable purposive sampling to include participants that are most suitable to include in the study. Burns and Grove (2009:355) describe purposive sampling as the conscious selection by the researcher of certain subjects, elements, events, or incidents to include in the study. Purposive sampling (Brink *et al.*, 2012:141) was used to recruit subjects from the population in order to get the most suitable subjects for participating in the study.

#### Inclusion criteria:

- The participant should have been treated during the past year by the researcher, or should currently be treated by the researcher, as the rapport that has already been established while treating the wound will aid in the research.
- The participant's inclusion is regardless of income group, race or gender.
- The participant should be able to express him/herself in either English or Afrikaans, as the researcher will conduct the interviews and is fluent in both these languages.
- The participants should be over the age of 18 years.
- The participants should have wounds that have been present for more than two months, but less than one year should have passed since it has healed.
- The participant should be able to give informed consent to participate in the study and to participate in the study voluntarily.

#### Method of data collection:

The experiences of patients living with chronic wounds are explored and described by means of a phenomenological approach of in-depth interviewing. A single question was asked during the interviews with the participants to direct the interview, namely: "What is/was your experience living with a chronic wound?" A pilot study was conducted to determine the efficacy of the question that would be used to guide the interview and changes were made accordingly. The researcher obtained informed, written consent from the participants to participate in the study. The researcher appointed an independent interviewer to conduct the interviews. After each interview, field notes were taken in the form of personal, methodological and theoretical notes (Botma *et al.*, 2010:218; Stommel & Wills, 2004:287).

#### Physical setting:

"The setting is the location where a study is conducted" (Burns & Grove, 2009:362). The interviews were conducted in the setting where the patient was at the time of the interviews.

This was either in a hospital, home setting or an old age home where the patient was accommodated at the time. This ensured that the participant was calm or felt at ease. The setting was free from noise, well-ventilated and quiet as to cause no distractions. The voice recorder was set up as the researcher arrived at the participant's home. The voice recorder was positioned in such a manner that both the researcher and the participant were visible and audible. The interview was arranged with the participants beforehand to ensure that no distractions would be present by other household members or incidences (Burns & Grove, 2009:404-405, 510-511; Botma *et al.*, 2010:206-210).

*The home environment for this study refers to the home, hospital or old age home where the patient is accommodated at the time of the interview.*

## **8 DATA ANALYSIS**

Each interview that was recorded on a digital voice recorder was transcribed for data analysis. A co-coder was involved in order to independently code data according to a work protocol. After the coding was done, a consensus conversation was held. Identified themes were presented to the participants to ensure that the themes had been analyzed correctly. Data analysis was done according to the eight steps as described by Tesch *in* Creswell (2009:186).

The eight steps are as follows:

- The researcher strives to get a sense of the whole, this referring to all the existing data that have been collected.
- The researcher identifies one document and goes through the content without thinking of the meaning of the document, just to get an overview of the data.
- Similar topics are identified and clustered together. The identified topics are sub-divided into major topics, unique topics and leftovers.
- The researcher takes the list of identified topics and goes back to the data. The topics are abbreviated as codes and the codes are written down next to the appropriate segments.
- The most descriptive wording for the topics are identified and then turned into categories. Related topics are grouped together. The researcher identifies the interrelatedness of the topics.
- A decision is made on the abbreviation for each category and the codes are alphabetized.

- The researcher assembles the data belonging to each category in one place and performs a preliminary analysis.
- If necessary the existing data is re-coded.

### **8.1 Literature integration**

The information from the literature was compared with the findings of the research to determine the current knowledge regarding the phenomenon (Brink *et al.*, 2012:72). The review of the literature explains the differences between findings and existing knowledge and identifies if current findings are consistent and support existing knowledge of the phenomenon (De Vos *et al.*, 2011:135). A literature integration was undertaken after data the data analysis was completed.

## **9 TRUSTWORTHINESS**

Trustworthiness refers to the means of demonstrating the plausibility, credibility and integrity of the qualitative research process. To ensure trustworthiness, the researcher applied the methods of Lincoln and Guba (1985), which describes four steps to establish trustworthiness, namely:

### **9.1 Credibility**

Credibility means to have confidence in the ‘truth’ of the findings. The researcher ensures that data is provided with confidence to the participants, based on the study design. The researcher used the following techniques to establish credibility:

- Prolonged engagement

The researcher spent sufficient time in the field to understand the phenomenon of interest. The development of rapport between the researcher and the participants facilitated meaning. Rapport had previously been established due to the fact that the participant was treated by the researcher. The researcher has experience in providing wound care and dealing with chronic wounds. Participants were interviewed in their home environment (natural setting) to promote comfort and full cooperation without feeling threatened or intimidated by the situation.

- Member checking

Data were tested with the people from whom the data were originally obtained. Data were presented to the participants in order to confirm that the researcher's findings correlate with the actual lived experience from the participants.

## **9.2 Transferability**

The findings have applicability in other contexts. The researcher makes use of thick description to establish transferability. Background information is provided regarding the participants in the research context and setting in order for others to assess how transferable the findings are. Purposive sampling was used to collect data in this study to ensure that the most suitable sample was chosen to represent the population.

## **9.3 Dependability**

The findings are consistent and could be repeated. Data was gathered by in-depth interviews. The interviews were recorded by means of a digital voice recorder. Transcribed data, field notes and open ended coded data should correlate.

## **9.4 Confirmability**

Confirmability refers to the extent to which the findings of the study are shaped by the respondents and not the researcher's bias, motivation or interest. All field notes were kept in order to verify findings after every interview. A literature control was conducted to compare data that are relevant in the literature, as well as new data that are not present in literature. As the researcher is a wound care nurse, reflexivity occurred during the whole research process to ensure that the researcher doesn't influence the data in any way by means of her own background.

## **10 ETHICAL CONSIDERATIONS**

Ethical considerations are an important part of research and are considered based on the following guidelines:

- International principles

There are three international ethical guidelines formulated, namely the Nuremburg code (Burns & Grove, 2009:185), Helsinki declaration (Burns & Grove, 2009:185-186), and the Belmont report (Burns & Grove, 2009:188).

- National principles

The most notable national ethical guideline is the Human Rights Charter of South Africa (Burns & Grove, 2009:189).

- North-West University (NWU)

Ethical approval was obtained from the ethics committee of the university to conduct this research. The research proposal was sent to the Ethics Committee of the NWU in order to get ethical approval to conduct the study. This study was conducted under guidance of a professional supervisor of the North-West University, who helped to ensure that all ethical considerations were met at all times during this study. International principles were upheld. The Ethical approval number that was obtained for this research is NWU-00006-13-S1 (see Annexure G).

- Consent in this research

Informed consent was obtained from every participant in the study beforehand (see Annexure E). Ethical considerations for this study were aligned with the guidelines of Burns & Grove (2009:184-215), as well as the post-graduate manual for the NWU.

Main points that were considered are the 4 basic main principles of ethics will be discussed in detail in Chapter 2 and only a short summary will be presented here. The 4 basic principles of ethics are:

- Autonomy (respect for the persons involved and comprehension of human dignity).
- Advantage (advantage to the subject).
- Non-malevolence (the absence of harm to the subject).
- Fairness (obvious fairness, equal fairness of pros and cons between communities).

As well as the basic human rights according to Burns & Grove (2009:189-199) which will be discussed in detail in Chapter 2, namely:

- Right to self-determination.
- Right to privacy.

- Right to autonomy and confidentiality.
- Right to fair treatment.
- Right to protection for discomfort and harm.

The above-mentioned criteria for ethical guidelines were met by the following means:

- Written, informed consent from all participants in the study.
- Voluntary participation in the study with the right to withdraw at any stage.
- The necessary referral network should the need arise for the subject to seek professional help after the data collection had been done.
- Privacy and confidentiality of all data that could identify the participant.
- All participants were treated fairly and with the necessary respect with regard to the sensitive information that was shared regarding the intimate and complex feelings of a lived experience.

Ethical guidelines will be discussed in detail in Chapter 2.

Digital voice recordings were used during the interviews to ensure that data is transcribed without errors, as well as to protect the physical identity of the participants.

## **11 CHAPTER DIVISION**

The chapters that constitute the content of the study have been arranged as follows:

- Chapter 1: Introduction and overview to the research.
- Chapter 2: Research methodology and literature study.
- Chapter 3: “Wholistic” care for patients living with chronic wounds.
- Chapter 4: Recommendations, evaluation and supportive guidelines and action plan.

## **12 SUMMARY**

In the light of the information above, it is clear that dealing with patients with chronic wounds is very complex. Care not only entails cleaning the wound or selecting the correct dressing, but also the psychological and spiritual support to these patients. Care should be taken to render holistic care in every aspect of treatment, from correct nutrition, assessment of anxiety, to dealing with their fears and questions, educating them, and choosing the correct products to promote wound healing. Nursing personnel providing wound care should be educated regarding the best methods to render the holistic support needs of the patient with

a chronic wound and in order to achieve this there should be guidelines in place to ensure effective support.

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## CHAPTER 2

### PART A: RESEARCH METHODOLOGY

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**CHAPTER 2**  
**PART A: RESEARCH METHODOLOGY**

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**1. INTRODUCTION**

Chapter 1 offered an overview of the research. Chapter 2 is divided into two parts. Part A offers a discussion of the research methodology. Part B is a literature review that provides the most recent international and national literature on chronic wound management and its associated holistic management by professional nurses.

**2. PART A: RESEARCH METHODOLOGY**

The research methodology pertains to the research design and research methods applied to this research.

**3. RESEARCH DESIGN**

This research follows a qualitative research design. According to Leedy and Ormrod, (2005:135), the key features of qualitative research are listed as follow:

**Table 1: Key features of qualitative research applied to this research**

<b>Situation</b>	The research was conducted in a real-life situation and is context-specific. The experiences of patients with chronic wounds were explored and described within their home environment.
<b>Focus</b>	The focus is more on the process and less on the product. Therefore, in this research the comprehensive research process was described and recorded as each step was conducted.
<b>Purpose</b>	An in-depth description and understanding of participants' beliefs, actions and events in all their complexity. This will be evident in the phenomenological exploration of patients' experiences living with a chronic wound.
<b>Findings</b>	The rationale is not to generalize findings, but to understand the findings within a specific context. The research results are described within the context of home-based wound care rendered by a professional nurse that is a wound care specialist to patients living with chronic wounds.
<b>Nature</b>	Qualitative research is often inductive in nature and moves from the specific to the general and to more questions. In this research the research findings are formulated and can be generalized to other contexts, although the findings are applicable to a specific context.

<b>Role of the researcher</b>	The researcher is the main instrument in qualitative research and is subjectively involved in the research process. In this research the researcher is directly involved in the data collection and analysis, the research results and writing the research recommendations.
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In addition to the statement above, this research design is qualitative (Botma *et al.*, 2010:183) phenomenological (Welman, Kruger & Mitchell, 2011:191; Botma *et al.*, 2010:190; Fox & Bayat, 2013:70-71), interpretive description (Thorne *et al.*, 2004:1-18), explorative (Botma *et al.*, 2010:185-186; Welman, Kruger & Mitchell, 2011:30) and contextual (Welman, Kruger & Mitchell, 2011:191) in order to gain an in-depth understanding regarding the emotional experiences of patients living with a chronic wound. The research design is described below.

### **3.1 Qualitative research**

Qualitative research explores phenomena in their natural setting. It attempts to make sense or interpret phenomena in terms of the meaning that people bring to it (Creswell, 2007:36-37; Stommel & Wills, 2004:178). It is a 'systematic, interactive, subjective' approach to describe the lived experiences of participants and to add meaning to these experiences (Burns & Grove, 2009:22). The qualitative approach to this research was selected because the researcher strives to gain an in-depth understanding of the phenomenon of living with a chronic wound. This phenomenon essentially needs to be understood by exploring the meaning that the patient attaches to it, and can only be appreciated by the researcher when it considers the patient's own experience and description in his own words. It also focuses on identifying and exploring the dimensions of a phenomenon (Brink, Van der Walt & Van Rensburg, 2012:122; Stommel & Wills, 2004:178).

### **3.2 Phenomenology**

According to Botma *et al.* (2010:190) phenomenology is the description of the essence of human experiences as it is lived by the participant and it focuses on the meaning of the lived experience of the phenomenon. The researcher can only explore the deeper experiences of the patient living with a chronic wound through a phenomenological approach (Welman, Kruger & Mitchell, 2011:191). The aim is to gain a better understanding of a particular issue from the participants' perspective in order to understand the patients lived experience of living with a chronic wound (Athanasou *et al.*, 2012:83), as well as to gain an understanding of the emotional meaning that the patient attaches to his chronic wound status. Only when a truly deeper knowledge and understanding is reached can an attempt be made to describe the phenomenon (Botma *et al.*, 2010:185; Brink, Van der Walt & Van Rensburg, 2012:121-122).

### **3.3 Explorative and interpretive description**

Explorative studies are according to Burns and Grove (2009:359) designed to increase the knowledge of the field of study and is not intended for generalization to large populations. In this research it is necessary to explore and describe as there are relatively insufficient knowledge regarding professional nurses' emotional support to patients living with a chronic wound. To this end a truthful description of the phenomena is needed (Botma *et al.*, 2010:185). Interpretive description is "an approach to knowledge generation that straddles the chasm between objective neutrality and abject theorizing extending a form of understanding that is of partial importance to the applied discipline within the context of their distinctive social mandates. It responds to the imperative for informed action within the admittedly imperfect scientific foundation that is the lot of the human sciences. The methodological form that grew into what is now called interpretive description arose from a need for an applied qualitative research approach that would generate better understandings of complex experiential clinical phenomena within nursing and other professional disciplines concerned with applied health knowledge or questions "from the field" (Thorne, 2008:26-27). In addition, the study follows is a qualitative research approach that derives its goal from two places, namely a practice goal that is actual and an understanding that is based on the empirical evidence of what we do know, as well as what we don't know (Thorne, 2008:35). Interpretive description is based on the assumption that nurse investigators will often keep exploring meanings and explanations that will 'yield application implications' (Thorne *et al.*, 2004:6). The goal of interpretive description is to coherently describe the thematic patterns and commonalities that are believed to characterize the phenomenon under study and accounts for the individual variations that are associated with them (Thorne *et al.*, 2004:7).

### **3.4 Contextual research**

Qualitative and especially phenomenological research can only be understood in a specific context (Flick, 2006:100). There is a mutual relationship of dependency between a person in relation to his world, as well as a dependency between the world and the person. This "life-world" refers to the world as lived by the person, and not some separate entity that is independent (Welman, Kruger & Mitchell, 2011:191). This research is contextual because the role of the context will be recognized by the researcher and the context will be described in detail.

In qualitative research, the researcher aims to understand human actions and decisions within their context and to reconstruct the lived experience of the human factors involved (Stommel & Wills, 2004:179). In qualitative studies, themes emerge from the data, leading to "context

bound” information that explains the phenomenon under study (Leedy & Ormrod, 2005:94-97). In the following paragraph the context of this research is discussed in detail.

### **3.4.1 Demographic context**

The context for this research is the home-based care environment of patients living with a chronic wound. The geographical areas included in the context are Potchefstroom, Fochville, Parys, Carletonville, as well as the smaller surrounding towns in the North West Province. Patients living with chronic wounds were referred to the researcher from these areas. The researcher has been a wound care specialist for advanced wound care from 2011 onwards. The wound care specialist was based in Potchefstroom, and travelled by motor vehicle to the above-mentioned towns for home-based wound care. The North West is a rural and semi-urban province and there are private as well as public health care services available (summarized in Table 2.2). These patients were different ages, from different cultures and backgrounds and the majority of the patients had some sort of medical insurance, thus having access to more advanced wound care treatment.

## **4 RESEARCH METHOD**

The research method is described below as with reference the population, sample, sampling and sample size, data collection and data analysis.

### **4.1 Population**

The population refers to all the participants who have been included in the research, or can refer to the elements or units that the researcher wants to study to make specific conclusions (Stommel & Wills, 2004:297; Welman, Kruger & Mitchell, 2011:52). The population included all the patients who were living with a chronic wound during the past three years (2011/2012/2013) and who were treated by the researcher (Burns & Grove, 2009:714). The reason for the timeframe of three years is that wound care more often than not is a long-term relationship. Some patients heal, and then have a relapse after a few months and need wound treatment again. Another reason is that the researcher needed a larger selection of patients to be included for research purposes.

### **4.2 Sample, sampling and sample size**

For this research the researcher made use of non-probable, purposive sampling (Creswell *et al.*, 2011:176,178; Brink, Van der Walt & Van Rensburg, 2012:139,141) with voluntary participation (Fox & Bayat, 2013:148) from the participants. Purposive sampling is based on the belief that the researcher has sufficient knowledge to hand pick members for the sample. A specific individual is selected who has been identified to have traits or qualities that are of

interest to a specific study (Botma *et al.*, 2010:201). Burns and Grove (2009:355) describe purposive sampling as the conscious selection by the researcher of certain subjects, elements, events, or incidents to include in the study. Purposive sampling was used to recruit participants from the population in order to get the most suitable participations for participating in the study. The sample size was not determined by data saturation only, but also on the foundation of interpretive description. According to Brink, Van der Walt and Van Rensburg (2012:141) and Burns and Grove (2009:361), data saturation occurs when no new data has emerged during the process of data collection. However, according to Thorne *et al.* (2004:5), the foundation of interpretive description is the smaller scale qualitative investigation of a clinical phenomenon with the purpose of identifying themes and patterns within subjective perceptions and generation of interpretive description capable of informing clinical understanding. Relatively small sample sizes are used in such studies and samples are often purposively and theoretically generated (Thorne *et al.*, 2004:5-6). This reflects an awareness of 'expected and emerging variations within the phenomenon under study' (Thorne *et al.*, 2004:6). Based on this information, the ideal participant for this study was selected on the grounds of the following inclusion criteria (Botma *et al.*, 2010:124).

The participant had to:

- Have been treated during the years of 2011- 2013 by the researcher, or should currently be treated by the researcher, as rapport has already been established while treating the wound.
- Be included regardless of income group, race or gender.
- Have the ability to express themselves in either English or Afrikaans, as the interviewer who has conducted the interviews is fluent in both these languages.
- Be over the age of 18 years.
- Have had wounds that have been present for more than two months, but less than one year should have elapsed since it has healed.
- Be able to give informed consent to participate in the study, as well as to participate in the study voluntarily.

#### **4.3 Data collection**

The experiences of patients living with chronic wounds are explored and described by means of a phenomenological approach of in-depth, individual, unstructured interviewing (Welman, Kruger & Mitchell, 2011:166; Athanasou *et al.*, 2012:89). A single question was asked during the interviews with the participants to direct the interview, namely:

- "What are your experiences living with a chronic wound?"

During the process of data collection, one combined document was presented to the participants. The information and consent letter (Annexure E) that describes the purpose of the study, had to be signed by the participant to give the researcher permission to use data obtained, within ethical limits and to reproduce the data for the purpose of this study (Burns & Grove, 2009:204-206). The interviewer obtained informed, written consent from the participants to participate in the research (Stommel & Wills, 2004:380,385). An independent interviewer conducted the interviews, as the researcher had already built a relationship with the participants and wanted to avoid bias. After each interview, field notes were taken in the form of observation, personal and theoretical notes, as well as methodological notes to reflect on whether the method of data collection is successful (Stommel & Wills, 2004:286-287; Botma et al., 2010:218).

**Table 2: Health services in selected towns in this research**

<b>Town/City</b>	<b>Public hospital services</b>	<b>Private hospital services</b>	<b>Public wound care services available</b>	<b>Private wound care services available</b>
Carletonville	Level 1 public hospital	Leslie Williams Private Hospital (services rendered to especially mine industry).	Basic wound care services rendered within primary health care services.	Leslie Williams Private Hospital makes use of wound care specialists from a company that supplies wound care products and services for negative pressure, community and retail pharmacies.
Fochville	Level 1 hospital	Fochville private hospital	Fochville public hospital provides basic wound care, doctors provide wound care in private practices.	No known wound care specialist in the area, community, or retail pharmacies specializing in wound care.
Parys	Level 1 public hospital	Only a step-down facility	Basic wound care services rendered within primary health care services.	No known wound care specialist in the area, community, or retail pharmacies specializing in wound care. Registered nurse from Potchefstroom visits the area part-time.
Potchefstroom	Level 2 public hospital	1 hospital, 1 step-down facility, 1 day-theatre facility, 1 emergency centre	Basic wound care services rendered within primary health care services.	One private nursing practice specializing in wound care, rendered from a practice and not travelling for wound care, no community or retail

				pharmacies specializing in wound care. Also makes use of private practice of Registered Nurses to provided wound care (based in Klerksdorp)
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### 4.3.1 In-depth, individual, unstructured interviews

An interview is a two-way conversation in which the researcher asks the participant questions in order to obtain data and to learn about the ideas, beliefs, views, opinions and behaviors of the participant (Creswell *et al.*, 2011:87). The in-depth interview is one of the methods used to collect data in qualitative research. It refers to a one-on-one interaction and reflection on the description. In this research, the in-depth interview refers to an unstructured interview as the researcher attempted to get answers, test the hypotheses or to evaluate it, and to gain an understanding of the experience of other people and the meaning that they make of that experience. The researcher is not objective or detached, but engaged in the interaction (Botma *et al.*, 2010:206-207). Verbal and non-verbal observations are made during the interview to obtain data (Burns & Grove, 2009:705) and information regarding the lived experience of the patient living with a chronic wound.

According to Botma *et al.* (2010:207) there is a specific format and process involved in conducting an in-depth, individual, unstructured interview. The elements involved are listed below:

- The interview is opened with introductory pleasantries. In this study, the participant was greeted, and the interviewer inquired about the well-being of the participant.
- The purpose of the research is stated. The purpose stated specifically for this study was to explore and describe the experiences of patients living with chronic wounds in order to formulate support guidelines for nurses so that they can provide better holistic support to patients living with chronic wounds.
- The role that the interview plays in the research is delineated. For this research, the role that the interview played was to explore and describe the emotional experiences of patients living with chronic wounds based on a phenomenological approach.
- An approximate duration or time frame of the interview was one to two hours. The confidentiality of the information was emphasized to set the participant at ease regarding sensitive information which might emerge during the interviews.
- The digital voice recording was explained in order to inform the patient that although the interview is recorded, the information will be handled as sensitive, so that no contradictory thoughts may arise in the participant.
- The making of notes during the interview was explained in order for the participant to feel more at ease and comfortable when the interviewer wrote during the interview.
- Signed voluntary consent was asked.
- The fact that the participant may withdraw at any stage was emphasized.

- The interview started with a single broad question, which for this specific study was as follows: “What are your experiences living with a chronic wound?” Further probing questions were asked without influencing the participant’s response.
- The interviewer established rapport by listening attentively, showing interest, understanding and respect for what the participant is saying.

The setting is the location where a study is conducted (Burns & Grove, 2009:362). The interviews were conducted within the participants’ home environment. The home environment for this study refers to the home, hospital or old age home where the patient was accommodated at the time of the interview. The interviewer aimed to create a setting that was free from noise, well-ventilated and quiet as to cause no distractions. The interviewer gained consent from the participant in order to continue with the interview (Brink, Van der Walt & Van Rensburg, 2012:39). The digital voice recorder was set up as the interviewer arrived at the participant’s home. The digital voice recorder was positioned in such a manner that both the interviewer and the participant were visible and audible. The interviews were arranged with the participants beforehand to ensure that there no distractions were present from other household members or incidences (Burns & Grove, 2009:404-405, 510-511; Botma *et al.*, 2010:206-210).

#### **4.4 The role of the researcher**

The researcher was responsible for managing the research process. An independent interviewer conducted the in-depth (Botma *et al.*, 2010:207-208), individual, unstructured (Athanasou *et al.*, 2012:89-90) interviews. This interviewer was in no way associated with the researcher and had no previous contact with the participants. An independent person was used to transcribe the data that were gathered by means of the interviews. The researcher herself conducted data analysis with the expert help of a psychiatric nursing specialist who assisted as a co-coder. A final consensus discussion was conducted before the research results were discussed.

#### **4.5 The research setting**

The research setting for this research was the patients’ home environments. The independent interviewer arranged an appointment herself and conducted an in-depth, individual, unstructured interview at the patients’ home. In qualitative research the participants are encouraged to respond spontaneously, as there is a lower level of control over the research setting. This refers to an uncontrolled, real-life situation or environment (Brink, Van der Walt & Van Rensburg, 2012:59).

#### **4.6 Field notes**

When a participant is being observed the researcher doesn't experience the participants as outsiders but rather as "first hand insiders" (Welman, Kruger & Mitchell, 2011:194). Field notes (see Annexure F) are made during the interview process and refers to a written account of what the researcher hears, sees, feels, experiences and thinks about during the interview (Botma *et al.*, 2010:217). Field notes (Annexure F) can be divided into three types, namely:

- Personal notes are comments about the interviewer's emotions and intrapersonal experiences (Botma *et al.*, 2010:218; Stommel & Wills, 2004:287).
- Methodological notes entail the methods and strategies used during the interviews, describing the processes and action steps followed (Botma *et al.*, 2010:218; Stommel & Wills, 2004:287).
- Theoretical notes are the researcher's thoughts on how to make sense of what is going on (Botma *et al.*, 2010:218; Stommel & Wills, 2004:287).

### **5 DATA ANALYSIS**

Data analysis is a step in the research process that is conducted in order to reduce, organize and try to give meaning to data (Burns & Grove, 2009:695). In this research content analysis was used. The process for content analysis begins with preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data (Creswell, 2009:183). According to Thorne *et al.* (2004:9), movement beyond the analytical framework 'from which the investigation is launched is needed in order to move from the initial descriptive claims toward abstracted interpretations that will illuminate the phenomenon under investigation in a new and meaningful way'.

#### **5.1 Process of content analysis**

Every interview was digitally voice recorded and transcribed for the process of data analysis. Data analysis was conducted according to the eight steps as described by Tesch *in* Creswell (2009:186). The eight steps are described in Chapter 1 (point 8).

### **6 LITERATURE INTEGRATION**

The researcher did a full literature review after data analysis had been completed to support the findings of this research, to identify unique findings that have not been identified in literature, as well as to identify findings that have not been identified in this research, but have been identified

in literature. The researcher used a narrative approach to integrate qualitative findings (Botma *et al.*, 2010:240-241).

## **7 SUPPORT GUIDELINES**

Although general guidelines are available for nursing practice, research and education, the researcher formulated support guidelines for wound care specialists. According to Brown *et al.* (2006:804), the essential items that should be included in guideline formulation are as follows:

- Evidence: the current evidence that is available to support the formulation of the clinical guideline.
- Population: refers to the population of interest.
- Intervention: refers to the interventions of interest in order to formulate the appropriate clinical guideline.
- Comparison: compares the routine care or management.
- Outcome: which outcomes need to be measured, improved, influenced or accomplished, as well as which methods will be used.
- Time: the date of the recommendation.

These steps were followed by the researcher in order to formulate support guidelines for wound care specialists.

## **8 TRUSTWORTHINES**

According to Creswell (2009:191-1), terms like trustworthiness, authenticity and credibility are used when referring to qualitative validity. This refers to the fact that the researcher has to check for the accuracy of the findings by employing certain strategies.

Greeff in De Vos *et al.*(2011:345) states that trustworthiness refers to the credibility of the study; the applicability of the study findings to another setting; reasonable surety that the research findings will be replicated when repeated under similar conditions; that the research findings are a true reflection of the subjects, and not a mere creation of the researcher; and the freedom from bias and prejudices. Trustworthiness according to Krefting (1991:215-222) have four epistemological standards, and Guba and Lincoln (*in* Polit & Beck, 2008:539) added a fifth criterion, as listed below:

- *The truth value*: Refers to the true reflections of the research findings, and confidence that the findings are based on the research design, participants and the context. The research findings have to reflect true lived subjective human experiences. People who shared similar experiences have to be able to recognize the descriptions of the findings (Orb, Eisenhauer &

Wynaden, 2000:94; Botma *et al.*, 2010:233).

- *Applicability*: Refers to the degree to which the findings can be applied in different contexts and groups. It is the ability to generalize from the findings to larger populations by using the strategy of transferability (Botma *et al.*, 2010:233). The strength of applicability is that the research was conducted in a natural setting with only a few controllable variables. Descriptive data could allow comparisons to other similar situations.
- *Consistency*: Could be achieved when the inquiry is replicated with the same participants in a similar context (Botma *et al.*, 2010:233).
- *Neutrality*: Neutrality refers to freedom from bias during the research process (Botma *et al.*, 2010:233). The research findings were derived solely from the participants' lived experiences. Results can be regarded as confirmable if they have been derived from the participants and not from the subjective opinion of the researcher (Lincoln & Guba, 1985).
- *Authenticity* refers to the extent to which the researcher shows a range of different realities (Botma *et al.*, 2010:234). Authenticity is reflected when, in a report, the reader can develop sensitivity to the issues depicted and when the report conveys the feelings of the participants as they lived it (Botma *et al.*, 2010:234).

To ensure trustworthiness, the researcher applied the methods of Lincoln and Guba (1989), which described four steps to establish trustworthiness, namely:

### **8.1 Credibility**

Credibility refers to having confidence in the 'truth' of the findings. The researcher will ensure that data can be provided with confidence to the participants, based on the study design. The researcher used the following techniques to establish credibility:

### **8.2 Prolonged engagement**

The researcher will have spent sufficient time in the field to understand the phenomenon of interest. The development of rapport between the researcher and the participant will facilitate meaning with regard to the phenomenon. Rapport has previously been established due to the fact that the participant was treated by the researcher. The researcher has experience in providing wound care and dealing with chronic wounds. Participants will be interviewed in their home environment (natural setting) to promote comfort and full cooperation without feeling threatened or intimidated by the situation (Botma *et al.*, 2010:234).

### **8.3 Member checking**

Data are tested with the members from whom the data were originally obtained. Data will be presented to the participants in order to confirm that the researcher's findings correlate with the actual lived experience from the participants. After data analysis, themes will be presented to the participants in order to ensure that the coded data do indeed convey what they were meant to convey (Botma *et al.*, 2010:234).

### **8.4 Transferability**

The findings have applicability in other contexts. The researcher made use of thick description to establish transferability. Background information was provided regarding the participants in the research context and setting in order for others to assess how transferable the findings are. Purposive sampling with voluntary participation was used to collect data in this study to ensure that the most suitable sample was chosen to represent the population (Botma *et al.*, 2010:234). Transferability strategies included the time spent with each participant. The participants were given enough time to express their feelings and lived experiences without a pushed time limit. The characteristics of informants, as well as their demographic data are available. The data are described in detail and available for critique.

### **8.5 Dependability**

The findings should be consistent and repeatable. Data were gathered by in-depth interviews (Botma *et al.*, 2010:207). The interviews were recorded by means of a digital voice recorder. Transcribed data, field notes and open ended coded data should correlate (Botma *et al.*, 2010:234). Dependability strategies refer to the dense descriptions of the research method.

### **8.6 Confirmability**

Confirmability refers to the extent to which the findings of the study are shaped by the participants and not the researcher's bias, motivation or interest. All field notes were kept in order to verify findings after every interview. A literature control was conducted to compare data that was relevant in the literature, as well as new data that are not present in literature. As the researcher is a wound care nurse, reflexivity was employed during the whole research process to ensure that the researcher doesn't influence the data in any way as a result of her own background (Botma *et al.*, 2010:235). All aspects of the phenomenon under investigation were addressed.

In addition to the above, the following strategies to enhance quality in qualitative inquiry according to Polit and Beck (2008:542-550) were considered:

- Prolonged engagement and persistent observation: interviews were done with no haste and the participants were allowed sufficient time to respond.
- Data and method triangulation.
- Comprehensive and vivid recording of information.
- Member checking: after data analysis was done, the themes that were identified were discussed with the participants to ensure that the theme identified is indeed what the participant meant.
- Investigator and theory triangulation: during data analysis, the data were coded in accordance with a co-coder. An independent interviewer was used for data collection.
- Peer review and debriefing: discussions were held with an independent co-coder in order to confirm the themes that were identified during the data analysis process.
- Inquiry audits: all relevant notes, as well as recordings that were made during data collection were kept for audit purposes.
- Disclosure of quality enhancement strategies: meticulous notes were kept regarding the interview process and are readily available for review.
- Thick and contextualized description: the context was described in detail. The participants were described, as well as the methodology that was used for the specific research.
- Researcher credibility: the researcher was the creator of the analytic process during the research and has experience in advanced wound care.

## **9 ETHICAL CONSIDERATIONS**

Ethical considerations are discussed based on the international, national and NWU-specific guidelines on research ethics, as well as ethical principles in research.

### **9.1 International guidelines**

International ethical guidelines have been formulated in order to ensure that equivalent standards are complied with across the whole world. There are three documents that govern ethics, namely: the Helsinki Declaration (World Medical Association, 2008), the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1978) and the Nuremberg Code (United States National Institutes of Health, 2012).

The Nuremberg Code of 1947 was the first set of guidelines to protect research participants. (Brink, Van der Walt & Van Rensburg, 2012:33). This code emphasises the following aspects:

- Subjects should give voluntary consent to participate in the research.
- Subjects should have the right to withdraw from the study at any time, should they wish to do so, regardless what their reasons are.
- Subjects should be protected from physical and mental suffering, injury, disability and death during research.
- There should be a balance of benefits and risks to the patient in a study (Burns & Grove, 2009:185).

The Declaration of Helsinki later followed the Nuremberg code, and made provision for children and persons with mental disorders as research subjects to be included (Brink, Van der Walt & Van Rensburg, 2012:33). The declaration differentiates between therapeutic and non-therapeutic research (Burns & Grove, 2009:185). The requirements of the declaration of Helsinki are as follows:

- Greater care should be exercised to protect subjects from harm in non-therapeutic research.
- There should be a strong justification for exposing a healthy volunteer to risk of harm just for new scientific information.
- Investigators must protect the life, health, privacy and dignity of research subjects.
- Extreme care should be taken in placebo controlled trials (Burns & Grove, 2009:185-186).

The Belmont Report followed the Nuremberg code in 1978. The goal was to offer a framework to give guidance regarding resolution of problems that might arise during research involving human subjects (The Belmont Report [USA], 1979). The Belmont report identifies three main ethical principles on which contemporary standards for research ethics are based (Stommel & Wills, 2004:377). Ethical principles refer to “those general judgments that serve as a basic justification for the many particular ethical prescriptions and evaluations of human actions”.

The three main ethical principles identified by the Belmont report (Stommel & Wills, 2004:377-378)are:

- Beneficence refers to freedom from harm, refraining from exploitation of study participants, and promoting individual and societal benefits which are directly related to the research.
- Respect for persons refers to the right to self-determination (autonomy) and the right to full disclosure with regard to the research.
- Justice concerns the right to privacy, as well as the right to fair treatment in the context of participation in the research.

## 9.2 National guidelines

In South Africa, the Medical Research Council (MRC) is the body that formulates ethical guidelines when conducting research (NWU, 2010).

The MRC has published five books in the series 'Guidelines on Ethics for Medical Research', namely:

- Book 1: General principles.
- Book 2: Reproductive biology and genetic research.
- Book 3: Use of animals in research.
- Book 4: Use of biohazards and radiation.
- Book 5: HIV vaccine trials (NWU, 2010:52).

The MRC decided to publish a number of booklets, because research is a field that is constantly changing and by splitting the books into five separate books, updating, reprinting and also accessibility for a person with a specific interest was made easier. **Error! Hyperlink reference not valid.** During this research, the researcher made use of the general principles to the conduct of research, because the following requirements were taken into account:

- Informed consent: this will be achieved by providing sufficient information regarding the research procedure, their purposes, risks and benefits involved in the research, alternative procedures (if applicable) and a statement that the participant may ask questions and withdraw from the study at any time. Furthermore, it is necessary for the participant to understand all the information that is presented to him.
- Risk/benefit assessment: during this research, the benefits and risks were weighed and the benefit that the participants will add to the support guideline formulation for nurses to support patients with chronic wounds, outweighed the risks associated with interviewing the participant and consequently causing traumatic feelings to arise.
- The selection of subjects of research: participants were chosen fairly and no preference was given to any given subject that may be 'undesirable' during this research.

## 9.3 NWU guidelines

Research is controlled by ethical principles (NWU, 2010:48). Scientists have to subject themselves to a code of behaviour, guidelines, policies and compulsory registration with the

relevant national bodies (NWU, 2010:48). The Ethics Committee of the NWU is responsible for the formulation of ethics guidelines, evaluating and approving research protocols and monitoring the progress of the research (NWU, 2010:49). All research must be approved by the Ethics Committee (NWU, 2010:49). The NWU ethical principles are governed by four main principles, namely:

- Autonomy (Botma *et al.*, 2010:3), referring to the persons' capability to deliberate about his or her personal goals and then 'acting under the direction of such deliberation'.
- Benefit, which according to Botma *et al.* (2010:21) can present in different forms, namely benefits to society, benefits to the participant, psychosocial benefits to the participant, benefits to the researcher and to the organization that the researcher works for. Benefits should outweigh risks and the benefit/risk ratio should be carefully considered before continuing with the study (Botma *et al.*, 2010:25).
- Non-harmfulness (Botma *et al.*, 2010:20) refers to beneficence which is based on two principles, namely that participants have the right to be protected from harm and discomfort, as well as that no harm should be done, but only good.
- Justice (NWU, 2010:48; Botma *et al.*, 2010:19) which refers to treating all people fairly. This includes the fact that informed consent should be obtained for every new intervention that might be done so that it is not just done without consent from the participant (Botma *et al.*, 2010:20).

#### **9.4 Ethical principles**

In addition to the international, national and NWU-specific literature on ethics in research, the researcher herewith declares adherence to the following ethical principles in this research:

- Autonomy

Respect for persons require respect for the person's autonomy (Botma *et al.*, 2010:3). In this research the participants' autonomy was respected by giving the participant the option to participate voluntarily in the research.

- Beneficence

The principle of beneficence encompasses the responsibility to avoid harm to the participants (Botma *et al.*, 2012:3). In this research the researcher focused on doing good and minimising harm.

- Justice

The principle of justice included the right to fair treatment and the right to privacy (Botma *et al.*, 2010:3; Stommel & Wills, 2004:382). Participants should be treated fairly before, during and after the study. In this study, only participants who were treated by the researcher and who voluntarily agreed to participate were interviewed.

- Informed consent

Consent was obtained before the commencement of the interview (Botma *et al.*, 2010:16) (see Annexure E). The researcher explained the aim of the research to the participants. Voluntary participation was confirmed through written consent from the participants (Annexure E), of which the participant received a signed copy. Consent was only obtained once information regarding the aim of the study, the fact that the interview will be audio taped, possible fatigue and discomfort during the interview, and the fact that he can withdraw at any stage of the research process, have been explained in detail to the participant (Burns & Grove, 2009:204). Voluntary consent was obtained once the participant was given information about the study, and showed that he understood the information that was given (Burns & Grove, 2009:204).

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**CHAPTER 2**  
**PART B: LITERATURE REVIEW**  
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**CHAPTER 2**  
**PART B: LITERATURE REVIEW**

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### **1. INTRODUCTION**

Chapter 1 offered an overview of the research problem and the research methodology. Part B of chapter 2 presents a literature review regarding chronic wound care provided by professional nurses as wound care specialists. The discussion first introduces the nurse and wound care specialist, followed by the realities of living with a chronic wound. The chapter continues to review wound care products, the pharmaceutical context for negative pressure wound therapy, wound care, home based wound care and the fees involved for such services. In addition to these aspects, the discussion addresses the concept of a holistic wound care approach, holistic approach in nursing 'whole', while also considering the physical and pathophysiological aspects of wound healing. In the last instance the chapter looks at emotional grief as possible experience during chronic wound care, financial and social implications of chronic wound care, spiritual factors in chronic wound care and the challenges of chronic wound care.

### **2. SEARCH STRATEGY**

The following search strategy was followed to obtain a range of literature, both nationally and internationally. In addition to text books, the researcher utilized different search engines and various databases that can be listed as follows:

- *Search engines:* EbscoHost, Science Direct, SAepublications, electronic theses and dissertations, Sabinet and Google Scholar.
- *Data bases:* Medline, PsychInfo, Pubmed.

The following key words were used to search on the above search engines and databases: experiences, chronic wound, comprehensive support guidelines, descriptive inquiry, wound care specialist, professional nurse. A variety of literature types were used such as text books, journals (peer reviewed and non-peer reviewed), policies, internet, dissertations, the researcher's own experience as a wound care specialist, publications and online dictionaries.

### **3. THE PROFESSIONAL NURSE AS WOUND CARE SPECIALIST**

According to Fourie (2013:21-24) very little or no wound management training is provided to medical professionals studying towards the MBChB/MB BCh degrees. Wound treatment options are discussed during clinical rounds with the teaching professor. Currently there are limited accredited chronic wound care courses available in South Africa (Coetzee, Coetzee & Hagemester, 2010:9-13). Only two (2) South African universities provide accredited courses in

wound care, namely the University of the Free State (UFS, 2013) as well as Stellenbosch University (SUN, 2013). The University of the Free State offers a short course on wound care, which offers 20 credits and is directed at registered nurses or any other relevant health care professionals (UFS, 2013). The SUN offers a 12 month course in conjunction with the University of Toronto (Canada) and any wound care clinician with some experience and training may apply. The aim is to recruit a mix of physicians, nurses and other health care professionals who work in the field of wound care or related industry (SUN, 2013).

In order for a professional nurse to specialise as a private wound care specialist, she has to be registered with the Board of Healthcare Funders (BHF) as a private nurse practitioner and with the South African Nursing Council (SANC) with an annual updated membership number (SANC, 2013). There is no legislation against private practice, but the SANC prominently refers to Regulation 2598 (registered nurses' scope of practice) and Regulation 387 (Rules Setting Out the Acts or Omissions in Respect of Which the Council May Take Disciplinary Steps) (SANC, 2005**Error! Hyperlink reference not valid.**) as guidelines.

According to the scope of practice of registered nurses (R.2598 (SANC, 2005), the registered nurse may amongst other duties, do the following:

- Diagnose a health need and prescribe, provide and execute a nursing regimen to meet the need of a patient or group of patients or, where necessary, by referral to a registered person.
- Execute a program of treatment or medication prescribed by a registered person for a patient.
- Prescribe, promote or maintain hygiene, physical comfort and re-assurance of the patient.
- Facilitate the healing of wounds and fractures, the protection of the skin and the maintenance of sensory functions in a patient.

As indicated in the discussion above, a wound care specialist is not limited to nurses only. Furthermore, training in wound care can be viewed as continuous development. A professional nurse as wound care specialist in private practice might need training and support from time to time to keep up to date with the latest practices in wound care. Two of the main negative pressure wound care technologies, medicine and therapy companies nationally and internationally, namely Company A and Company B, provide continuous in-service training by Company A and Company B representatives. These representatives can be viewed as specialists in the field of wound care due to thorough training (Smith & Nephew, 2013).

#### 4. THE REALITIES OF LIVING WITH A CHRONIC WOUND

Chronic wounds have been defined in chapter 1 (Widgerow, 2009:09) (please refer to 1.1). The long-term nature of a chronic wound might entail that the patient is faced with many realities on a daily basis. These realities can have a significant effect on the patient, as well as the wound. As discussed in chapter 1, the patient experiences stress due to a number of factors. This ranges from the financial impact of expensive wound care products, to anxiety and wound associated pain. Another reality is that the outcome of the wound can't be predicted. This leads to emotions ranging from hope to hopelessness, and the patient trying new things in the hope that healing that may or may not come (Briggs & Flemming, 2007:324).

The accurate assessment of a wound is a crucial part to ensure healing, but a holistic approach should be taken in order to ensure overall wellbeing. The two models that were used during this research to assess the wound were the TIME model and the HEIDI model (paragraph 1.4.3). The healing process of a chronic wound is generally a long and uncomfortable process (Mudge, Spanau & Price, 2008:21). Although millions of people suffer from chronic wounds, very little research has been done regarding the experience of living with the wound (Beitz & Goldberg, 2005:51). In the USA 2,8 million people are affected by chronic wounds and in Germany 4 million (Coetzee, Coetzee & Hagemester, 2010:9). It was estimated that in 2002 a total of 17 million people had chronic wounds in America due to an increase in the number of elderly people, as well as the number of people suffering from Diabetes Mellitus (Beitz & Goldberg, 2005:272). According to Mudge, Spanau and Price (2008:28), there is a connection between pain and a patient's quality of life. Feelings such as anger, sadness, hopelessness and despair have been identified where a painful wound controls a person's existence.

As already noted, people who are living with chronic wounds do not only suffer because of the physical aspects of the wound, but from financial, social and psychological impairment. These factors significantly reduce their quality of life (Augustin *et al.*, 2010:493). According to Orsted *et al.* (2001:26-36), the chronic wound experience incorporates physiological, psychological and social themes. Living with a chronic wound may have an effect on many aspects of the patient's life including pain, limited physical mobility, decreased social functioning and disruption of work and leisure activities (Sibbald, Woo & Ayello, 2008:30). The issues regarding quality of life for patients who are living with chronic wounds are 'multifaceted and complex'.

Orsted *et al.* (2001:26-36) explain that the healing of patients' wounds are difficult while the 'woundedness' of the patient who is living with the chronic wound is also problematic. The suggestion was that health care professionals should explore the following factors in the patient who is living with a chronic wound:

- The biophysical problem,
- The wound itself, and
- The illness experience of the patient in the context of their environments, beliefs and life experiences (Orsted *et al.*, 2001:26-36).

According to Wound Healing Southern Africa (WHASA, 2008), chronic venous leg ulcers (which are also classified as a chronic wound), are often associated with an 'emotional battlefield', not only for the patient, but for the healthcare provider as well. Due to the occurrence of various emotions that may arise due to the presence of the chronic wound, providers should 'be sensitive to the needs of the patients, even they themselves may feel impotent and anxious and that they are failing in their professional career' (WHASA, 2008:24).

## **5. WOUND CARE PRODUCTS**

Although South Africa is regarded as a developing country new wound care products are continuously developed and made available on the market (Mulder, 2009:76). In this research negative pressure therapy was the predominant wound care regime followed and therefore the wound care products presented are applicable to negative pressure therapy. Negative pressure therapy is a specific form of suctioning within a sealed environment (Glass & Nanchahal, 2012:990). The purpose of negative pressure wound therapy is to produce mechanical wound deformation, reduce exudates and bacterial load, promote blood flow and enhance granulation tissue (Glass & Nanchahal, 2012:990). When comparing negative pressure wound therapy and conventional therapy, there is a significant decrease in the length of hospital stay and the healing time of the wound (Rahmanian-Schwarz *et al.*, 2012:574).

Two examples of negative pressure wound care pumps most commonly used in South Africa are presented in Figure 1 and Figure 2.



Figure 1: “Negative Pressure Wound Therapy Devices” (Smith & Nephew 2013)



Figure 2: “V.A.C.®” Therapy (KCI, 2013)

## **6. PHARMACEUTICAL CONTEXT FOR NEGATIVE PRESSURE THERAPY**

As already indicated earlier, there are currently two providers of negative pressure pumps in South Africa, of which both are international companies (see Part 2 section B: wound care products). Each of these companies has a different operating procedure regarding the provision of treatment. For instance, one company doesn't wait for authorization to start treatment (Company A). Once the doctor has requested treatment, the professional nurse as wound care specialist can apply the negative pressure pump and then start the process to get authorization from the medical aid. Should the medical aid decline the treatment, the company will take responsibility for the treatment and apply the negative pressure to a point where alternative therapy can be initiated. The second company (Company B) generally waits for authorization, only then is stock delivered to the patient and treatment can be initiated. Most medical aids provide a benefit that authorizes negative wound therapy separate from the patient's day-to-day expenses and the advantage of this is that no day-to-day savings accounts are depleted. The stock that is needed for each treatment comes in pre-packed sets according to the wound size, type of wound, and sometimes on the doctor's preference, e.g. foam or gauze packs. There are also different types of drains that can be ordered when motivating for treatment. This depends on the location of the wound, type of wound, amount of exudates and is tailor fit to provide the most comfort to the patient (Smith & Nephew, 2013). It is the professional nurse as wound care specialists' responsibility to provide dressing trays and unsterile gloves when providing wound care. It can be claimed back from the medical aid by the wound care specialist herself, or it can be considered as included in the fixed fee that the negative pressure company pays her should she not wish to claim it from the medical aid.

## **7. WOUND CARE**

In 2002 the TIME module was developed by a group of experts for use as a practical guide when managing patients with wounds (Dowsett & Newton, 2005:58). The TIME framework can be used to identify barriers to healing and to implement a care plan in order to remove these barriers and as a result promote wound healing (Dowsett & Newton, 2005:58). It was developed by the International Advisory Board for Wound Bed Preparation to be used as a practical tool in a clinical setting and it summarizes the four main components of wound bed preparation, namely: tissue, infection/inflammation, moisture and edge (Dowsett, 2009:14).

A comprehensive assessment should be done on each wound by looking at aspects like the general health of the patient and the social, economic and psychological aspects of the patient that may influence the wound healing. This comprehensive assessment should be recorded as baseline data (Mulder, 2009:17). The TIME module is a tool that is developed to show the factors that should be in balance to promote successful wound healing. Furthermore, the HEIDI

principle can be used as a guideline for how to approach the actual wound. In part 1 both the TIME module and the HEIDI principle were discussed in detail (see paragraph 1.1).

## **8. HOME BASED WOUND CARE**

According to the WHO home based care is defined as the provision of health services by formal and informal caregivers in the home in order to promote, restore and maintain a person's maximum levels of comfort, function and health, including care towards a dignified death (UNISA, 2013). Home care services can be classified into preventive, promotive, therapeutic, rehabilitative, long-term maintenance and palliative care categories (Government, 2003).

Once the patient is discharged from hospital and still needs to continue with negative pressure therapy, the professional nurse as wound care specialist is responsible to treat the wound in the patient's home environment. In collaboration with the patients' doctor, wound care is rendered until such a point that the wound is either healed, or needs to be referred for further intervention. The professional nurse as wound care specialist is the primary contact between the patient, his wound and his treating doctor. It is her role to gain rapport with the patient and include him in the treatment of the wound, and more often than not, his family. The professional nurse as wound care specialist travels to the patient's home environment with the wound care supplies that are needed to treat the patient. Many different products are available for use and the professional nurse as wound care specialist usually has her own preference regarding which products to use in the treatment. This may be influenced by cost and experience. As mentioned earlier, the negative pressure packs that are supplied are standard and do not cater for e.g. infection or bacterial colonization of the wound. It is therefore the responsibility of the professional nurse as wound care specialist to make decisions regarding the treatment of the wound. Pictures of the wound are taken at every visit for record keeping, as well as to monitor the wound's progress. These pictures are sent to the specific company that supplies negative pressure wound therapy to the patient (see Appendix C and D: Provider Contracts), and they in turn send it to the medical aid to the update treatment that is used, as well as the size of the wound, volume of exudates, and general reporting of the TIME (see Part 1 section 1.5.4). The professional nurse as wound care specialist also needs to assess whether it is necessary to refer the patient, e.g. if it needs surgical debridement, in order to prepare the wound bed to promote healing. Debridement is the process of removing devitalized tissue and/or foreign material from a wound. According to Dowsett and Newton (2005:58), different types of debridement can be used, namely:

- Surgical and sharp debridement: Surgical and sharp debridement are the fastest ways of removing devitalized tissue, but the process can be painful and may lead to bleeding. Surgical and sharp debridement must be done by an experienced clinician and care should

be taken with immune-compromised patients to avoid larger wounds which may become infected (Schultz *et al.*, 2003:9-11).

- Autolytic debridement involves the removal of non-viable tissue by promoting the activities of phagocytic cells and endogenous enzymes (Woo *et al.*, 2013:2).
- Enzymatic debridement uses exogenous enzymes to accelerate the debridement process, e.g. collagen (Woo *et al.*, 2013:2).
- Larval debridement.
- Mechanical debridement uses physical forces to get rid of wound debris (Woo *et al.*, 2013:2).

Sometimes the professional nurse as wound care specialist will debride a wound during the routine visit to the patient if she feels comfortable that it is necrotic tissue and it doesn't pose a threat to the patient e.g. cutting into live tissue and causing uncontrolled bleeding. However, this type of debridement (sharp debridement), requires skill, identification of viable and non-viable tissue, ability and resources to manage bleeding, as well as informed consent from the patient (Dowsett and Newton, 2005:62).

According to Woo *et al.* (2013:2), the assumption is that conservative sharp debridement performed by a nurse specialist would occur at home by a home care nurse 60% of the time and the remaining 40% will be done in an institution by a nurse. They also assume that the nurse specialist initially sees the patient 70% of the time and that the clinician sees the patient 30% of the time, where once is for assessment, and the other for a follow-up visits.

## **9. FEE FOR SERVICE**

In the instance where a patient is treated with a negative pressure pump, the fee for service is paid to the professional nurse as wound care specialist by the company who supplies the negative pressure pump (see Appendix C and Appendix D: Contracts). The professional nurse as wound care specialist has a contract with the company to operate as a "Private Nursing Practitioner" or 'PNP' and there is a set fee for services according to which the professional nurse as wound care specialist may invoice the company. Once the patient is discharged from hospital and still needs to be treated with the negative pressure pump, the professional nurse as wound care specialist will do home visits and treat the wound in the home environment. If travelling is involved, the professional nurse as wound care specialist may claim the petrol from the company at a set fee per kilometer travelled. The company generally deals with the medical aid, and it is only expected from the professional nurse as wound care specialist to initially do the wound assessment, provide a motivation, and to generally provide a progress report should treatment continue longer than the initial authorization period. If extra wound care products should be needed, the company can get extra authorization for it to be supplied (if it is the

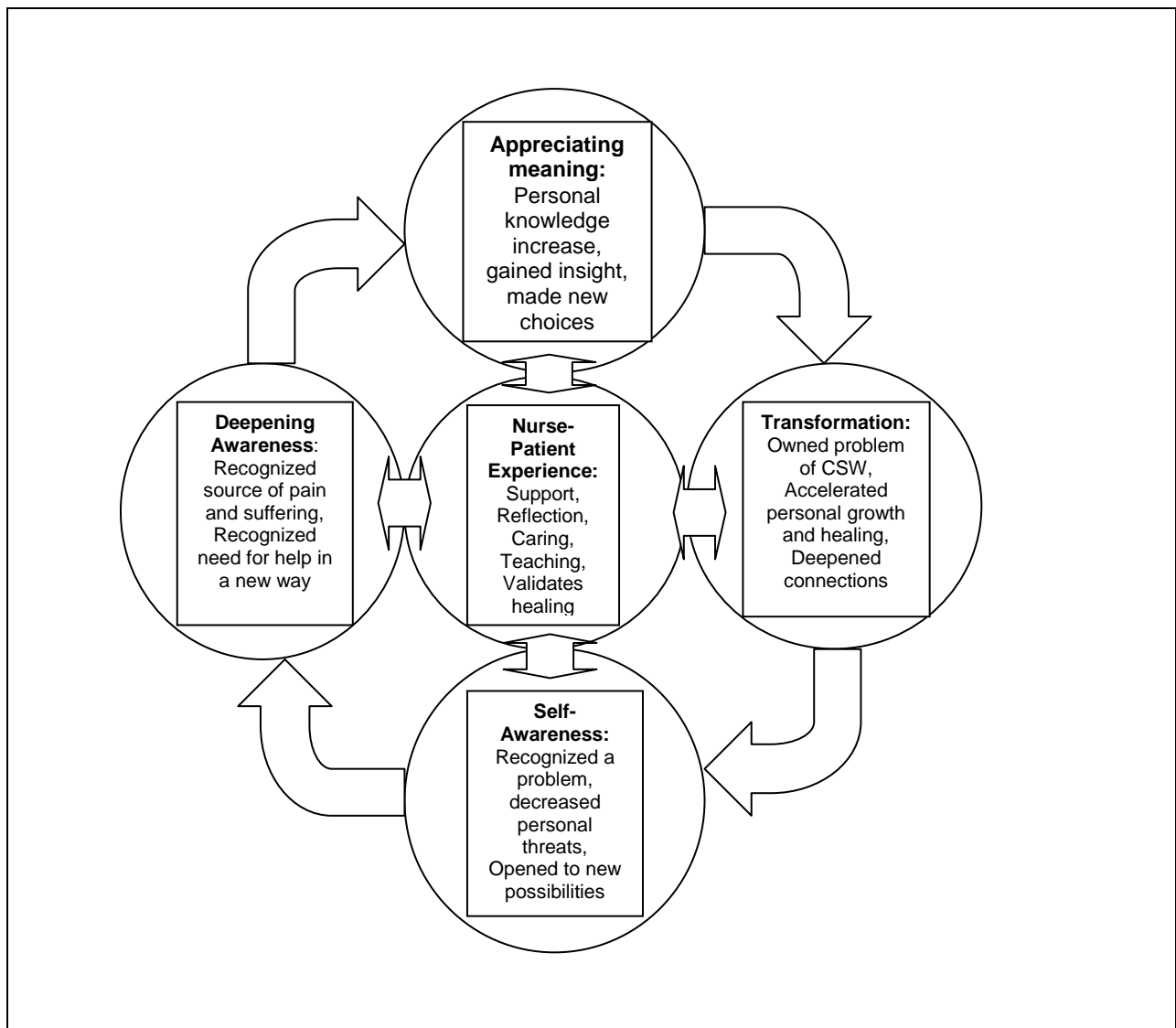
products that are manufactured by the company), otherwise the professional nurse as wound care specialist may claim it from the medical aid herself, as per set tariffs from the BHF (2009). If the medical aid should reject the claim, it is up to the practitioner to invoice the patient for the cost, or to take it upon herself not to charge the patient.

## **10. HOLISTIC WOUND CARE APPROACH**

Wound care has grown into a science that takes into account the cause and treatment of the wound, instead of only putting on a plaster where it hurts. Many more factors are taken into account, for example the risk factors, as well as the contributing factors (WHASA, 2009:3). Therefore it is of utmost importance to approach a patient who is living with a chronic wound holistically.

### **10.1 Holistic approach in nursing “whole”**

When doing a wound dressing change, many factors need to be assessed and the patient needs to be assessed on a holistic level, as the nurse’s actions have a major influence on the wound healing and the patient’s quality of life. Nurses are perceived to possess the quality of “compassion” and due to the fact that medicine has improved drastically during the past few decades, expectations are higher. According to the “Process model of wholistic Healing and Personal Transformation”, the nurse-patient relationship is a vital relationship during the process of holistic healing and personal transformation for the patient. The core represents the central part to the nurse-patient experience. The nurse-patient relationship is based on creating a partnership, understanding circumstances, recognizing responses, choices and actions and increasing connectedness. The nurse provides support, reflection, caring and teaching and validates healing throughout the process. Patients bring their experiences and gained knowledge, as well as specific circumstances of living with a chronic skin wound. The nurse provides a mutually interactive environment of care for the patient as depicted by the largest circle. The smaller circles refer to the patient’s movement from new self-awareness to appreciating meaning and transformation under the nurses’ purposeful attention, knowledge and expertise. Movement begins with increased self-awareness of new problems. With deepening awareness patients recognize sources of pain and suffering. By gaining personal knowledge, increased insight and making new choices, the patient is able to transform the past and the present until they can commit to new actions to transform their future. By an advance practice nurse-patient relationship, patients are encouraged to make personal lifestyle changes which can improve chronic wound healing (Rosa, 2006:349-358).



**Figure 3: Closing the gap: Process of wholistic Healing and Personal Transformation (Rosa, 2006:357)**

Nurses who work in partnership with their patients regarding the care of a chronic wound can help reduce the sense of powerlessness and loss of control felt by many patients (Dealy, 2005:37).

## 11. PHYSICAL ASPECTS

Living with wound pain is also a major factor in patients living with chronic wounds. Along with the wound pain, self-efficacy is decreased and the patients' daily life is disrupted as a result of lack of confidence that comes with having a wound (Mudge, Spanau & Price, 2008:22). Self-efficacy refers to the coping mechanisms that the patient has in dealing with situations and the level of control the patient has over situations in his life (Mudge, Spanau & Price, 2008:22). Furthermore, the patient's mobility may be impaired due to the location of the wound or the level of pain that the patient experiences.

## 12. PATHOPHYSIOLOGY OF WOUND HEALING

A wound can be defined as any damage that leads to a break in the continuity of the skin (Dealy, 2005:1). All chronic wounds start as acute wounds (Broderick, 2009:17). Wound healing is a complex and dynamic process of restoring cellular structures and tissue layers (Broderick, 2009:17). The process consists of a series of highly complex interdependent and overlapping stages (Dealy, 2005:12; Dowsett & Newton, 2005:58). Changes in the molecular environment of a chronic wound that is not conducive to healing, such as high levels of inflammatory cytokines, proteases and low levels of growth hormones stop the healing process and can lead to increased risk for septic infection (Broderick, 2009:17).

The skin is the largest organ of the body (Dealy, 2005:2; Broderick, 2009:17). It adapts to an ever changing environment in order to ensure balance. It is imperative to keep the skin intact in order to protect the body from microbial invasion. After injury to the skin, the healing process commences (Broderick, 2009:17). The very moment that an injury occurs, wound healing commences (Velnar *et al.*, 2009:3).

Inflammation is an important part of the body's defense mechanism and is a crucial part of wound healing (Dealy, 2005:4). The classical signs of acute inflammation are pain (dolor), heat (calor), redness (rubor), swelling (tumor), and loss of function (Dealy, 2005:4). Homeostasis occurs immediately after injury (Velnar *et al.*, 2009:5). Vasoconstriction occurs to control bleeding at the site of injury. When injury to the body occurs, the first response is to stop the bleeding (Dealy, 2005:4). This is achieved by a combination of factors, namely:

- Vasoconstriction, which reduces the blood flow to the area of injury
- The release of Von Willebrand factor from the endothelial cells and the platelets
- The initiation of the clotting cascade and the development of a fibrin clot to reinforce the platelet plug (Dealy, 2005:4).

The epithelium exposure of the blood vessels triggers platelet aggregation, which controls the bleeding and provides a temporary barrier to bacterial invasion (Broderick, 2009:18). The main aims of homeostasis are to prevent exsanguinations, as well as to provide a matrix for invading cells that are needed in the later phases of healing (Velnar *et al.*, 2009:5). The inflammatory phase starts with vasodilation, where plasma, neutrophils and other cytokines leak into the tissue that surrounds the injury site (Broderick, 2009:18). The Vasodilation and the increased capillary permeability is the result of the following process:

- Hageman factor triggers the complement and kinin systems.
- The complement system consists of plasma proteins, which are inactive precursors.
- Histamine and Serotonin are released from the mast cells.
- This leads to Vasodilation and increased capillary permeability (Dealy, 2005:4).

Usually there will be oedema, induration and heat in the surrounding skin. This fluid is known as the 'inflammatory exudate' and consists of plasma proteins, antibodies, erythrocytes, leucocytes and platelets (Dealy, 2005:5). This is part of the wound healing and does not signify infection. Macrophages release growth factors, enzymes that stimulate angiogenesis, fibroblasts and the process of connective tissue synthesis. Most chronic wounds stop progressing at this stage (Broderick, 2009:19). The complement system assists in attracting Neutrophils to the wound. The complement molecule assists in binding the Neutrophil to the bacteria. The effect of the complement system is enhanced by the kinin system, which activates kininogen to bradykinin. Kinins have different functions, namely to:

- Attract Neutrophils to the wound.
- Enhance Phagocytosis.
- Stimulate sensory nerve endings. After injury, when you don't feel pain immediately, it refers to the short time lag taken for the kinin system to be activated (Dealy, 2005:5).

Clot formation brings cytokines to the site of injury. Platelet derived growth factor is released by the clot, which influences cellular growth and development. Neutrophils are the first leucocytes to arrive at the wound site. Macrophages and lymphocytes are present in the wound area from day one (Dealy, 2005:6). Inflammation lasts about 4 to 5 days. If this stage is prolonged due to bacteria or damage caused by the dressing, it may influence wound healing (Dealy, 2005:6). After the bleeding has been controlled, the body focuses on the healing process (Broderick, 2009:18). Proliferative phase or reconstruction starts on the third day after wounding (Velnar *et al.*, 2009:7) and lasts for about 2 to 3 weeks afterwards (Velnar *et al.*, 2009:7; Broderick, 2009:19). The first phase is the formation of granulation tissue after the dead tissue has been removed from the wound base (Broderick, 2009:19) and is characterized by 'an abundant formation of granulation tissue' (Velnar *et al.*, 2009:7). During the process of granulation, macrophages release fibroblasts to create the foundation of the wound base (Broderick, 2009:19). Macrophages produce growth factors, which attract fibroblasts to the wound and stimulate them to produce collagen fibers. Fibroblasts build the foundation to construct the wound base (Broderick, 2009:19). Fibroblasts also produce extracellular matrix, which is seen as granulation tissue. As new granulation tissue forms, the existing matrix is degraded by enzyme systems such as matrix metalloproteinases (MMP's). Angiocytes create the blood supply to stimulate angiogenesis (Broderick, 2009:19). The macrophage releases physiologic activators

and messengers to stimulate connective tissue formation. The result of this phase is the wound base framework to support the granulation tissue (Broderick, 2009:19). Reconstruction is identified by the formation of granulation tissue (Dealy, 2005:6). This consists of fibrin, fibronectin, collagen and hyaluronic acid and other glucosaminoglycans. Within this matrix, macrophages, fibroblasts and newly formed blood vessels may be found. Macrophages produce growth factors that instigate the process of growing new blood vessels. Contraction occurs by day 5 or 6. As the wound fills with new tissue and the blood vessels have been restored, the number of macrophages and fibroblasts gradually reduce (Dealy, 2005:6).

Epithelialization refers to the stage where the wound is covered with epithelial cells (Dealy, 2005:8). After the wound base has granulated successfully, the wound edges are stimulated to start epithelialization. It starts from the outside edges and progresses to the middle. Keratinocytes start the process of migration and eventually result in wound closure (Broderick, 2009:20). Keratinocytes synthesise fibronectin which forms a temporary matrix along which the cells migrate (Dealy, 2005:8). The cells move over the wound surface. The first cell remains on the wound and forms a basement cell, until they meet. The process then stops. Once the cells stop moving on the wound surface, they start to reconstitute the basement membrane (Dealy, 2005:8). The time span for this stage varies (Dealy, 2005:9).

Remodeling phase or maturation entails that after wound closure has occurred, the body continues with the healing process (Broderick, 2009:20). The remodeling phase is responsible for epithelialization as well as scar tissue formation (Velnar et al., 2009:10). This phase lasts anywhere from 6 months to 3 years, dependent on the patient's health status (Broderick, 2009:20). Cytokines in the body change the wound matrix and strengthen the collagen support structure. This process increases the tensile strength, which refers to the strength of the scar. Only 80% of the original strength of the tissue can be restored (Broderick, 2009:20). During maturation, there is no longer any need to bring cells to the wound site. Collagen is arranged in right angles at the wound margin (Dealy, 2005:9). Collagen is continuously degraded and new collagen is synthesized (Dealy, 2005:9). The ability of the wound to resist rupture or dehiscence increases. After a period of time the scar will flatten and turn white (Dealy, 2005:9). The ability of a wound to heal in a reasonable amount of time, or the fact that chronic wounds are prevented from healing, depends on the chemistry of the wound base. Chronic wounds have more pathologic processes, namely:

- Prolonged inflammatory response.
- Cells that are older and less viable.
- Deficiency of growth factor receptor sites.

- No initial bleeding event to trigger cascade.
- Higher levels of 'protein eating enzymes' (Broderick, 2009:20).

Chronic wounds are those that don't progress through the normal stages of healing and doesn't heal in a timely manner (Velnar *et al.*, 2009:4).The already incomplete healing process is influenced by various factors. These factors include:

- Infection.
- Tissue hypoxia.
- Necrosis.
- Exudates.
- Excessive levels of cytokines (Velnar *et al.*, 2009:4).

A continuous inflammatory state of the chronic wound creates a series of tissue responses that leads to a non-healing wound. Because healing is uncoordinated, anatomical and functional outcomes are poor and these wounds will often relapse (Velnar *et al.*, 2009:4). There are various causes for chronic wounds, for example neuropathic causes, pressure, arterial and venous insufficiency, burns and vasculitis (Velnar *et al.*, 2009:4).

### **13. EMOTIONAL GRIEF AS POSSIBLE EXPERIENCE DURING CHRONIC WOUND CARE**

When nurses are physically close to a patient who is undergoing bodily suffering, the nurses are affected (Lindahl, Norberg & Soderberg, 2007:163). Patients who are living with chronic wounds experience bodily suffering, which affects nurses. Nursing is the integral care, while interacting continuously with their environments. Through the nurse-patient relationship, the act of 'caring' is established. (Gamez, 2009:127). The relationship between a person who is living with a chronic wound and the wound care specialist can influence the patient's experience of illness and possibly the outcome of the treatment as well. The patient is comforted by the fact that the wound care specialist shares their feelings of concern regarding their wound (Morgan & Moffat, 2008:340).When faced with an exuding wound, nurses have to face their own defenselessness, as well as the patient's vulnerability (Lindahl, Norberg & Soderberg, 2007:163). The patient fills the 'sick role' and willingly submits to the care that is provided by knowledgeable and trained providers. Providers willingly accept this submission or surrender to their care (Morgan & Moffat, 2008:341). According to Jones *et al.* (2008:53), another factor that has an impact on the patient's psychological state is that of odour and excessive exudates that result in leakage. This leads to feelings of disgust, self-loathing and low self-esteem.

Living with a chronic wound may result in a grieving process being introduced into the patient's circumstances. According to Morison, Ovington and Wilkie (2004:315), there are four tasks that are associated with grieving, which includes:

- Accepting the reality of the loss: patients need to come to the realization that the wound has an impact on their everyday life and everyday tasks that they used to do might prove to be difficult or even impossible to do due to the presence of the wound.
- Work through the pain of the physical or emotional loss or change: a support system is of importance during this step, to assist the patient who is living with the chronic wound to work through the loss that the wound has brought about, as well as the change. These changes may be physical or emotional.
- Adjust to a changed environment: the patient needs to learn to cope with the presence of the wound in their environment.
- To get on with life: an altered lifestyle and/or changed role may be part of the change, and the patient needs to carry on with this new adapted lifestyle.

#### **14. FINANCIAL AND SOCIAL IMPLICATION OF CHRONIC WOUND CARE**

Modern wound care also places a financial burden on the patient. The costs of treatment of chronic skin wounds are estimated to be as high as 1 billion dollars in France, Germany and the United Kingdom(Nicolaidis, 2000:2). The cost for skin ulcers for the year 2000 was 4,5 million pounds and the length of stay averaged about 21 days (Dealy, 2005:121).

The financial cost of wound care is measured in billions of dollars and Euros. The impact of the cost of wound care may not be evident, as it is hidden in the wound care products. The cost of wounds currently accounts for about 4% of the total health system costs. The costs are also measured in hospitalization (>50%), the cost of materials (15-20%), as well as nursing time (30-35%) (Smith & Nephew, 2013). In the UK, the cost of wound care accounts for 3% of the annual National Health Service expenditure (Dowsett, 2009:14).

Despite the financial implications for a patient, living with a chronic wound such as a leg ulcer imposes a threat to the physical functioning of the patient. Psychological as well as social functioning is inhibited. Resultantly, patients who are living with a chronic wound have a remarkably lower quality of life than a healthy person (Persoon *et al.*, 2004:341). The patient who is living with a chronic wound may also experience feelings of isolation, loss of identity and loss of independence. Furthermore, sleep deprivation is a common occurrence among people living with chronic wounds. This may be due to the patient being hospitalized and woken up during the night for procedures, or other noisy disturbances in the ward (Dealy, 2005:30). Also,

this may be attributed to wound pain, or to the fact that the patient is concerned regarding the outcome of the wound, or the financial burden that wound care products and services may bring about. Stress reduces the inflammatory response and suppresses the immune system (Dealy, 2005:26). Patients may experience anxiety due to the fact that they are admitted to hospital, as well as the fact that they are unsure that the outcome will be positive. As a result of an altered body image, patients may be so overwhelmed by stress that they are unable to take in information, share their feelings or commence rehabilitation (Dealy, 2005:39). After the initial circumstances that have changed, the patient's attitude may change. This can lead to common problems such as a sense of loss (similar to bereavement), anxiety, loss of sexual function and withdrawal from social relationships with family or significant other, especially if a wound is malodorous (Dealy, 2005:40). Feelings of fear, grief and powerlessness may overwhelm the patient (Dealy, 2005:43).

#### **14.1 The human cost of wounds**

Despite the financial implications of living with a chronic wound, the human cost of wounds are "measured in pain, distress, embarrassment, anxiety, prolonged hospital stays, chronic morbidity or even death" (Smith & Nephew, 2013).

### **15. SPIRITUAL FACTORS IN CHRONIC WOUND CARE**

Due to the 4 tasks that are associated with grief (see Chapter 1, Table 1: Four tasks associated with grieving (Morison, Ovington & Wilkie, 2004:314), a patient who is living with a chronic wound may need extra spiritual guidance to work through each step of this grieving process (See part 2, point 2.7.4 for an in-depth discussion).

### **16. CHALLENGES INVOLVED IN CHRONIC WOUND CARE**

Due to the fact that wound care has become a science, more specialized training is required for nursing personnel to effectively treat a chronic wound. Along with the high demand of advances in healthcare comes an increased demand for nursing staff. Time and inadequate education in dealing with wound care are major factors that might inhibit the level of quality care that is rendered to a patient who is living with a chronic wound. An attitude of "leaving it to the experts" has also been identified as an obstruction to nurses addressing patients' pain levels effectively in a hospital setting (Kohr & Gibson, 2008:52-60). The challenge is increased by the relatively low levels of specific wound training in many healthcare settings. This results in increased costs to the patient, as well as straining the system financially (Smith & Nephew, 2013).

If a patient experiences pain as a result of a wound and the pain is not managed properly, it can have negative effects like poor wound healing, less sleep and less mobilization. This can

ultimately result in a higher demand on the nursing staff and healthcare system by burdening bed availability, human and material resources (Kohr & Gibson, 2008:52-60).

## **17. CONCLUDING STATEMENTS**

From the information above, the following conclusions can be made:

- There is a high prevalence of patients with chronic wounds globally and chronic wound care is a dynamic industry.
- Accredited wound care training courses are limited in South Africa and knowledge regarding wounds and wound care is limited in many healthcare settings.
- Wound care has a huge financial impact on the patient's own account or on his medical aid, as well as on the overall healthcare system.
- The wound care specialist often depends on her own knowledge and experience when treating a wound in the home environment of the patient.
- No current legislation exists for nursing practitioners in private practice.
- When the patient is on a negative pressure pump, one of two international companies usually supplies the treatment in South Africa.
- The treatment packs for negative pressure therapy are standard and doesn't cater for infection or other products should it be needed e.g. debriding agents.
- Many patients with chronic wounds are still treated by the wound care specialist once they are removed from the negative pressure therapy and continue with conventional therapy.
- The patient is dependent on the wound care specialists' knowledge and expertise in order to know how the wound is progressing, and when to refer back to the treating doctor or surgeon.

## **18. SUMMARY**

As mentioned in Part1, the patient who is living with a chronic wound needs to be assessed properly and then treated in a holistic manner. Many factors are involved in wound healing, and along with these factors, the patient is faced with many emotions that should be taken into account when treating the wound. The wound is part of the patient and not just a 'hole' that can be seen in isolation. The wound care specialist nurse plays a vital role during the treatment of the patient, to ensure that the holistic approach is taken during the treatment. From the information and summary above, it is clear that the patient is dependent on the treating wound care specialists' knowledge and expertise in order to promote the positive outcome of the wound.

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**CHAPTER 3**  
**ARTICLE**

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**3.1. ARTICLE WRITING DECLARATION**

This article was planned and written by two researchers from the School of Nursing Science at the North-West University (Potchefstroom Campus). The contribution of each researcher to this article is indicated below:

<b>Mrs. Y van Deventer</b>	Background and problem statement, research methodology, research results, conclusions and recommendations.
<b>Dr. P Bester</b>	Research results.

The following is a declaration by the author and co-author of this article is to confirm their roles in writing the article.

*A declaration:*

We hereby declare that we have written the article and that our contribution to this article is indeed stated above.

---

Mrs. Y. van Deventer  
Author

---

Dr. P. Bester  
Co-Author

## **3.2. AUTHOR GUIDELINES FOR WOUND HEALING SOUTH AFRICA**

### **Format**

All manuscripts must be submitted in UK English, typed in MS Word, Times New Roman, font size 10. All articles must be proof read by a language specialist or a colleague proficient in English before submission.

All papers should include:

### **Title Page**

- Title
- Names, addresses, and positions of all authors, plus an email address and telephone number for the corresponding author
- A competing interest statement and/or declaration of interest for all authors/contributors
- Details of ethics approval (or a statement that it was not required)
- Details of funding (research studies).

### **Abstract**

All articles should include an abstract. The structured abstract for an Original Research article should be between 200 and 230 words and should consist of four paragraphs labelled Background, Methods, Results, and Conclusions. It should briefly describe the problem or issue being addressed in the study, how the study was performed, the major results, and what the authors conclude from these results. The abstracts for other types of articles should be no longer than 230 words and need not follow the structured abstract format. At least 5 keywords or short phrases should be used.

### **Text**

- Review articles and original research: 2400-3000 words (including references)
- Use appropriate headings throughout the text (Introduction, Methods, Results, and Discussion for original research articles).
- Number pages consecutively at the top right corner of the page.
- Indent new paragraphs and skip two lines between paragraphs.
- Use abbreviations only if they are previously spelled out in the text.
- Obtain appropriate consent for quotations of more than 50 words.

### **Case Reports**

These must not exceed 2000 words and must consist of the following headings: Title page (as above); Introduction (as above); Case report; Discussion; References; Tables, and Legends to figures.

### **Letters to the Editor**

These must not exceed two double-spaced A4 pages. The point must be clearly and briefly defined and appropriately referenced. The article referred to must be identified by title, author and pages.

### **Acknowledgements**

In a separate section, acknowledge any financial support received or possible conflict of interest. This section may also be used to acknowledge substantial contributions to the research or preparation of the manuscript made by persons other than the authors.

### **References**

Cite references in numerical order in the text, in superscript format (Format> Font> Click superscript). Please do not use brackets or do not use the foot note function of MS Word. In the References section, references must be typed double spaced and numbered consecutively in the order in which they are cited, not alphabetically. The style for references should follow the format set forth in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (<http://www.icmje.org>) prepared by the International Committee of Medical Journal Editors. Abbreviations for journal titles should follow Index Medicus format. Authors are responsible for the accuracy of all references. Personal communications and unpublished data should not be referenced. If essential, such material should be incorporated in the appropriate place in the text. List all authors when there are six or fewer; when there are seven or more, list the first three, then "et al." When citing URLs to web documents, place in the reference list, and use the following format: Authors of document (if available). Title of document (if available). URL. (Accessed [date]).

The following are sample references:

1. London L, Baillie R. Notification of Pesticide Poisoning: Knowledge, Attitudes and Practices of Doctors in the Rural Western Cape. S A FamPract 1999;20(1):117-20.

2. FDA Talk Paper: <http://www.fda.gov/bbs/topics/ANSWERS/2002/ANS01151.html>  
(Accessed 04/10/2002).

More sample references can be found at: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html).

## Tables

Tables should be self-explanatory, clearly organised, and supplemental to the text of the manuscript. Each table should include a clear descriptive title on top and numbered in Roman numerals (I, II, etc) in order of its appearance as called out in text. Tables must be inserted in the correct position in the text. Authors should place explanatory matter in footnotes, not in the heading. Explain in footnotes all non-standard abbreviations. For footnotes use the following symbols, in sequence: \*, ◆, ◆, ◆, ||, \*\*, ◆◆, ◆◆ DO NOT submit tables as photographs.

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All figures must be inserted in the appropriate position of the electronic document. Symbols, lettering, and numbering (in Arabic numerals e.g. 1, 2, etc. in order of appearance in the text) should be placed below the figure, clear and large enough to remain legible after the figure has been reduced. Figures must have clear descriptive titles. Digital images should be a minimum of 300 dpi. If images are embedded in the submitted document, they must be imbedded as high-resolution images. Electronic images should be saved as either jpeg or gif files.

- If submitting hard copies of photos or graphs, please provide them as high-quality glossy color or black and white prints.
- A descriptive legend must accompany each figure or illustration.
- All abbreviations must be identified at the end of the figure legend.
- If the figure or graph has been published previously, permission to reprint the figure must be obtained in writing from the copyright owner by the author and submitted with the manuscript.
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Electronic submissions to [www.woundhealings.co.za](http://www.woundhealings.co.za) is preferred. Kindly register online as an author and follow the steps to online submission. Other submissions and correspondence regarding manuscripts should be addressed to Professor Alan Widgerow. E-mail: [surgeon@iafrica.com](mailto:surgeon@iafrica.com). Electronic copy on CD may be sent to: The Editor, WHSA, PO Box 14 804, Lyttelton Manor, 0140.

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3. Permission to publish licensed material (tables, figures, graphs) has been obtained and the letter of approval and proof of payment for royalties have been submitted as supplementary files.
4. The submitting/corresponding author is duly authorised to herewith assign copyright to Wound Healing SA.
5. All co-authors have made significant contributions to the manuscript to qualify as co-authors

6. Ethics committee approval has been obtained for original studies and is clearly stated in the methodology.
7. A conflict of interest statement has been included where appropriate.
8. The submission adheres to the instructions to authors in terms of all technical aspects of the manuscript.

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15 November 2013  
Professor Alan Widgerow  
E-mail: [surgeon@iafrica.com](mailto:surgeon@iafrica.com)

Dear Professor Widgerow,

### **Request submission of manuscript for publication in WHSA**

This letter is a request to consider the publication of the manuscript titled "*Wholistic*" care for patients living with chronic wounds, in WHSA.

The manuscript is derived from research conducted in the dissertation in a Masters' degree in Professional Nursing Science titled *Experiences of patients living with chronic wound*. The objective for the research was to explore and describe the experiences of patients living with chronic wounds, and formulate support guidelines to assist professional nurses to support patients living with a chronic wound in a comprehensive manner.

This article was planned and written by Yolandi van Deventer (master's candidate) and Dr Petra Bester (study supervisor) from the School of Nursing Science at the North-West University (Potchefstroom Campus).

A qualitative description inquiring design was followed that was phenomenological, explorative, descriptive and contextual. Five (n=5) in-depth individual interviews were conducted with patients living with chronic wounds. Originally six participants were scheduled to participate in this research, but one (n=1) didn't keep the appointment for the interview. Digitally voice-recorded interviews were transcribed and content analysis was done. Rich results were obtained. These were categorised into five main themes, namely experiences specific to the comprehensive human being; the role of relationships as support in wound care; the attitude of the wound care specialist; how the patient "reads" the wound care specialist and the secondary and hidden reality of chronic wound care. Support guidelines were then formulated according to the themes that were identified.

This manuscript describes original work and is not under consideration by any other journal. All authors approved the manuscript and this submission.

Thank you for receiving our manuscript and considering it for review. We appreciate your time and look forward to your response.

Kind regards

---

Mrs Yolandi van Deventer  
(B Soc Sc Nursing,  
Advanced University Diploma in  
Primary Clinical Health Care, RN, RM)

---

Dr Petra Bester  
(PhD, Psychiatric Nursing  
Specialist, RN, RM)

## TITLE PAGE

**“Wholistic” care for patients living with chronic wounds.**

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## **ABSTRACT**

### **Background**

A chronic wound refers to a wound that doesn't follow the usual predicted time frame in order to heal. Specialized wound care during this research refers to chronic wounds that require intensive intervention and holistic care to the patient. The researcher experienced that the treatment of chronic wounds and negative pressure therapy was the predominant wound care regime that was followed during this research. Patients living with chronic wounds experience more than the physical aspects of wounds and wound care. Chronic wounds impact on patients' lives, ranging from financial to spiritual, social as well as psychological. This calls for comprehensive or "wholistic" care that exceeds the already demanding realities of specialist wound care in order to support these patients.

### **Problem Statement**

Patients living with chronic wounds suffer from physical discomfort. In addition, different dimensions and deeper levels of experience can cause suffering on a spiritual, social as well as psychological level. With insufficient literature available on the comprehensive experiences of patients living with chronic wounds, the question raised was how patients experience living with chronic wounds. The objectives of this research were to explore and describe these experiences of patients living with chronic wounds and to formulate support guidelines for professional nurses and wound care specialists in order to render comprehensive care and not just focus on the physical aspects of the wound.

### **Methodology**

A qualitative descriptive inquiring design (Botma *et al.*)<sup>1</sup> was followed that was phenomenological, explorative, descriptive and contextual (Welman, Kruger and Mitchell<sup>2</sup>; Botma *et al.*<sup>1</sup>; Fox and Bayat<sup>3</sup>). Five (n=5) in-depth individual interviews were conducted with patients living with chronic wounds. Originally six participants were scheduled to participate in this research, but one (n=1) didn't keep the appointment for the interview. Digitally voice-recorded interviews were transcribed and content analysis (Creswell<sup>4</sup>) was done.

### **Results**

Rich results were obtained. These were categorised into five main themes, namely experiences specific to the comprehensive human being; the role of relationships as support

in wound care; the attitude of the wound care specialist; how the patient “reads” the wound care specialist and the secondary and hidden reality of chronic wound care.

### **Conclusion**

Five themes emerged from the analysed data, namely the experiences of patients specific to the comprehensive human being; the role of relationship as support in wound care; the attitude of the wound care specialist; the patient “reads” the wound care specialist; and a secondary and hidden reality of chronic wound care. Two main conclusions were formulated. Firstly, that the therapeutic relationships between the patient living with chronic wounds, significant others and the wound care specialist became equally valuable than the physical wound care procedures. Secondly, that the therapeutic relationship served as an impetus for patients living with chronic wounds to take more control in their wound care and healing journey.

### **Recommendations**

Comprehensive support guidelines for professional nurses and wound care specialists were formulated according to the steps as discussed in Brown *et al.*<sup>5</sup> for the provision of comprehensive support to patients living with a chronic wound.

### **Key words:**

**Primary key words:** experiences, living with chronic wound, negative pressure wound care, support guidelines.

**Secondary key words:** interpretive description, wound care specialist, professional nurse.

## BACKGROUND AND PROBLEM STATEMENT

Chronic wounds refer to wounds “that fail to progress through an orderly and timely sequence of repair, such that healing does not take place in a predictable time frame. More objective definitions of chronic wounds are “those that have failed to heal within three months”. Another definition describes it as “a wound that has not decreased by 30% of its size within four weeks” and another indication states that “if a wound is not 30% smaller by week four, it will not heal by week twelve” (Widgerow<sup>6</sup>). There is often a perception that chronic wounds are associated with old age, but every chronic illness has the potential to develop into a chronic wound (Wound Healing in Southern Africa<sup>7</sup>).

Patients living with chronic wounds are present in high numbers worldwide. The prevalence are about 120 patients per 100 000 aged from 45 to 65 years. With increased age, the prevalence increases to more than 800 patients per 100 000 older than 75.2 years (Coetzee, Coetzee & Hagemester<sup>8</sup>).

Multiple studies (Lee *et al.*<sup>9</sup>; Mulder<sup>10</sup>, Van Rijswijk and Gray<sup>11</sup>) investigated which pharmaceutical products to use in order to promote wound healing. Few studies have employed a qualitative approach to explore patients’ experience living with a wound and minimal focus has been given to the comprehensive care of patients living with a chronic wound may need (Mudge, Spanau and Price<sup>12</sup>). According to Dealy<sup>13</sup> comprehensive care should be rendered on a physical, psychological, social and spiritual level. There are various extrinsic and intrinsic factors that can influence wound healing. Local factors refer to the influence on the wound itself, namely oxygenation, infection, foreign body and venous sufficiency (Guo and DiPietro<sup>14</sup>). Systemic factors refer to the condition of the patient in terms of the person’s overall health and disease state, which affects his/her ability to heal. Systemic factors include age and gender, stress, medication, alcohol use and smoking, immuno-compromised conditions and obesity (Guo & DiPietro<sup>14</sup>). Factors like the patient’s nutritional status, sleeping patterns, smoking habits, medication use and anxiety levels should be assessed in order to compile a successful care plan for a patient with a chronic wound (Eagle<sup>15</sup>).

Efficient wound assessments tools such as the TIME model (Leaper *et al.*<sup>16</sup>) and the HEIDI principle (Harding *et al.*<sup>17</sup>) are available. These tools have a predominant physical focus on the patient’s wound and background status. According to Leaper *et al.*<sup>16</sup> and Guo and DiPietro<sup>14</sup> psychological stress may lead to delayed wound healing. People living with a chronic wound may experience stress due to a variety of factors such as the social and

interpersonal changes (Walburn *et al.*<sup>18</sup>); financial stress due to expensive wound care products; a lowered self-efficacy of the person living with a chronic wound (Mudge, Spanau and Price<sup>12</sup>); pain that decreases quality of life (Mudge, Spanau and Price<sup>12</sup>), as well as body image disturbances due to the presence of the wound (Martinson Neil<sup>19</sup>). Morison, Ovington and Wilkie<sup>20</sup> concluded that patients living with chronic wounds suffer physically and psychologically. Psychological struggle is visible in patients with chronic wounds as coping mechanisms are activated to assist patients to change and adapt to new circumstances. These changes affect the family and highlight the wound care specialist's vital role to support the patient and the family. Many complex emotions (Morison, Ovington and Wilkie<sup>20</sup>) are present when a patient lives with a chronic wound. Emotions are influenced by family structure, social support and the attitudes of practitioners (Morison, Ovington and Wilkie<sup>20</sup>). Therefore it is beneficial to secure support by means of family and nurses in general (Mudge, Spanau and Price<sup>12</sup>). This support is sculpted according to the eleven steps (Morison, Ovington and Wilkie<sup>20</sup>) portraying the implications for practice when dealing with patients living with chronic wounds. These steps include to draw up care plans unique to each patient's accurate assessment, taking into account the contribution of physical, psycho-social and spiritual well-being to determine the patient's quality of life; to limit costs to the patient; positive attitudes among nurses to promote the patient's self-esteem and attitude; giving concrete information to reduce uncertainty; that the wound care specialist recognise and support patients' coping strategies; make time to listen to the patient's concerns and emotions; involve the patient's family in the care plan; adequate pain management; divert the focus from a worsening wound and share positive messages of improvement; once adequate support is given then compliance will improve; and taking a sensitive approach when rendering activities that are relevant to the patient. Currently in practice the focus is more on the wound itself than on the patient's different dimensions that have an impact on their "wholistic" well-being. This research aimed to explore and describe the experiences of patients who are living with chronic wounds and to formulate support guidelines for nurses so that they can be better equipped to support these patients on a holistic level.

## **RESEARCH AIM**

The aim of the research was to explore and describe the experiences of patients living with chronic wounds, and to formulate support guidelines for professional nurses so that they can render comprehensive care to the patient who is living with a chronic wound.

## **RESEARCH DESIGN**

The research follows a qualitative approach with a phenomenological design. This design was used since the aim of the study was to explore the experiences of patients living with chronic wounds. The researcher used exploration and dense description in order to systematically write down the aspects of the phenomenon, the whole process, as well as the results. Interpretive description was used when a direct description of the phenomenon occurs (Botma *et al.*<sup>1</sup>). Description is used to ensure an understanding of current issues by describing the situation in a more comprehensive way than it should have been if this method wasn't used (Fox and Bayat<sup>3</sup>).

## **RESEARCH METHOD**

The research method is discussed in reference to the population, sample, data collection and data analysis.

### **Population**

The population included five (n=5) participants who have lived with a chronic wound during 2011/2012/2013 and were treated by the researcher (a wound care specialist) during this period. The participants comprised 4 white male participants (n=4) and one white female participant (n=1). The context for this research was in the participants home environment, within the geographical areas of Potchefstroom, Parys, Carletonville, Fochville, as well as the smaller surrounding towns in the North West Province. The researcher was based in Potchefstroom and travelled by motor car to the patients' homes in order to provide wound care. The patients had different backgrounds and different ages and the majority of them had medical aid insurance, which means that access to advanced wound care was easier obtained.

### **Sample**

Non-probable, purposive sampling was done as follows: the researcher identified participants that could be approached by an independent interviewer for inclusion in the research. The participants were contacted via telephone by the researcher and told that the independent interviewer will contact them and arrange an appointment if they wish to participate in the research voluntarily. The independent interviewer contacted the participants and confirmed appointments for the interview.

The following inclusion criteria were applicable to this research:

- Have been treated during the years of 2011-2013 by the researcher, or should currently be treated by the researcher, as rapport has already been established while treating the wound.
- Be included regardless of income group, race or gender.
- Have the ability to express themselves in either English or Afrikaans, as the interviewer who have conducted the interviews is fluent in both these languages.
- Be over the age of 18 years.
- Have had wounds that have been present for more than two months, but less than one year should have elapsed since it has healed.
- Be able to give informed consent to participate in the study, as well as to participate in the study voluntarily.

All applicable inclusion criteria were met during sampling.

### *Sample size*

From a group of eleven participants only five (n=5) participants agreed to be interviewed of which only five were interviewed. Data saturation was reached when it became evident that no new data emerged during the process of data collection. The sample size is also based on the foundation of interpretive description as described by Thorne *et al.*<sup>21</sup>. Interpretive description is based on the smaller size qualitative investigation of a clinical phenomenon with the purpose of identifying themes and patterns within subjective perceptions and generation of interpretive description capable of informing clinical understanding. Samples are purposively generated, which reflects an awareness of expected and emerging variations of a phenomenon.

### **Data collection**

Individual, in-depth, unstructured interviews were conducted by an independent interviewer who visited participants within their home environments. Interviews were recorded on a digital voice recorder and then transcribed afterwards. A single question was posed to explore the experiences of the patient living with a chronic wound, namely: "What are your experiences living with a chronic wound?" Interviews lasted for 45 minutes to one hour each.

## Data analysis

The transcribed interviews were analysed according to the principles as described by Tesch *in* Creswell<sup>4</sup>. This entails eight steps namely to get a sense of the whole; by reading one identified document to get an overview of the data; similar topics were then identified and clustered together; the researcher took the list of identified topics and went back to the data and the abbreviated topics were written down as codes; the most descriptive wording for the topic was identified and turned into categories, and a decision was consequently made on the abbreviation for each category; the codes were alphabetized, where finally the data material in each category was assembled and a preliminary analysis was done. After the preliminary analysis was done, the author had a consensus conversation with the co-author in order to confirm themes that were identified during data analysis.

## TRUSTWORTHINESS

Guba's model of trustworthiness was followed to ensure trustworthiness, namely truth value, applicability, consistency and neutrality in the research, as described by Krefting<sup>22</sup>, as well as Lincoln's fifth criterion, namely authenticity (Polit and Beck<sup>23</sup>).

The **truth finding** referred to the true reflections of the findings and confidence that the findings were based on the design, participants and context. The findings have reflected the true lived experiences as it was experienced by the participants themselves. The findings could be applied to different contexts and groups as the research was conducted in a naturalistic setting. The researcher made use of a dense description of the research setting in order to make the findings applicable to larger populations and in order to add to consistency. During the research process, the researcher focused completely on the lived experience of the patient who is living with the chronic wound and conducted the research without bias. The truth finding was ensured by means of **credibility**, which was established by means of prolonged engagement as well as member checking. The researcher had established rapport between the participants earlier, during the treatment of their chronic wounds. Furthermore, the researcher has spent sufficient time in the field to understand the phenomenon. After the themes were identified, they were presented to the participants to ensure that the data indeed conveyed what they have meant to convey. The researcher has made use of thick description in order to establish transferability.

**Applicability** was ensured through **transferability**. The findings of this research have applicability in other contexts. Thick description was used to establish transferability. In order for others to assess how transferable the findings of this research was, background

information regarding the participants in this research context and setting, was provided. Transferability strategies included the time spent with each participant. The participants were given enough time to express their feelings and lived experiences without a pushed time limit. The characteristics of informants, as well as their demographic data are available. The data are described in detail and available for critique. **Consistency** was ensured by through **dependability**. The research findings were consistent and repeatable. In-depth interviews were used to gather data (Botma *et al.*<sup>1</sup>). The interviews were recorded by means of a digital voice recorder. Transcribed data, field notes and open ended data correlated (Botma *et al.*<sup>1</sup>). Dense description was used to describe the research method. **Neutrality** was ensured through **confirmability**, which was established due to the fact by means of field notes, and a literature control to compare data that were relevant in the literature, as well as new data that emerged. Reflexivity was used by the researcher during this researcher, to ensure that she doesn't influence the data in any way as a result of her background of being a wound care specialist nurse herself (Botma *et al.*<sup>1</sup>). The fifth criterion, namely **authenticity** was reflected by the fact that the researcher read the transcribed data in order to get a sense of the whole, and the reader could identify with the participants feelings as they lived and experienced it themselves.

## **ETHICAL ASPECTS**

Informed consent was obtained from the participants before the interviews were conducted. Ethical principles (Botma *et al.*<sup>1</sup>) of autonomy, beneficence and justice were adhered to by respecting participants and therefore adequate information was provided regarding the aim of the study (Botma *et al.*<sup>1</sup>). The fact that the interview was digitally voice recorded, possible fatigue and discomfort during the interview as well as the fact that participants had the right to withdraw from the research at any given time should they wish to do so were reconfirmed. The confidentiality of the participants and anonymity of the collected data were ensured through anonymity of the participant's identities and information during the research process. Transcriptions were done in such a way that no identifying data were revealed that could lead to identification of the participant. During data analysis the identity of the participants were protected by not disclosing details in the research regarding the participants. The transcribed data was marked by means of codes, which will be destroyed after the completion of the research.

## **RESULTS**

The introductory demographic information of each participant is presented in table 1. The participants were all above the age of 40 years. Each of them had different socio-economic

circumstances and employment ranged from professional to pensioner. The 5 participants each had a different outcome in their wound, ranging between amputation, healed, as well as not healed.

### [Preferable position for Table 1]

Research results were categorized into five main categories (please refer to Table 2). The first category is patients' **multi-dimensional experiences** of living with chronic wounds. Patients voiced specific experiences related to their *spiritual, physical, financial* (Hurd<sup>24</sup>), *social and emotional dimensions*. Living with a chronic wound mobilized patients to gain *spiritual* meaning and purpose in having a chronic wound and undergoing chronic wound care. "...it (discussions during wound care visits) usually enriched my spiritual dimension. It became to me a cause of faith...". Already early in the interviews patients reached a deeper level of communication and voiced the impact that chronic wound care had on their *spiritual* lives. "God's mercy was realised in me through the instruments that God use such as people like sister A (professional nurse as woundcare specialist)." The spiritual aspect has been identified as a very important aspect to focus on when rendering care to a patient in general (Dealy<sup>13</sup>). Two major factors in spiritual challenges which are often overlooked by health professionals are the fact that the patients' belief system may be challenged, as well as they may experience loss of purpose and suffer to connect with others (Grothier and Pardoe<sup>25</sup>). According to the (International Consensus<sup>26</sup>), spiritual/cultural wellbeing was added as a fourth domain of wellbeing that was based on the WHO<sup>27</sup> definition of health, in order to treat the patient who is living with a wound.

Regarding the *physical and social dimensions* (Beitz and Goldberg<sup>28</sup>), it was found that having a chronic wound entails that a patient's physical and social mobility are restricted causing the patient to have a secluded lifestyle forcing the patient to cope with being alone. Having negative pressure wound therapy impacted on patients' mobility, keeping them house-bound. One female participant voiced this as follows: "*It is very irritating. Terribly irritating to live with a wound for so long. It is terrible. You cannot go anywhere, you can't wear decent shoes*". Patients voiced a decrease in *social* interaction and the overwhelming reality of loneliness. The restriction in physical and social mobility, as well as the decrease in social interaction of patients with chronic wounds are confirmed by Augustin *et al.*<sup>29</sup>. Furthermore, undergoing chronic wound care is expensive, placing a *financial* burden on the patient despite having medical cover. "I don't know how many woundcare specialists I had. Then they are contracted or not and it was very expensive. I had to pay one woundcare specialist over 2000.00 ZAR monthly" (Sen *et al.*<sup>30</sup>).

Regarding patients' *emotional experiences*, the most dominant emotion voiced was that of being frustrated due to the various restrictions caused by having a chronic wound. "Basically you can say that it is not like being ill, it is more emotional as an illness. Because everytime that you thought this is now right, then there is another wound, then I am rock bottom again." Patients' emotions surfaced and they cried easily during the interviews when talking about their chronic wounds and the emotional-laden patients all voiced an intense appreciation of specific wound care specialists. "You know, to me it was absolutely, I am such a deeply faithed person...and I saw this (visits by the professional nurse as woundcare specialist) as mercy from the Lord." The spiritual and emotional impact of different types of chronic woundcare is confirmed by Salome, Pereira and Ferreira<sup>31</sup> and Gibson and Green<sup>32</sup>. A chronic wound has a definitive effect on a persons psyche, especially if it interferes with the patient daily activities (Hopkins<sup>33</sup>). The patient will need support in adapting to the new reality, where the chronic wound is present. Hopkins<sup>33</sup> further stated that observation and anticipation is important in order to detect possible reactions in the patient, as well as thefamily. Patients who are living with chronic wounds suffer extensive limitations in mobility and daily tasks, as well as higher levels of severe pain and increased worrying regarding their health. The patient who is living with a chronic wound also suffers from a low self-esteem (Augustin and Maier<sup>34</sup>).

The second category describes the role of the **therapeutic relationship** as an important support mechanism in rendering wound care. The care of the wound can be described as a physical intervention. Yet patients experienced this wound care only as a medium towards a progressing professional relationship between the wound care specialist, the patient and the patients' significant others (family and friends). The patient and significant others placed great value in the wound care specialists visits. This relationship between the wound care specialist and patient developed over time. The first step was to establish a professional relationship which then developed into a deep trusting relationship. The patients' were first sceptic and only after patients were convinced about the wound care specialist's clinical skill and competence, the stage was set for a deeper relationship. According to Woo *et al.*<sup>35</sup> the importance of the ongoing therapeutic relationship between the inter-professional team and the patient can enhance treatment adherence and patient outcomes. The term 'adherence' refers to the patient actively taking part in his/her care and not just complying or obeying a command. "You see, if you have that small amount of support, I think that is what carried me through, because if your head isn't right, then you would not have healed. According to Van Hecke *et al.*<sup>36</sup>, the patients had a feeling of safety when they were treated by a 'tissue viability nurse' and they felt reassured. The nurse must make every contact with the patient

into a helping relationship, regardless of the patients expectations or the context in which the relationship occurs. The nurse-patient relationship concentrates on the needs, potentials, as well as the limitations of the patient and it differs from home to hospital setting (Gamez<sup>37</sup>).

Thirdly, it was found that the **wound care specialist's attitude** towards the patient and wound care impacted on the well-being of the patient. When a wound care specialist was task-oriented participants experienced that this wound care specialist wasn't interested in their well-being. Yet, certain wound care specialists rendered wound care with an attitude of viewing the patient holistically, supporting patients' emotional well-being as well. "I cannot say it in words what she (woundcare specialist) meant to me, everything everything depends from, can I almost say, the support that she (woundcare specialist) gave me." ; "I think it is her (woundcare specialist) work to be emotionally connected with the patient, I am myself an emotional person and this was never upsetting to her (woundcare specialist)." According to Grey *et al.*<sup>38</sup> assessment and management that focuses on what the patient wants, will result in enhanced concordance, prevention of complications and increased healing rates. Dowsett<sup>39</sup> states that clinicians must increase their awareness of the impact of living with a wound and psychosocial dynamics in order to ensure positive clinical outcomes and positive experiences for their patients. Clinicians must listen and be responsive to the concerns of their patients and the patients' families (Grothier and Pardoe<sup>25</sup>). However, when dealing with a patients body, nurses will often tend to focus on a specific body area, or on the more technical part of the procedure in order to maintain emotional distance from the patient, or when the circumstances are difficult. The body becomes an object to care for, as well as a subject with whom a relationship should be established (Picco, Santoro and Garrino<sup>40</sup>).

The fourth category describes how **patients "read"** (intensive observation) the wound care specialist's non-verbal communication as an important variable to establish a professional relationship and enhance trust. "The fact that they were openly honest with me made me to never be uncertain. This increased the trust....." Patients will observe the wound care specialist's physical behaviour when conducting the wound care and patients need to see that a wound care specialist is clinically competent. "It (woundcare) gave me trust in her (woundcare specialist), the impression I got was that she is a knowledgable person..." The importance of 'trust' in a professional relationship between a patient and nurse in general is described by Rowe and Calnan<sup>41</sup>. In a study that was done by Van Hecke *et al.*<sup>36</sup>, it was described that patients had hope when the wound measurements implied a positive wound progress and this was communicated to them by the treating nurse. Also, they felt safe when the nurse gave the information and they had confidence in the skills of the nurse. Grothier and Pardoe<sup>25</sup> emphasises that good communication is necessary to the patient as

well as the family/cares to ensure that there are no unnessecary changes to the agreed care plan and there is no loss of confidence in treatment regimes.

The final category presents two **hidden or secondary values** that are viewed as outcomes from an established relationship between the wound care specialist, the patient and significant others. Firstly, although not intended, an outcome was that patients and significant others were empowered to take more control of their wound care. The majority of patients reached a stage where they copied what the wound care specialist did and continued to do their own wound care. "Well now, since sister A (fictious name) left, Maria (fictious name) my house assistant, I brought the gloves and everything for her, and she can now do the wound, and you can see how good she does the wound care because she always stood and watched how sister A did the wound care." The secondary value of the relationship between the wound care specialist, the patient and significant others was that although the primary outcome of wound care was wound healing, patients presented with a strong secondary need for support. Through wound care patients experienced a togetherness and emotional support which became as valuable and important to patients as the wound care itself. "It was as if the sun shined brighter on the days when sister A visited.....She came once a week and I couldn't wait.....", "It (support from the woundcare specialist) did wonders to me because if she (woundcare specialist) wasn't here then I don't know anymore.....you see, if you have that little support, I think this is what carried my through because if your head isn't right then you will not become healthy.", "It (support from woundcare specialist) was more valuable than gold. Physically and body and in the head.", "... it (woundcare) is an intimate situation regarding the person having the wound and she (woundcare specialist) seeing you when have pain. She sees you when you experience pain. She sees you when you are discouraged...there is an emotional interaction making it easier for you to overcome this dissapointment". Dealy<sup>13</sup> states that being honest with the patient, as well as to include family and/or significant others in the patients' care and education program will assist the nurse in promoting the patients body image. The theme that was identified here, may have a deeper emotional meaning and adds value as a new field for possible exploration. In most cases, the patients identified someone, either the domestic worker or the spouse, to intensely observe the nurse as she is treating the wound and continues treatment in the absense of the nurse. This may refer to the patients seeking for some control over their circumstances, because in all cases where the identified person cleaned the wound, it was done because the patient insisted that they do it. It may also refer to the intense longing for healing, and maybe by doing the woundcare more often, the wound will heal sooner. Augustin and Maier<sup>34</sup> suggested that follow-up care should continue

even after the wound has healed. In Table 2 the research results which are applicable to this research are reflected.

### **[Preferable position for Table 2]**

## **CONCLUSION STATEMENTS**

The purpose of this research was to explore and describe the experiences of patients who are living with chronic wounds and to formulate support guidelines for nurses in order to emotionally support these patients. Living with a chronic wound has spiritual, physical, financial, social and emotional dimensions. Patients tend to seek out the spiritual dimension by looking for spiritual meaning and purpose during the wound treatment period. The presence of the chronic wound resulted in physical and social mobility being restricted, leading to seclusion and feelings of loneliness. The presence of the Negative Pressure Wound Therapy led to decreased mobility which resulted in the patients being house bound. Social interaction was decreased, which highlighted the overwhelming feelings of loneliness. Frustration was the main theme that emerged in the emotional dimension. The relationship between the patient and the professional nurse as wound care specialist developed from a professional relationship, to a relationship of deep trust.

The nurse providing the wound care was the focus of the findings, referring to the need for support and trust during the treatment of their wounds. Surprisingly the focus was not on the wound as was expected during this research, but on the provider. The nurse became a vital support system for the patient, as well as for the family or significant others. During the process of wound cleaning, the patient intensely studies the nurse and her actions in order for the development of a professional relationship and to enhance trust.

The result of a professional relationship of trust, was the empowerment of the patient and the family or significant others to take active part in the care of their wounds. An intimate professional relationship developed as the nurse had an emotional bond with the patients by sharing the experiences of the chronic wound, however raw and painful it may be which led to the nurse-patient relationship becoming the central, integral part of the care of their wounds. This research adds that the importance of the nurse providing wound care's role is crucial in the "wholistic" support of the patient who is living with a chronic wound.

## **SUPPORT GUIDELINES**

In table 3 the core elements that directed the support guidelines are discussed. In table 4 the support guidelines are presented in detail.

**[Preferable position for Table 3].**

**[Preferable position for Table 4].**

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**Table 1: Background information on participants**

Participant 1 (aged 86 years, has medical insurance)	Elderly lady, living alone, living with a chronic wound that doesn't heal. Her domestic worker currently does her wound care. All her children live in different towns. Wound present on heel area of the right foot for several years. During treatment the wound showed signs of improvement, only to deteriorate again. The wound started spontaneously according to the participant, however there is a co-morbidity of cardiovascular problems.
Participant 2 (aged 63 years, has medical insurance)	An elderly male. He is currently living with his wife. At present the patient's wound has healed after extensive treatment was done, both with negative pressure wound therapy as well as conventional methods. The wound started after abdominal surgery.
Participant 3 (aged 67 years, has medical insurance)	An elderly male living with his wife. He is still an active farmer and prominent member in the community. His wound was present for several months, complicated by a co-morbidity of vascular insufficiency as well as excessive smoking. The wound was contracted due to trauma when a farm implement hit his left leg and caused injury. His wound has since healed after various treatment regimes.
Participant 4 (aged 56 years, has medical insurance)	Professional male, living with his wife and family. His wound lead to amputation of his foot. His wound was present on his ankle. After an orthopaedic procedure and insertion of plates in his ankle, granulation was poor. After several operations and complications, his foot was amputated. The wound was present for several months before the outcome of amputation was achieved. The amputation wound has since healed.
Participant 5 (aged 52 years, has medical insurance)	A middle-aged male living with his wife. His health is poor due to co-morbidities and being immune-compromised. His wound was present for several months. According to the participant, the wound started when small blisters appeared on his heel, and then developed into a wound on his heel. He had wound debridements done and currently the wound has healed.

**Table 2: Research results grouped into themes and sub-themes**

Category	Theme	Sub-theme
Experiences specific to the comprehensive human being	Patients' spiritual experiences	<ul style="list-style-type: none"> <li>• Having a chronic wound lead patients to gain spiritual meaning through this wound care.</li> <li>• Patients' experienced specific meaning and purpose related to the wound care of their chronic wounds.</li> </ul>
	Patients' experiences in their physical, financial and social dimensions	<ul style="list-style-type: none"> <li>• Having a chronic wound entails that a patient's movements are restricted, so that the patient is socially less active and forced to cope with being alone.</li> <li>• Chronic wound care is expensive and a financial burden on the patient.</li> </ul>
	Patients' emotional experiences	<ul style="list-style-type: none"> <li>• The dominant emotional experience is frustration due to restrictions caused by having a chronic wound.</li> <li>• Patients' cried easily when talking about having a chronic wound.</li> <li>• Patients experienced a sincere gratitude towards the wound care specialist.</li> </ul>
The role of relationship as support in wound care	<p>Wound care as physical intervention is only the medium towards a growing professional relationship between the wound care specialist, the patient and the patient's family and friends.</p> <p>The patient first establish a professional relationship with the wound care specialist and then develop a deep level of trust in</p>	

	<p>the wound care specialist's clinical skill and competence.</p>	
<p>The attitude of the wound care specialist</p>	<p>Patients experienced that certain wound care specialists were task oriented and not interested in the comprehensive well-being of the patient. These 'specialists' were contracted by the author to do the wounds sometimes in her absence. They had other permanent employment, but had experience in wound care.</p>	
	<p>Certain wound care specialists provided wound care with an attitude of support to the emotional well-being of the patient.</p>	
<p>The patient "reads" the wound care specialist</p>	<p>Patients' "read" the wound care specialist' non-verbal communication as an important aspect to establish a professional relationship and to enhance trust.</p>	
<p>A secondary and hidden reality of chronic wound care</p>	<p>Empowerment of the patient, the family and / or significant others</p>	<ul style="list-style-type: none"> <li>• A secondary outcome of the wound care relationship between the patient and the wound care specialist was the empowerment of the patient, the family and/or significant others</li> </ul>
	<p>The hidden value of relationship indicates the patients' need for support</p>	<ul style="list-style-type: none"> <li>• Although the primary need of chronic wound care is wound healing, the patients had a secondary and hidden need for support. Through wound care the patient, family and significant others experienced a togetherness and emotional support that</li> </ul>

became just as important to them as the primary need of wound healing.

**Table 3: Core elements that directed the guidelines**

<b>Core elements that directed the guidelines</b>
<b>EVIDENCE:</b> Few qualitative studies are available (Mudge, Spanau & Price, 2008:21).
<b>POPULATION:</b> The population refers to patients living with a chronic wound. The participants in this research were of different ages, diagnosis, co-morbidities, risk factors, as well as clinical settings.
<b>INTERVENTION:</b> During this research, the prognostic factors of the participants differed substantially. Due to the presence of chronic illness, some wounds had a negative prognosis to heal, while others had a more positive prognosis. Depending on the wound itself, treatment frequency was twice or three times per week. Each wound has been present for a different length of time, ranging from months to years.
<b>COMPARISON:</b> Patients living with chronic wounds receiving either negative pressure wound therapy or conventional treatment.
<b>OUTCOMES:</b> Increased self-efficacy and general functioning of patients living with a chronic wound.
<b>TIME:</b> Three years (2011-2013).

**Table 4: Support guidelines**

Support guideline	Guideline specifications
<p><b>Support guideline 1:</b> Be in tune with the patient and pick up on non-verbal cues that show that the patient has a need for spiritual support.</p>	<p><i>Title:</i> Experiences specific to the holistic human being. <i>Statement:</i> Patients' experiences in their spiritual dimension. <i>Intent:</i> Acknowledge the spiritual dimension by listening when the patient needs to talk about their experience or pray about it. <i>References:</i> Popoola (2003:152), Morison, Ovington &amp; Wilkie (2004:320)</p>
<p><b>Support guideline 2:</b> Create an awareness of the cost implication to the patient by not wasting dressings and by using cost-efficient products without compromising on quality products.</p>	<p><i>Title:</i> Experiences specific to the holistic human being <i>Statement:</i> Patients' experiences in their physical, financial and social dimensions. <i>Intent:</i> Reinforce the fact that you are a team and that the professional nurse as wound care specialist has empathy with the patient and associates with their pain, as well as their happiness <i>References:</i> Nicolaidis (2000:2), Dealy (2005:121), Dowsett (2009:13), Morison, Ovington &amp; Wilkie (2004:320), Consensus (2012:5).</p>
<p><b>Support guideline 3:</b> Always have a positive attitude, focus on the positive aspects but not being dishonest when the wound is regressing.</p>	<p><i>Title:</i> Experiences specific to the holistic human being. <i>Statement:</i> Patients' emotional experiences. <i>Intent:</i> Allow the patient sufficient time to grief or vent when he/she needs to do so and recognizing and supporting coping mechanisms. <i>References:</i> Van Hecke <i>et al.</i> (2011:436), Grothier and Pardoe (2013:26), Morison, Ovington and Wilkie (2004:320).</p>
<p><b>Support guideline 4:</b> Be available to the family should they need to contact you so that their fears don't influence the patient in a negative way.</p>	<p><i>Title:</i> The role of relationship as support in wound care <i>Statement:</i> Wound care as physical intervention is only the medium towards a growing professional relationship between the wound care specialist, the patient and the patient's family and friends. <i>Intent:</i> Involve the family in the progress of the wound, as well as the different treatment options in order to equip them to be a well-informed support structure for</p>

	<p>the patient.</p> <p><i>References: Sibbald et al. (2000:14).</i></p>
<p><b>Support guideline 5:</b></p> <p>Have sufficient knowledge in order to know in what stage the wound is in and how to handle it accordingly through ongoing training and development by putting support structures in place for example wound care company representatives.</p>	<p><i>Title:</i> The role of relationship as support in wound care</p> <p><i>Statement:</i> The patient first establishes a professional relationship with the wound care specialist and then develops a deeper level of trust in the wound care specialist's clinical skill and competence.</p> <p><i>Intent:</i> Be clinically competent and up to date with relevant products and regimes by reading literature, attending courses and ongoing in-service training sessions.</p> <p><i>References: Beitz and Goldberg (2005:281).</i></p>
<p><b>Support guideline 6:</b></p> <p>Base each care plan on the patient's unique circumstances.</p>	<p><i>Title:</i> The attitude of the wound care specialist</p> <p><i>Statement:</i> Patients experienced that certain wound care specialists were task-focused and not interested in the holistic well-being of the patient.</p> <p><i>Intent:</i> Do a holistic assessment regarding the emotional, physical, as well as the social aspect of the patient in order to render comprehensive and holistic care.</p> <p><i>References: Eagle (2009:14), Morison, Ovington and Wilkie (2004:320), International Consensus (2012:6-7).</i></p>
<p><b>Support guideline 7:</b></p> <p>Be on time for appointments in order to build good rapport with the participants. Be honest (never attach a time frame to healing) without being negative in order to build a trusting, supportive relationship.</p>	<p><i>Title:</i> The attitude of the wound care specialist</p> <p><i>Statement:</i> Certain wound care specialists provided wound care with an attitude of support to the emotional well-being of the patient.</p> <p><i>Intent:</i> Be available at all times for the patient and his/her family in order to gain their trust and alleviate feelings of uncertainty and despair.</p> <p><i>References: Grothier and Pardoe (2013:26), Morison, Ovington and Wilkie (2004:320).</i></p>
<p><b>Support guideline 8:</b></p> <p>The patient should never feel as if what you are really feeling and what you are telling them are different. Honesty in this respect will strengthen the relationship</p>	<p><i>Title:</i> The patient "reads" the wound care specialist</p> <p><i>Statement:</i> Patients' "read" the wound care specialist' non-verbal communication as an important tool to establish a professional relationship and to enhance trust.</p> <p><i>Intent:</i> Be aware of non-verbal communication that can</p>

with the patient.	<p>be misunderstood by the patient and jeopardize the relationship of trust and support.</p> <p><i>References:</i> Morison, Ovington and Wilkie (2004:320), Dealy (2005:43,45).</p>
<p><b>Support guideline 9:</b></p> <p>Updating family/significant others regarding the progress of wound care, preferably visually by means of photographs, improves feelings of positivity and self-efficacy and relieves stress.</p>	<p><i>Title:</i> A secondary and hidden reality of chronic wound care  <i>Statement:</i> Empowerment of the patient, the family and / or significant others  <i>Intent:</i> Showing the family/significant others the wound and discussing the progress, treatment options and rationale makes family feel less anxious and less negative and helps them to focus more on the positive.</p> <p><i>References:</i> Beitz and Goldberg (2005:278), International Consensus (2012:12).</p>

**CHAPTER 4**  
**EVALUATION, LIMITATIONS AND RECOMMENDATIONS**  
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## CHAPTER 4

### EVALUATION, LIMITATIONS AND RECOMMENDATIONS

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#### 1. INTRODUCTION

Chapter 4 comprises the final chapter of this research. The article was presented as Chapter 3. This final chapter offers an evaluation of the study, the limitations and highlights, as well as the recommendations by means of support guidelines. As discussed earlier on, data collection was done by means of conducting individual in-depth interviews in the patient's home environment.

#### 2. EVALUATION

The research problem statement described the problem that chronic wounds impact on more than just the patient's physical dimension. Patients who are living with chronic wounds need emotional support from professional nurses who are wound care specialists. There are no sufficient guidelines available for these wound care specialists in order to "wholistically" support these patients. In reality, not every professional nurse has a passion for wound care. This may influence the support that they will give to a patient who is living with a chronic wound. Furthermore, there are very few nurses who can have a private practice and be a professional nurse as wound care specialist. Many patients who are living with chronic wounds are treated in hospital where a professional nurse or a nurse from another nursing category will treat the wound (specific to their scope of practice). Due to the high pressure environment and strict routine in a hospital setup, the time constraints and the lack of knowledge of specialized wound care can lead to emotional support not being adequately rendered. Another aspect that may have an influence in the hospital setting is that the personnel work shifts and more than one health care professional will tend to the wound and engage with the patient. During data analysis, themes presented that reflected on how the patient, family or 'significant others' were empowered. If a patient who has a chronic wound is treated in hospital, it very often happens that the family or support structure is not present during the wound cleaning procedure. This may imply that they are not empowered to support the patient enough while the patient has the wound. The research questions were aimed to explore and describe the experiences of patients who are living with a chronic wound, as well as how an action plan can be formulated to assist professional nurses to provide emotional support to patients living with chronic wounds. During this research in-depth interviews were conducted and rich data surfaced, which lead to the identification of presenting themes. These themes were categorized into main, primary and secondary themes. Surprisingly, very few of the themes that emerged referred to the wound itself. The focus was mostly on the support provided by the professional nurse as wound care

specialist, the relationship with and the attitude of the wound care specialist, as well as the underlying secondary need for support.

The aims and objectives were to explore and describe the experiences of patients living with chronic wounds, and to formulate support guidelines to assist professional nurses to emotionally support patients living with chronic wound(s). During this research the aims and objectives were met and the researcher was able to formulate support guidelines in order for the professional nurse as wound care specialist to support the patient who is living with a chronic wound.

The central theoretic argument is that knowledge regarding the experiences of the patient living with a chronic wound can equip the professional nurse to have a better understanding of the multi-dimensional aspects that influence the patient during the process of wound care. A better understanding of these experiences of patients living with chronic wounds might assist the researcher to formulate support guidelines that can assist professional nurses to provide support to patients living with chronic wounds. The themes that were identified during data analysis were adequate to formulate support guidelines for professional nurses as wound care specialists, but although support guidelines were formulated, it will be difficult to implement these in some settings, for instance a hospital setting. As mentioned previously, if the healthcare provider doesn't have an inherent passion for wound care, the patient's deeper experience may be lost on her and it may become just another process to complete.

The research design and methods that were used during this research are deemed logical and proper for this research due to the fact that the aims and objectives were met and the central theoretical argument can be supported. The data that was analyzed lead to the formulation of support guidelines, which was an objective for this research.

### **3. LIMITATIONS**

The limitations that are applicable to this research are discussed in detail below. The researcher herself is a professional as wound care specialist who had a private wound care practice. At the end of July 2012 she had to relocate to the Northern Cape and found employment in a different area of nursing. This caused impairment of the emotional commitment to doing this research as the researcher's focus was forced to another field. The research had to be completed over a distance of 450 kilometers, which made the practicalities of conducting the research very difficult. The researcher strived to stay in touch with the participants and following up on the progress of the wounds in order to stay involved emotionally in the research.

During the purposive sampling, eleven participants were asked if they would participate in this research. Six participants indicated that they will participate in the research, but only five participants agreed in the end.

The researcher would have liked to conduct the interviews herself, but due to the fact that she had to relocate, an independent interviewer had to conduct the interviews. The researcher regards this as both a limitation and an advantage, as she was emotionally very involved with the participants and bias might have been a problem.

#### **4. RECOMMENDATIONS BY MEANS OF SUPPORT GUIDELINES**

##### **4.1 Support guidelines for nursing practice**

The steps for the formulation of the support guidelines for nurses were implemented according to Brown et al., (2006:804) use of the acronym EPICOT. See Chapter 3 (table 8) for the presentation of the formulated support guidelines applicable to this research.

##### **4.2 Recommendations for nursing education**

As wound care is supposed to be rendered on a holistic level by a multi-disciplinary team, wound care as an in-depth module should be included in the curriculum of especially medical and nursing undergraduate students. In-service training should also be conducted on a continuous basis and the wound care products supply companies can be utilized for this purpose, as very often the training then doesn't have a cost implication for the institution. The development of more accredited short courses through tertiary institutions should be explored. A practical, compulsory wound care module can be added to undergraduate curricula with the content focusing not only on the wound itself, but on the holistic treatment and support of the patient.

##### **4.3 Recommendations for further research**

This study provides the basis for further research that can be conducted in order to explore and describe the following:

- The effect of the supportive role of the family on the patient's emotional wellbeing and healing while living with a chronic wound.
- Nurses' experiences when dealing with chronic wounds.
- The effect of the wound on the family of the patient who is living with a chronic wound.

## **5. SUMMARY**

The patient who is living with a chronic wound has many complex realities and dimensions. This ranges from the physical aspect to the social and spiritual themes that have been identified. A main focus that was not expected to surface so intensely during this research was the role that the professional nurse as wound care specialist played during the treatment of the participants. The presence of a chronic wound is a disrupting event for a patient, but still the focus was on the wound care specialist. This reinforces the theme of the need for holistic treatment of the patient instead of focusing on the 'hole in the patient'. The professional nurse as wound care specialist has a great responsibility on her shoulders. She should keep herself updated regarding new treatment, has to gain sufficient knowledge to effectively treat a chronic wound and to be a firm support structure for her patient as well as his/her family, friends and/or significant others.

**CHAPTER 4**  
**REFERENCES**

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Brown, P., Brunnhuber, K., Chalkidou, I., Clarke, M., Fenton, M., Forbes, C., Glanville, J., Hicks, N.J., Moody, J., Twaddle, S., Timimi, H. & Young, P. 2006. How to formulate research recommendations. *BMJ*, 333:804-806. October.

## **Annexure A: Researchers' narrative**

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It was July 2010 when I first came in contact with wounds after completing my training. The last time I have been involved in wound care was while I was studying, during practical, in the hospital wards. At first it was a supplementary income to my private practice, but very soon it became a passion. I realized that wound care is not just cleaning and plugging a hole, there is a science involved and more so an emotional element that I didn't completely bargain on.

My first `serious` wound was present on a patient with a chronic wound on his left heel. With complications such as HIV and bone exposure on the wound, there were many elements that made this patient experience emotion that were all but positive. He feared that the wound wouldn't heal, that he will lose his foot in the end. He became depressed due to the fact that their business was completely in his wife's hands and he couldn't fulfil his place in the business aspect. He became frustrated as his mobility was impaired. Out of total frustration he even took to his bicycle, cycling with that wound on his heel and getting dirt into it, not helping the infection that was present. Feelings of hopelessness and not being in charge of his circumstances, not even his own body, lead this patient to debride his wound himself after I have told him one day that he might have to go to theatre for his doctor to debride the wound in order to promote healing. Wound care was done three times per week due to him reporting that the wound smelled bad and he even had his wife do an extra dressing with unsterile stock over the weekend, using swimming pool chlorine to disinfect it!

From this patient I realised that there are complex intricacies present when dealing with the patient who has a chronic wound.

Over the course of one year in dealing with different races, genders and personalities, it became clear that although the circumstances differ, the emotions are all basic. In essence it includes fear, despair, pain, depression, as well as an overall change in function and body image perception.

Mrs X said: "I just hope I didn't climb this mountain and in the end I realise that I am going to fall off on the other side." She made this statement out of fear of losing her leg after having a chronic wound on her lower leg.

The other phenomenon that I have encountered, are that the patients are very afraid during a dressing when the wound is done, whether the wound is looking better or worse. After the old dressings have been removed, they anxiously await the wound care nurses statement regarding the status of the wound. When they hear that there is progress and the wound is

looking good, they seem to relax. The next time they are anxious again, and sometimes sceptical when they look at the wound. In my experience it helps to show the pictures that were taken since the beginning of treatment, as they can see for themselves where it has improved. They need the reassurance from the person that they totally depend on healing them.

They become so dependant and attached in their trust with the Professional nurse that started the wound care, that if there is someone other than the regular wound care nurse that does the dressing, that they give feedback about that persons competence. This is not positive feedback. This reflects to me the importance to establish a relationship of trust with your patient, they need you.

Another technique that I have learned is to talk to them. Explain why you use a certain dressing, what type of tissue is present on their wound and why. Share with them, after all it is their wound and knowledge is power.

In many cases, I have experienced that the family is the support system for the patient and his wound. They are also affected, because the person that has a wound can't fulfil his rightful place in the family hierarchy due to immobility, pain, depression or other circumstances. This causes stress on the family members, and care has to be taken to involve the family and re-assure them as well.

Although it is sometimes difficult for me as a wound care nurse to render the service, you must keep a straight face and can't let the patient see how their wound affects you. They keep their eyes on you and watch your every move, and it makes them feel secure to know that you are a part of this wound and you are there to help them. They sometimes feel offensive to themselves, so it is important to accept the wound that you are working with, no matter how bad. Look behind the hole, at the patient and his or her feelings.



**Annexure B: RESEARCHER`S EXPERIENCE: A DAY IN THE LIFE...**

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Due to the fact that wound care specialists are a scarce speciality and services where the treatment is provided by a travelling wound care specialist are even more limited, many patients who don't have access to wound care facilities, try to treat the wounds at home. This often results in wounds not progressing or rather regressing to such an extent that extreme intervention is needed.

If a patients' wound is connected to the negative pressure pump, the wound care is provided by the private nursing practitioner who has a contract with the specific company. It is her responsibility to provide the wound care, even in the home environment for the patient, as long as he is on the therapy. Once the negative pressure is discontinued, she can continue with conventional therapy. If she has a private practice which is affiliated with the medical aids, she can get authorization from the patients' specific medical aid for treatment to be done. This is then solely her responsibility to ensure that stock and treatment dates are up to date, as well as to claim her own fees from the medical aid.

Wound care is usually done twice a week, either on a Monday and Thursday, or on a Tuesday and Friday. This depends on the type of wound, e.g. if a wound is highly exuding, more frequent dressings will be needed. This is not a set standard and is done on the prerogative of the treating wound care specialist.

As mentioned earlier, wound care more often than not starts in hospital. When the patient is discharged, the wound care nurse continues treatment in the patients' home environment. During the hospital treatment period, rapport has already been established and a relationship of trust have been initiated, so usually the wound care nurse is readily welcomed into the patients private space at home.

The patient usually looks forward to the visit of the wound care nurse to see "what the wound looks like" and if there is any progression or regression. Sometimes, they can be anxious for the dressing to be done, because of wound pain that is present and the dressing is usually painful. The wound care nurse plays a vital role in this situation in order to re-assure the patient regarding the progress of the wound, but without setting expectations or time limits, and to assure the patient and calm his or her fears during the dressing change.

Although negative pressure is advanced wound therapy and relatively convenient, it might sometimes happen that the patient is at home and encounters a problem with the pump. The pumps differ and some are more sensitive than others, e.g Renasys-Go (Smith & Nephew). This results in frustration for the patient if the alarm goes off

and the wound care specialist nurse is not available to correct the problem. The alarm will go off should the battery be low, if there is a low vacuum, or if there is a blockage somewhere in the canister or drain that runs from the wound to the canister. The wound care specialist will usually be able to assist the patient telephonically, but sometimes it will happen that she is at home and the patient is in a nearby town and she can't visit the patient until the following day. Another issue for the patient is, although the pumps are very discreet (e.g. Renasys-Go looks similar to a ladies bag, complete with sling to carry it over the shoulder), they are often bound to their home environment, especially if they have larger wounds or highly exuding wounds and need to have a big pump (EZ Care) applied. The 'humming' sound that the pump's motor is making while it is on, is also a factor contributing to irritation and sometimes sleepless nights for the patient. Usually they get used to this in a few days, but in the early days it can pose a challenge.

The patients get in contact with the researcher, either by referral from surgeons, doctors or hospital ward personnel or through the sales representative from a prominent wound care company providing negative pressure wound therapy. The researcher treats them while they are on the negative pressure pump, but continue with conventional therapy after the negative pressure treatment period is over. Patients that do not need negative pressure therapy often get referred by the hospitals or doctors to the wound care specialist for conventional wound care. This treatment is done with the treating doctor in a multi-disciplinary team approach, where the doctor is available and the wound is severe. Other patients who are living with chronic wounds are also referred, regardless if they need treatment with the negative pressure therapy. In some instances, the wound care specialist nurse treats the patient on her own, and will only seek help from the treating or referring doctor when the wound is deteriorating. Some doctors are involved in the patients' treatment and want the wound to be done in their rooms at least once a week, whilst others hardly ever request feedback.

The above mentioned information is not supported by literature, but was the experience of the researcher.

## **Annexure C: Contract Company A**

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Block [REDACTED]  
[REDACTED] Road  
Midrand 1685  
South Africa

Tel +27 ([REDACTED])  
Fax + ([REDACTED])

[REDACTED] Medical South Africa (Pty) Ltd  
("Company" or "[REDACTED]")

### Consulting Agreement I

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Name of Consultant: \_\_\_\_\_

Name of Company: \_\_\_\_\_

Company Registration No: \_\_\_\_\_

VAT No.: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax: \_\_\_\_\_

Mobile Number: \_\_\_\_\_

E-mail Address: [REDACTED]

Practice No.: \_\_\_\_\_

SANC No: \_\_\_\_\_

Name and address of Company contact      Unit 24 Thornhill Office Park  
94 Bekker Rd  
Midrand

Term of Consulting Agreement:      1 APRIL 2013 to 31 MARCH 2014

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#### 1. Scope of Work

- 1.1 [REDACTED] or its nominee intends to request Consultant to perform certain services as described in Schedule 1 (the "Services"). The Services will be provided as of APRIL 1, 2013 to MARCH 31, 2014.
- 1.2 No information, advice or case study can be communicated or presented by Consultant to third parties without prior sign-off by [REDACTED]

#### 2. Compensation

- 2.1 For the provisions of the Services [REDACTED] will pay Consultant the fees and accepted expenses described in, and according to, Schedule 2 upon receipt of a duly documented invoice addressed to [REDACTED]. The fees and expenses shall be payable by the 5<sup>th</sup> working day of the new month, provided all appropriate claims are received by/before the 25<sup>th</sup> working day of each month. The fees and expenses shall be payable upon receipt of the corresponding invoice by wire transfer to the bank account of the Consultant in PRC, details to be given by the Consultant before providing the Services.

2.2 Consultant will be responsible for all taxes and charges to be paid on the fees. The reimbursement of expenses and the eventual use of ■■■ equipment and property will always be according to ■■■ internal policies.

3. Representations and Warranties of Consultant

- 3.1 Manner of performance. Consultant represents that he/she has the requisite expertise, ability, contacts and legal right to render the Services and will perform the Services in an efficient manner satisfactory to ■■■. Consultant will abide by all laws, rules and regulations and has all necessary authorizations and licenses that apply to the performance of the Services.
- 3.2 Compliance with laws and regulations. In performing the Services, Consultant will comply at all times with all applicable laws, rules, regulations and ■■■ applicable policies regarding conduct and ethics which materially relate to or govern the activities contemplated by this Agreement .
- 3.3 Professional conduct. Consultant represents and warrants that he/she has not at any time before the start of this Agreement been the subject of any allegations or charges of professional misconduct, fraud, unethical behaviour or conduct, according to any applicable laws, rules or regulations or professional association's or licensing body's code of conduct. In the event that such allegations or charges are made during the term of this Agreement, the Consultant will notify ■■■ in writing immediately. In this event, ■■■ reserves the right to immediately terminate this Agreement.
- 3.4 No Other Restrictive Arrangement. Consultant represents that he/she is not subject to, or a party to, any employment agreement, non-competition covenant, non-disclosure agreement, or other agreement, covenant, understanding or restriction that would prohibit Consultant from executing this Agreement and performing fully the duties and responsibilities hereunder.
- 3.5 No Purchase Obligation. ■■■ and Consultant agree that nothing in this Agreement requires, or shall be construed to require, Consultant to use, order, purchase or recommend the use, ordering or purchase of any ■■■ products or services. Consultant represents and warrants that nothing in this Agreement will affect his judgment as to the products and services that are best for his patients or otherwise affect his decisions regarding the use, ordering or purchase of medical products or services.
- 3.6 Compliance with U.S. Foreign Corrupt Practices Act and Anti-Bribery Laws and relevant applicable local laws. In furtherance of Consultant's obligations hereunder, Consultant agrees that, in connection with the performance of the Services hereunder, he shall not make, either directly or indirectly, any payments, in money or any other item of value (including gifts) or make any offers or promises to pay any money or any other item of value (including gifts) to,  
(a) any government official,  
(b) any political party,  
(c) any candidate for political office, or  
(d) any other person or entity,  
with the knowledge that such payment, offer or promise to pay will be made to any such official, party, candidate or person for the purpose of influencing same to make one or more decisions favourable to ■■■, Consultant, or both. Consultant further represents that no government official is a dealer, owner, agent, director, officer, affiliate, or employee of Consultant or any other entity in which Consultant has an interest, and no government official has any material financial interest in the business of Consultant.
- 3.7 Consultant acknowledges the provision of the Services is set within critical parameters of time and shall ensure a timely provision of the Services.
- 3.8 Consultant shall co-operate with ■■■ at all times to ensure an appropriate level of interaction between ■■■ and the patients.
- 3.9 ■■■ shall provide Consultant with the necessary product information, training and instructions as may be reasonably required by Consultant to perform the Services (Schedule 2).
- 3.10 After approval of the prescribed treatment and in accordance with the arrangements by and with the responsible healthcare institution, surgeon or doctor, ■■■ shall deliver the products necessary for treatment with the V.A.C® Therapy System ("Product") directly to the designated patient in the home care setting where Consultant shall perform the Services.

4. Insurance

4.1 During the term of this Agreement, Consultant shall maintain at its own expense, adequate insurance in respect of potential liability, loss or damage arising in respect of claims for property damage, personal injury, public liability and professional indemnity relevant to the performance by Consultant of the Services pursuant to this Agreement.

5. Health and Safety

5.1 Consultant acknowledges that:

- This Agreement constitutes an agreement in terms of the Section 37(2) of the Occupational Health and Safety Act, whereby all responsibility for health and safety matters relating the Services shall be the obligation of the Consultant, and
- He/she shall be deemed to be an employer in its own right whilst performing the Services and in terms of Section 16(1) of the Occupational Health and Safety Act, he/she shall accordingly ensure that the requirements of such Act are complied with.

6. Confidentiality

6.1 1 In the course of this Agreement, it is anticipated that Consultant will learn of, and have access to, information that ■■■ regards as confidential or proprietary. Consultant will keep confidential this and any other information which Consultant may acquire with respect to ■■■ business, including, but not limited to, information developed by Consultant and information relating to new products, customers, pricing, business strategies, know-how, processes, and practices, unless and until ■■■ consents in writing to its disclosure, or unless such knowledge and information otherwise becomes generally available to the public through no fault of the Consultant.

6.2 This undertaking to keep information confidential will survive the termination of this Agreement.

6.3 Consultant will return any and all information, documents and materials provided by and/or belonging to ■■■ immediately after termination of this Agreement, as specified below in Paragraphs 10 and 11.

6.4 During the term of this Agreement, Consultant shall return any information, documents or material directly upon ■■■ request, however no later than 2 calendar days after receiving such a request.

7. Relationship with Others

7.1 For the term mentioned in Paragraph 11 of this Agreement, Consultant agrees not to, directly or indirectly utilize any of the information obtained from ■■■ or any information developed during the course of performing the Services for ■■■, for any other entity or person in the development, manufacture, distribution or sales and related services and activities.

8. Independent Contractor

8.1 1 Consultant is an independent contractor and not an employee or agent of ■■■, in accordance with section 198(3) of the Labour Relations Act 66 of 1995. Unless specifically stated, nothing in this Agreement shall render the Consultant, nor authorize or empower the Consultant to speak for, represent or obligate ■■■ in any way.

9. Force Majeure

9.1 If a party is prevented, hindered or delayed from or in performing any of its obligations or duties under this Agreement by an event which is due to any cause beyond the parties' reasonable control, such as prohibitions of governmental institutions, general emergency, strike or lockout, war, civil unrest and insurrection, fire or natural disasters ("Force Majeure Event"), the non-performing Party's obligations under this Agreement are suspended while the Force Majeure Event continues, such non-performance not having been prevented by reasonable measures, provided that immediately after the start of the Force Majeure Event the non-performing Party shall notify the other party in writing of the Force Majeure Event, the date on which the Force Majeure Event started and the effects of the Force Majeure Event on its ability to perform its obligations under this Agreement;

- 9.2 The non-performing Party shall make all reasonable efforts to mitigate the effects of the Force Majeure Event on the performance of its obligations under this Agreement.
- 9.3 Immediately after the end of the Force Majeure Event the non-performing Party shall notify the other party in writing that the Force Majeure Event has ended and resume performance of its obligations under this Agreement.
- 9.4 If the Force Majeure Event continues for more than 30 days starting on the day the Force Majeure Event starts, a Party may terminate that portion of the Agreement.

#### 10. Term

- 10.1 This Agreement shall have a term as specified in Point 1.1 on Page 1 of this Agreement. [REDACTED] may agree to renew this Agreement thereafter.

#### 11. Termination

- 11.1 [REDACTED] may terminate this Agreement forthwith by giving Consultant written notice of termination if Consultant:
- (a) breaches any of its obligations under Paragraphs 4, 6, 7 of the Agreement; or
  - (b) fails to provide the standard of performance of Services that substantially meets [REDACTED] reasonable expectations ; or
  - (c) fails at any time to provide the Services.
- 11.2 [REDACTED] may terminate this Agreement without cause by giving the other party thirty (30) calendar days' prior written notice.
- 11.3 Upon termination or cancellation of [REDACTED] arrangements with any health care institution, doctor or patient or any part thereof for any reason whatsoever, the designated Services to be performed by Consultant corresponding to that arrangement shall be deemed to have terminated automatically and simultaneously therewith and Consultant shall not under any circumstances have any claim of whatsoever nature and howsoever arising against [REDACTED] for any damage or loss incurred as a result of such termination or cancellation.
- 11.4 This Agreement shall terminate effective upon notice by [REDACTED] in the event of death, incapacity, winding up, bankruptcy, going into receivership or any other similar situation of the Consultant.
- 11.5 Termination of this Agreement shall not relieve the Consultant of its obligations as mentioned in Paragraph 6 above.

#### 12. General

- 12.1 Consultant is not allowed to appoint a substitute, an employee, and agent or otherwise, to perform the Services agreed under this Agreement.
- 12.2 In the event of the actual or threatened breach of any of the terms of Paragraphs 4,6,7 [REDACTED] will have the right to demand specific performance and seek injunctive relief.
- 12.3 The rights granted under this Paragraph 12 are in addition to all other remedies and rights available at herein equity.
- 12.4 No failure to exercise, and no delay in exercising, any right, power or remedy under this Agreement will operate as a waiver. Nor will any single or partial exercise of any right, power or remedy preclude any other or further exercise of that or any other right, power or remedy.
- 12.5 Unless otherwise provided, this Agreement may only be amended by the mutual agreement of the parties in writing.
- 12.6 This Agreement, including all its Schedules, constitutes the entire agreement between the parties with respect to its subject matter. It supersedes all earlier conduct by the parties or prior agreement between the parties with respect to its subject matter.
- 12.7 Each of the provisions of this Agreement is separate, separable and enforceable and, accordingly, if at any time any provision hereof is adjudged by any court to be void and unenforceable, the validity, legality and enforceability of the remaining provisions hereof shall not in any way be affected or impaired thereby.
- 12.8 In the event a provision is adjudged to be void, invalid or unenforceable, a new valid provision will be agreed upon between the parties to replace such a provision, reflecting at best the intention of parties.

J)

- 12.9 This Agreement may be executed in any number of counterparts. All counterparts taken together will be deemed to constitute one document. Any party may enter into this Agreement by signing and executing any such counterpart and each counterpart may be signed and executed by the parties and transmitted by facsimile transmission and shall be as valid and effectual as if executed as an original.
- 12.10 This Agreement will be prepared in English.
- 12.11 This Agreement shall be governed by, and construed in accordance with, the laws of the Republic of South Africa. The parties hereto agree to submit to the non-exclusive jurisdiction of the courts of Johannesburg.
- 12.12 For all processes and notices for all purposes arising out of or in connection with this agreement the parties respective addresses shall be:

█:

█ Thornhill Office Park  
█ Rd  
Midrand

Consultant :

13. Indemnity

- 13.1 █ shall indemnify Consultant against all losses, liabilities, damages, claims, actions, proceedings, costs or expenses (including legal costs on a full indemnity basis) incurred, arising out of failure of the Products or negligent or willful conduct by █.
- 13.2 Consultant shall indemnify █ and its respective officers, employees and agents against all losses, liabilities, damages, claims, actions, proceedings, costs and expenses (including legal costs on a full indemnity basis) incurred by any of them arising out of, or incurred in connection with, (a) any negligence, recklessness, default, breach of law, fraud or dishonesty on the part of the Consultant hereunder ; and (b) the failure of the Consultant, to comply with any representations, warranties, agreements or any other provisions of this Agreement.
- 13.3 The obligations in this Paragraph 13 continue after the termination of this Agreement.

█

WITNESS: \_\_\_\_\_

By: \_\_\_\_\_

Consultant

By: \_\_\_\_\_

WITNESS: \_\_\_\_\_

SCHEDULE 1

DESCRIPTION OF SERVICES, PERFORMED UNDER THE RESPONSIBILITY OF THE CONSULTANT

1. General Services  
Consultant shall provide general medical/nursing support to patients who are being treated using the V.A.C®Therapy System
  
2. Specific/Essential Tasks  
More specific and in addition to the General Services the Consultant shall:
  - (i) change dressings as per stipulated protocol  
take photo/s of the treated wound(s) on a weekly basis. All photos must include a ■■■ disposable ruler with the following information on the ruler:
    - Name and Surname of the Patient
    - Date of Photo
    - Location of Wound
    - Wound dimensions
  - (ii) submit a weekly progress report on process of healing of the wound(s) treated
  - (iii) provide the progress reports to ■■■ and the health care institution or doctor responsible for the treatment of the patient.
  - (iv) Submit a photo of the wound(s) and final report when VAC therapy has been discontinued.
  
3. Service Levels  
More specific and in addition to the General Services the Consultant shall:
  - (i) Ensure a maximum response time of 2 hours, for all call outs to the hospitals.
  
4. All Hospitals in your area to be serviced if necessary.



## SCHEDULE 2

## FEES/PAYMENT/STOCK /TRAINING/PROTOCOL

1. Fees
  - 1.1 For the services performed and invoiced by the Consultant to the satisfaction of ■■■, the Consultant will invoice ■■■ for effective services at the rates as detailed on Page 8 of this Agreement.
  - 1.2 This rate is fixed and in lieu of all costs incurred in relation to VAG Therapy.
2. Payment and conditions
  - 2.1 ■■■ will pay expenses accrued by the 5th working day of each month. Only valid tax invoices that comply with local statutory law will be reimbursed. Tax invoices should be submitted by/before the 25th of each month.
  - 2.2 All tax invoices must be submitted along with weekly progress reports in the format provided by ■■■ and will be verified to the weekly progress reports and actual invoices to the Medical Aids. Any discrepancy/query could result in non-payment till resolved and agreed by both parties.
  - 2.3 Failing to submit weekly wound reports as required, could result in non-payment.
  - 2.4 All claims/invoices must be submitted within 60 days of last treatment date of patient failing, which will result in your claim not being processed for month end payment.
3. Stock/Therapy Unit
  - 3.1 It's the responsibility of the Consultant to supply ■■■ with a progress report and stock level requirements on a weekly basis .On completion of VAG therapy all excess stock should be returned to ■■■ Medical. Such arrangements for return may be made with the KCIInternal Sales Coordinators on ■■■ or ■■■
  - 3.2 Only stock invoiced to the patient being treated at the time must be used. Under no circumstances should ■■■ stock be swapped (between patients) or excess stock from previous treatments (patients) be used.
  - 3.3 Engagement in such practice could result in termination of this agreement.
  - 3.4 The Consultant should inform ■■■ ■■■ on the upliftment of the VAG Therapy unit, immediately after treatment has been discontinued.
4. Training
  - 4.1 2 x Compulsory VAG training sessions must be attended by the Consultant. The venues and training dates will be communicated to the Consultant well in advance. Failing to attend such training sessions could result in termination of this agreement. All expenses accrued for training remain the responsibility of the Consultant.
5. Protocol
  - 5.1 The ■■■ treatment protocol must be strictly adhered to at all times. Any deviation from the ■■■ protocol will only be at the discretion of the treating physician.

/Schedule 2 contd...



Schedule 2/...

## Schedule of Fees

2013/2014

a) Assessment	R165.00	Payable once [REDACTED] has received an Assessment form & photo
b) Dressing change	R370.00	
c) Call-out	R165.00	Reason for call-out to be provided per claim
d) Removal of VAC® therapy (applicable only on Discontinuation of treatment)	R165.00	Payable once [REDACTED] has received final photo & report, with reason for discontinuation of treatment

2013/2014

For VAT registered entities, provided that VAT number has been provided to KCI Medical and appears on Consultant's invoices/claims.

a) Assessment	R188.10	Payable once [REDACTED] has received an Assessment form & photo
b) Dressing change	R421.80	
c) Call-out	R188.10	Reason for call-out to be provided per claim
d) Removal of VAC® therapy (applicable only on Discontinuation of treatment)	R188.10	Payable once [REDACTED] has received final photo & report, with reason for discontinuation of treatment

Descriptions below should clarify how to populate your weekly claims. Weekly claims must be emailed along with progress reports and/or Assessment forms to [REDACTED] and [REDACTED]. If you do not have access to email, you may fax claims to [REDACTED].

- a) **Assessment**  
For any assessment fee that you may claim, please forward the appropriate Assessment form and/or the [REDACTED] Standard (3) Page Motivation form, and Photo to [REDACTED] and [REDACTED]. Only 1 Assessment fee per Patient will be payable per continuous VAC period. If an Additional Assessment fee is to be claimed, please provide appropriate written details via Fax or Email, at the time of Assessment for additional claims to be considered. Such information can be forwarded to [REDACTED].
- b) **Dressing changes**  
This encompasses VAC therapy dressing changes carried out. This fee is payable per patient / per day. Please provide appropriate dates on progress reports in the format provided by [REDACTED] Medical.
- c) **Call-outs**  
Call-outs may be claimed as per the progress reports in the format provided by [REDACTED] Medical.
- d) **Removal of VAC therapy (only applicable on Discontinuation of treatment)**  
You may claim for the Discontinuation of VAC therapy for any patient whose treatment has come to an end. Claims for Removal/Discontinuation of VAC therapy will be paid provided the final report and final photo are provided via progress reports in the format provided by [REDACTED] Medical. This information can be e-mailed to [REDACTED] and [REDACTED]. The only instance where you may claim this amount without providing a final photo is where a patient is deceased. Only 1 Discontinuation fee per Patient will be payable for continuous VAC period.



**SCHEDULE 3**

**INVOICE FORMAT REQUIREMENT AS PER SARS REGULATIONS:**

SARS has stipulated that we are only allowed to pay invoices that are correctly billed. An appropriate invoice has been provided with Assessment and Progress Report forms by [REDACTED].

Every invoice submitted must have a Date and Invoice Number in order to be considered for payment. The onus of accuracy of such invoices rests with the Consultant.

If you do not have access to email, you may fax your weekly reports and claims to Laura Naidoo at **086 296 0178**.

Thank you very much for your cooperation in this regard. Should you have any queries, please feel free to contact Laura Naidoo on 011 315 0445.

If you do not use the Standard [REDACTED] Templates, please see appended Sample Invoice as a guideline.





**Annexure D: Contract Company B**

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**Dated \_\_\_\_\_ 2013.**

**(1) Company B(Pty) Ltd**

**&**

**(2) [insert: name of Private Nurse Practitioner]**

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**SERVICES AGREEMENT**

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This Agreement is dated \_\_\_\_\_ 2013

Between

(1) **COMPANY B(PTY) LTD** of 30 The Boulevard, Westend Office Park, Westville, South Africa ("**S&N**"); and

(2) **[insert: name of individual]** [insert nursing/practitioner registration number or similar \_\_\_\_\_ as appropriate] \_\_\_\_\_ of [insert address] ("**you**") \_\_\_\_\_.

## 1) Background

- a) You are a qualified and registered nurse in the Republic of South Africa, expert in the provision of the Services and we wish to appoint you to provide the Services to us.
- b) You have agreed to provide the Services on the basis of the terms set out in this Agreement.

## 2) Interpretation

- a) For ease of reference we have used defined terms in this Agreement and the following words or phrases have the meanings set out below:

Affiliates	means in relation to us, any Subsidiary or Parent Company of us and any Subsidiary of any such Parent Company;
Commencement Date	means the date the Services are to be provided from as set out in Schedule 1;
Confidential Information	means all information that S&N provide to you under this Agreement that is either (i) marked as being confidential (or in the case of verbal discussions is later confirmed by S&N in writing to be confidential) or (ii) information (however communicated) that is of a type that you could reasonably have been expected to know S&N would want you to treat as confidential. For example, confidential information will include any technical information S&N give you about our products, information about our business ideas or plans, our customers or suppliers that is not publicly available;
Expiry	means the date this Agreement ends, which will either be the expiry date given in Schedule 1 or the date this

	Agreement is brought to an end under paragraph 12), if earlier;
Fee	means the fee paid for performance of the Services calculated based on the structured fees for services set out in Schedule 1;
Intellectual Property	means all intellectual property rights protected under the law anywhere in the world, including patents, designs (registered and unregistered), copyright, trademarks and know-how;
Parent Company	means any company which holds a majority of the voting rights in another company;
Reporting Period	means the reporting period set out in Schedule 1;
Services	means the services that you have agreed to provide to S&N as detailed in Schedule 1.
Subsidiary	means any company in relation to which another company is its Parent Company;
Territory	means the geographical region set out in Schedule 1.

- b) Words expressed in the singular number include the plural and vice versa and references to any person is to all individuals (regardless of gender), corporations, associations and partnerships.
- c) The headings used in this Agreement are included for ease of reference but are not intended to affect the meaning of any of the terms under those headings.
- d) Sometimes in this Agreement we have used examples to help explain a term or phrase. Use of the words “including” or “includes” or similar wording before giving these examples does not mean that the examples given are meant to be exhaustive or that any general words used are to have a restricted meaning because of the examples given.
- e) Any references to laws or regulations include reference to any amendments or replacements for those laws or regulations.
- f) References to this “Agreement” mean the agreement between the two of us as set out in this document or any later amendments we both agree to in writing.

### **3) Appointment**

- a) Under this Agreement S&N appoint you to provide the Services to S&N or to one of our Affiliates within the Territory. The Services will be provided by you from the Commencement Date and will continue until Expiry. On Expiry, this Agreement will automatically terminate, unless an extension has been agreed in writing.
- b) Your appointment is based on your qualifications, skill, experience and expertise in your field which you confirm are appropriate for you to be able to competently perform the Services. Your appointment is not connected in any way with any volume or value of our products that you, or any hospital or medical institution with

which you associate, may choose to purchase from us, our third party distributors or our Affiliates

- c) We are a member of SAMED, AdvaMed and Eucomed, as well as other local country industry associations, and are committed to full compliance with applicable laws, regulations and industry codes in the countries in which we operate.

#### **4) Your obligations**

- a) You agree:
  - i) to carry out your obligations under this Agreement with reasonable care and skill and to the best of your ability;
  - ii) to devote such of your time and attention as is reasonably required to enable you to promptly provide the Services;
  - iii) to keep S&N regularly informed of your performance of the Services, including on request providing a written report of the work being performed by you and otherwise to answer any reasonable queries that S&N may have concerning your performance of the Services;
  - iv) that whilst acknowledging that the detailed performance of the Services is a matter for you, you will observe S&N's reasonable instructions and co-operate with such of our Affiliates' staff as we may reasonably require; and
  - v) to perform the Services at all times according to all relevant laws and regulations that relate to you and/or the Services.
- b) You acknowledge that you have read and understood the S&N Code of Conduct and Business Principles and you agree to abide by them at all times when performing the Services.

#### **5) Other Interests**

- a) During this Agreement you are free to provide services to any third party provided that such third party work does not interfere with your proper performance of the Services or compromise your duty of confidence to S&N.
- b) S&N's appointment of you is non-exclusive and S&N is free to appoint other consultants or service providers at its discretion.

#### **6) Your Status**

- a) You are appointed as an independent contractor. This Agreement is not intended to create or establish an agency, partnership or corporate relationship, or a relationship of employer and employee between us and neither of us is authorised to enter into contracts on behalf of the other.

#### **7) Your fees**

- a) In return for the Services you provide to S&N we will pay you a Fee.

- b) You will provide us with a report each Reporting Period substantially in the form set out in Schedule 2 ("**Work Activity Report integrated in the Tax Invoice**") detailing the nature and extent of the Services performed during the preceding Reporting Period, including the type of Services provided, the date and location of the Services and the patient, for the Fee due for that Reporting Period. Each Work Activity Report/ Tax Invoice is due within twenty (20) days after the end of the Reporting Period. Fees will be paid by us to you within a maximum of thirty (30) days of receipt of a satisfactory and complete Work Activity Report /Tax Invoice.
- c) Fees will be paid to you, in the jurisdiction where you reside, by direct debit into the following bank account (or such other account as notified by you to us in writing) according to the Electronic Funds Transfer Agreement. Please complete the Electronic Funds Transfer Agreement attached.
- d) You are not entitled to receive a Fee in respect of any period if you did not or were unable for any reason to perform the Services.
- e) If S&N reasonably disputes any of your Work Activity Reports/Tax Invoices, S&N will be entitled to withhold payment of the disputed invoice in full. Whilst we try and reach agreement over the disputed amount you may submit an amended Work Activity Report/Tax Invoice for any undisputed part of the invoice in question and S&N will pay that amended invoice in accordance with the timescales in paragraph 7) b).
- f) Unless otherwise stated in Schedule 1 all fees and expenses are exclusive of VAT and other applicable duties or taxes.

## **8) Publication**

- a) You agree not to publish any material arising from your performance of the Services without S&N's permission. S&N will not unreasonably withhold its permission.

## **9) Confidentiality**

- a) You agree that during the term of this Agreement and for a period of 5 years from its Expiry you will keep our Confidential Information secret and confidential. You will not disclose it to any third person and will only make use of the Confidential Information in the performance of the Services.
- b) Your obligations under paragraph 10) a) will not apply to the extent that the Confidential Information:-
  - i) is already publicly known at the time S&N disclose it to you;
  - ii) later becomes publicly known other than as a result of a breach by you of this paragraph 9);
  - iii) was already known to you before S&N disclosed it to you (apart from any confidential disclosure to you by one of our Affiliates);
  - iv) you are required by a court order or statutory law to disclose the information, provided that you will inform S&N as soon as possible of your obligation to disclose.

- c) As soon as possible following the Expiry of this Agreement, or following a request from S&N, you will return all copies of the Confidential Information to us.
- d) You understand that S&N could suffer substantial damage if Confidential Information was disclosed to third parties in breach of this Agreement and that an award of damages may not be an adequate remedy. You agree that in order to protect the Confidential Information S&N may enforce the provisions of this paragraph 9) by applying to an appropriate court for an injunction.

#### **10) Intellectual property**

- a) You agree that all Intellectual Property Rights created by you in performing the Services will belong to S&N. The requirement to transfer Intellectual Property to S&N does not include any Intellectual Property Rights you have already created before the commencement date.
- b) You will inform us immediately upon becoming aware of any Intellectual Property Rights that arise in the course of the Services. If future Intellectual Property Rights can be assigned in advance of their creation then by this Agreement you assign all rights in any such Intellectual Property Rights to us. For any Intellectual Property Rights that cannot be assigned in advance of their creation you agree to assign those Intellectual Property Rights to us as and when they are created. You also waive any moral rights you might have in the assigned Intellectual Property Rights.
- c) You will complete and sign any documents we reasonably require you to (at our cost) in order to give us the full benefit of this clause 10) and transfer ownership of the Intellectual Property Rights to S&N or our nominee for no additional consideration.
- d) You promise that the Intellectual Property Rights you assign to S&N under this Agreement arise from your own work and are free from any claims of ownership by a third party.

#### **11) Liability and Insurance**

- a) Nothing in this Agreement will operate to exclude or limit either of our respective liabilities to the other for any death, personal injury resulting from our/your (as appropriate) own negligence, or for any liability for fraud, fraudulent misrepresentation or other liability that cannot be restricted by law.
- b) You agree that you are self-employed and you are fully responsible for any claim by any relevant tax, revenue or other authority in respect of any income tax or insurance or other contributions arising from or payable in connection with your performance under this Agreement.
- c) For the avoidance of doubt, you are not entitled to any paid leave.
- d) You will indemnify S&N against any liability for income tax or insurance or other contributions and/or any costs, expenses, penalties or interest incurred or payable by S&N should the relevant tax, revenue or other authority determine that S&N is liable to pay income tax or insurance or other contributions in respect of your performance under this Agreement (except where such liability arises from the negligence or wilful default of S&N).

- e) At S&N's discretion S&N may satisfy the indemnity under paragraph 11) d) (in whole or in part) by way of deduction from any payments due to you under this Agreement.
- f) You will, at your own expense, take out and maintain a suitable policy of professional indemnity insurance with an insurance company of good repute to cover any liability to S&N arising out of or otherwise caused by your default under this Agreement. Your liability to S&N under this Agreement is the same whether or not you have the insurance cover set out in this paragraph.
- g) If you fail to provide the Services (or any part of the Services) in accordance with this Agreement then, without prejudice to any other remedy available to S&N, S&N may:
  - i) require you to promptly re-perform the defective Services without further cost to S&N;
  - ii) assess the cost of remedying the defective Services and deduct that cost from the fees due to you; or
  - iii) engage a third party to carry out the remedying of the defective Services and S&N will be entitled to recover such costs from you.
- h) Neither S&N nor you will be liable to the other, whether in contract, tort (including negligence), breach of statutory duty or otherwise, however caused for any damage, loss or costs arising out of this Agreement (or the Services) in respect of any:
  - i) Direct or indirect loss of anticipated savings; or
  - ii) Direct or indirect loss of anticipated business; or
  - iii) Direct or indirect loss of opportunity; or
  - iv) Direct or indirect loss of anticipated contracts; or
  - v) Indirect loss of profit;

and each of the above types of loss are intended by both of us to be severable under paragraph 14)h) below.

## **12) Early termination**

- a) Either party may terminate this Agreement by providing the other party with 14 days written notice.
- b) We may terminate this Agreement with immediate effect by written notice to you if you:
  - i) materially breach any term of this Agreement or perform any obligation under this Agreement negligently or incompetently in our reasonable opinion;
  - ii) are convicted of any criminal offence (other than an offence under road traffic legislation for which a non-custodial penalty is imposed);

- iii) are declared bankrupt or make any arrangement with or for the benefit of your creditors; or
  - iv) commit any act that, in our reasonable opinion, brings or is likely to bring us or our Affiliates into disrepute or otherwise damage our or our Affiliates' legitimate business interests.
- c) In the event that you are unable to fulfil your obligations under this Agreement because of your age, infirmity, illness or other incapacity and therefore you cannot be reasonably required to continue to provide the Services, then without prejudice to any other remedy available to S&N, S&N may bring this Agreement to an end (the Agreement to end on the date specified by S&N) by serving you notice in writing.
  - d) Promptly following the Expiry of this Agreement you will deliver to S&N all documents, records, papers (including copies of Confidential Information) or other property of S&N or our Affiliates which are in your possession or under your control.
  - e) The expiry of this Agreement will not affect your obligations and/or S&N's rights under paragraphs 8), 9), and 10) or the rights and obligations of either of us which may have arisen before Expiry.

### **13) Dispute Resolution**

If any dispute arises out of or in connection with this Agreement or the Services, the parties agree to first use all reasonable efforts to reach an amicable and prompt resolution by discussion and negotiation, and, if the dispute remains unresolved, through mediation and/or arbitration, if the parties agree. Failing such amicable resolution or agreement to refer the dispute to mediation or arbitration within 30 days of a party first giving notice of the dispute to the other party in writing, either party may take recourse in law.

### **14) General provisions**

- a) No changes to the terms and conditions of this Agreement will apply unless they have been agreed to in writing by both of us.
- b) This Agreement does not create or constitute a partnership between us and you are not authorised to act on our behalf. You are engaged under this Agreement as an independent contractor and nothing in this Agreement is intended to create the relationship of employer and employee between us.
- c) Neither of us intends that any third party is to be able to enforce any term of this contract, except that any of our Affiliates may enforce this Agreement where the Confidential Information in question belongs to them, or where the Services, or any part of them, are performed for them.
- d) This Agreement contains all of the terms of our agreement with you in respect of the Services. This Agreement replaces any previous agreement we have with you relating to the Services, except that any previous confidentiality agreement between us will continue according to its terms.

- e) Any notices that either of us needs to give to the other under this Agreement should be sent to the address given for each of us at the start of this Agreement, unless a change of address has previously been notified in writing.
- f) This Agreement is personal to you. You may not transfer your rights and/or obligations under this Agreement without our prior permission. S&N is able to transfer its rights and/or obligations to another of our Affiliates without your permission.
- g) If S&N fail to exercise, or delay in exercising, any of our rights or remedies connected to this Agreement then that failure or delay will not prevent us from later reasserting such rights or remedies unless S&N have expressly waived such rights or remedies in writing.
- h) If any term in this Agreement is held to be void, or voidable, illegal or otherwise unenforceable for any reason that term is to be removed from this Agreement without affecting the remaining provisions of this Agreement.
- i) This Agreement is to be governed by and construed in accordance with the laws of the Republic of South Africa and any legal proceedings connected to this Agreement and/or the Services must be brought in the courts of South Africa.

**Date:**

**EXECUTED as an agreement on behalf of  
COMPANY B(PTY) LTD:**

\_\_\_\_\_  
Signature – Director

\_\_\_\_\_  
Signature – Director / Company Secretary

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

**EXECUTED by [INSERT NAME]:**

\_\_\_\_\_  
Signature –

\_\_\_\_\_  
Signature – Witness

\_\_\_\_\_  
Name

## SCHEDULE 1

### PARTICULARS

<b>Commencement Date</b>	01 February 2013
<b>Expiry Date</b>	31 January 2013
<b>Services</b>	<p>When called upon by S&amp;N, you will assist in the assessment and application of Negative Pressure Wound Therapy (NPWT), including, without limitation, performing the following services as &amp; when required:</p> <ul style="list-style-type: none"><li>- Conducting wound and patient assessments;</li><li>- Preparing and completing motivation, progress and final report forms;</li><li>- Compiling, preparing and completing any additional information required by any relevant hospital, medical clinic, medical scheme and/or medical insurance provider;</li><li>- Submit on behalf of the prescribing physician the doctor's letter of motivation and on behalf of the patient his/her consent forms for release of information to the medical scheme and retrospective data collection for negative pressure wound therapy;</li><li>- Application of NPWT dressings;</li><li>- Emergency theatre NPWT dressings; and</li><li>- Emergency NPWT dressings and product deliveries &amp; after hours call outs.</li></ul> <p>In addition, you will provide general nursing services to patients upon the request of the treating medical doctor.</p>
<b>Territory</b>	[insert area _____, Private Nurse Practitioner will perform the Services.]

<b>Reporting Period</b>	Monthly		
<b>Fee</b>	<b><u>Fee Structure for PNPs</u></b>		
	<b>Service Type per session per patient.</b>	<b>Code</b>	<b>Service Fee</b>
	Wound Assessment	AWM09	ZAR 170
	Patient Dressings NPWT	AWM21	ZAR 350
	Call Out Fee	AWM13	ZAR 160
	Additional Travel	AWM14	AA RATE
	NPWT discontinuation	AWM15	ZAR 160
	<p>NOTES:</p> <ul style="list-style-type: none"> <li>• If a Wound Assessment and Dressing/s is completed during the same consultation, then a single, once off assessment fee applies per patient regardless of treatment cycle.</li> <li>• If you are required to travel outside your territory, upon notification and approval of S &amp; N, then additional travel fees will be paid to you at a rate of official AA rates for your vehicle type. (Code AWM14)</li> <li>• ePATS NPWT Initiation submission fees will be paid to you if the following information is submitted to Company B within 48 hours or prior second dressing application (whichever comes first) and according to scheme policies. <ol style="list-style-type: none"> <li>1. A Doctors Letter of Motivation for NPWT (Prescription for NPWT)</li> <li>2. A comprehensive patient and wound assessment</li> <li>3. Quality photo</li> <li>4. Co-morbidity test results e.g. HbA1C or INR</li> </ol> <p>(Code AWM15)</p> </li> </ul>		

- NPWT Discontinuation fee will be paid to you if
  - Upon NPWT dressing removal, an accompanying photo of the machine's serial number used during therapy is accompanied by
  - A final report and final wound photo submitted to Company B(Code AWM07)
- All Fees listed above are excluding VAT.

**SCHEDULE 2**

**Form of Work Activity Report integrated in the Tax Invoice as per "Tax Invoice" attached.**

The EFT name **MUST** be written on the Tax Invoice.

## **Annexure E: Information and Consent letter**

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NORTH-WEST UNIVERSITY<sup>®</sup>  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
POTCHEFSTROOM CAMPUS

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3 June 2013

Dear Participant

## **Consent letter to participate in research**

You have been invited to participate in a research study titled *Experiences of patients living with chronic wounds*. This study aims to explore and describe the experiences of patients living with chronic wounds, and to formulate an action plan to assist professional nurses to emotionally support patients living with chronic wound(s).

The study has been approved by the Ethics Committee of the North West University (certificate number NWU-00006-13-A1).

Although the study will not benefit you directly, it will provide valuable information that will enable nurses to provide better support to patients living with chronic wounds. The interview will be started with a single question, where I can share my emotional experiences of living with a chronic wound. The interview will be digitally voice-recorded. After the completion of this study, all the voice-recorded interviews will be erased.

The study procedure might cause you to feel tired, due to the fact that an interview will be held with you in your home environment. Your home environment refers to where you are staying at the time of the interview, either at home, hospital or care home facility. The interviews will last approximately 30 minutes. You are free to ask any questions about the study or about being a participant and you may call Sr Yolandi van Deventer at 082 783 8943 if you have any questions.

Your participation in this study is completely voluntary and you may withdraw your participation at any time, without your relationship with the health care provider being affected in any way.

The study data (your answers and discussions during the interview) will be coded, and no direct connotation can be made to your name in any way. Your identity will in no way be made public before, during or after the study. All data will be gathered by Sr Ingrid van der Walt on behalf of the researcher, and will be stored in a safe place and not shared with any person without your permission.

Regards,



Dr P Bester (Study supervisor on behalf of Sr Yolandi van Deventer)

I understand what will happen to me if I participate in this research and what my responsibilities will be. I have read this consent form and voluntarily consent to participate in this study.

\_\_\_\_\_  
**Participants signature**

\_\_\_\_\_  
**Date**

I have explained this study to the above subject and to have sought his/her understanding for informed consent.

\_\_\_\_\_  
**Interviewer signature**

**Date**

## Annexure F: Field notes

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## **Field notes**

### **Participant 1: 06/06/2013**

#### **Personal notes (emotions and intrapersonal experiences):**

- Elderly lady
- Living alone in a house in Bailliepark, Potchefstroom
- Elderly domestic worker looks after her during the day
- The lady is very friendly

#### **Methodological notes (describing processes and action steps):**

- The domestic worker looks after her wound at the moment
- Her daughter takes her to the Pharmacy in Witbank to have wound re-assessed (week of 10/06/2013).
- Wound is currently smaller in depth and circumference
- She has no feeling in her foot

#### **Theoretical notes (thoughts about how to make sense of what is going on):**

- Anger about wound care after Sr A left and that is why the domestic worker is taking care of the wound
- Crying and very emotional about the wound and the wound care
- She verbalizes her love for Sr A and appreciates her caring and love a lot
- Very emotional because Sr A is not doing the wound anymore
- Sr A was like a child to her and speaks very lovingly about Sr A

### **Participant 2: 10/06/2013**

#### **Personal notes (emotions and intrapersonal experiences):**

- Elderly man
- Stays on a plot in Potchefstroom with his wife
- Very friendly people

#### **Methodological notes (describing processes and action steps):**

- Wound currently in resting phase, no draining or infection

**Theoretical notes (thoughts about how to make sense of what is going on):**

- Emotional because Sr A is not available to take care of the wound anymore
- Sr A was like a daughter and speaks of her affectionately
- Crying and emotional about the care Sr A provided
- Wife also speaks nicely about Sr A
- Sr A was available at any time for wound care
- Sr A always gave feedback concerning what she does and the progress of the wound

**Participant 3: 10/06/2013**

**Personal notes (emotions and intrapersonal experiences):**

- Farmer on farm just outside Potchefstroom
- Currently actively busy farming again and working on the farm

**Methodological notes (describing processes and action steps):**

- Wound is currently healed

**Theoretical notes (thoughts about how to make sense of what is going on):**

- Religious path and spiritual testimony after accident
- Cries and very emotional over the good care that Sr A offered
- Sr A was part of the family
- Sees Sr A as an instrument of the Lord
- Sr A was available at any time for wound care
- Sr A always gave feedback concerning what she does and the progress of the wound
- Without Sr A's care and love he could not have stayed positive after the accident and wound healing.

**Participant 4: 10/06/2013**

**Personal notes (emotions and intrapersonal experiences):**

- Practices as a Professional in Potchefstroom

**Methodological notes (describing processes and action steps):**

- Uncomfortable talking about what is happening
- Closed body posture during the interview
- Amputation of foot

**Theoretical notes (thoughts about how to make sense of what is going on):**

- Sr A was part of the family
- Sr A was always available for care
- Sr A always gave feedback concerning what she does and the progress of the wound.

**Participant 5: 10/06/2013**

**Personal notes (emotions and intrapersonal experiences):**

- Uncomfortable talking about what is happening
- Closed body posture during interview

**Methodological notes (describing processes and action steps):**

- Back operation 2 weeks ago – to relieve oedema on spinal cord
- Angry about the ski

**Theoretical notes (thoughts about how to make sense of what is going on):**

- Sr A was always available for care
- Sr A always gave feedback concerning what she does and the progress of the wound
- He says that Sr A is an excellent wound care nurse.

## **Annexure G: Ethical approval**

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Privaat sak X6001, Potchefstroom  
Suid-Afrika, 2520

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Aan wie dit mag aangaan

**Etiek Sub-komitee**  
Tel: 018 2992095  
Faks: 018 2992088  
E-pos: [Annamarie.Kruger@nwu.ac.za](mailto:Annamarie.Kruger@nwu.ac.za)

20 Februarie 2013

Geagte Dr. Bester

## **Etiekaansoek: NWU-00006-13-S1**

Die aansoek is deur etiekkomitee paneellede beoordeel en etiese goedkeuring word aanbeveel. 'n Voorstel word gemaak dat 'n eksterne berader moontlik betrek word vir emosionele ontlasting na onderhoude.

Vriendelike groete



Prof. Annamarie Kruger  
Voorsitter

Oorspronklike gegewens: Prof. Annamarie Kruger(10062416) C:\Users\13210572\Documents\ETIEK\2013 ETHICS\NWU-00006-13-S1.docm  
20 Februarie 2013

Verwysingsnommer: NWU-00006-13-S1