



University of HUDDERSFIELD

University of Huddersfield Repository

Ousey, Karen

Quality of life experienced by patients undergoing negative pressure wound therapy as part of their wound care treatment compared to patients receiving standard wound care

Original Citation

Ousey, Karen (2013) Quality of life experienced by patients undergoing negative pressure wound therapy as part of their wound care treatment compared to patients receiving standard wound care. In: *Quality of Life with Negative Pressure Wound Therapy Post-Orthopaedic Surgery Blistering – A Delphi Report*, February 2013, Perth, Australia. (Unpublished)

This version is available at <http://eprints.hud.ac.uk/id/eprint/16869/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Quality of life experienced by patients undergoing negative pressure wound therapy as part of their wound care treatment compared to patients receiving standard wound care

Dr Karen Ousey
University of Huddersfield



Acknowledgments

- Smith and Nephew Healthcare for an unrestricted educational grant
- Mid Yorkshire NHS Trust
- South Tyneside Foundation Trust

What is NPWT?



Foam or gauze dressing?

- The NPWT device works through the application of an open cell foam or gauze dressing, which allows equal distribution of negative pressure across the entire wound bed
- Both types of dressing interface are equally effective at delivering negative pressure, wound contraction and stimulation of blood flow at the wound edge.
- Reports of in-growth of granulation tissue into the cells of the open cell polyurethane foam.
- Can cause patients to experience pain at dressing changes and a disturbance of the re-epithelialisation process
- The rapid granulation associated with foam dressings can sometimes be an advantage in wounds that require quick healing, such as in patients with significant vascular problems or those at risk of infection



Why Investigate QoL?

- The use of Negative Pressure Wound Therapy (NPWT) has been widely documented as a technique to help heal complex wounds
- The ability to measure patient satisfaction has been discussed for many years
- Difficulties associated with the accurate measurement of patient satisfaction with care

Why QoL and NPWT?

- Managing patients with a complex wound is challenging
- In the case of NPWT – patients remain attached to the device for around 22 out of 24 hours a day
- Limited amount of literature that investigates and explores the effect NPWT has on patients' quality of life or satisfaction

Aim of Study

- To explore satisfaction and quality of life experienced by patients undergoing negative pressure wound therapy (NPWT) as part of their wound care treatment in comparison to that of patients with a wound using traditional (standard) wound care therapies.

Objectives

- To explore the impact that living with a wound has on a patient's quality of life
- To explore the impact of NPWT on a patient's quality of life
- **Method**
 - A quasi-experimental study was undertaken, with patients treated in wound care/vascular clinics with chronic/acute wounds. Some of these patients were prescribed NPWT.



Data Collection

- Quality of life impact was measured using the Cardiff Wound Impact Schedule
- The Cardiff Wound Impact Schedule (CWIS) is a condition-specific quality of life tool, giving a profile of scores for Physical Symptoms and Daily Living, Social Life, Wellbeing, and Overall Quality of Life.

CWIS

- **Overall Quality of Life**
- **How would you rate your overall quality of life during the past week? Please circle a number below:**
- How good is your quality of life?
 - My quality of life is
 - Worst possible 0 1 2 3 4 5 6 7 8 9 10 Best possible
- How satisfied are you with your overall quality of life?
 - Not at all satisfied 0 1 2 3 4 5 6 7 8 9 10 Very satisfied
- Overall Comment(s)

Example of questions for CWIS

- **Social Life**
- **Have you experienced any of the following during the past week?**
 - Difficulty getting out and about
 - Relying more on others
 - Your family/friends being over protective
 - Unable to enjoy your usual social life (eg hobbies)
 - Limited contact with family/friends
 - Not going out for fear of bumping your wound site
 - Wanting to withdraw from people
- Not at all/ Seldom/ Sometimes/ Frequently/ Always

Example of questions for CWIS

- **Well-being - To what extent do you agree/disagree with the following statements?**
 - I feel anxious about my wound(s)
 - I feel frustrated at the time it is taking for the wound(s) to heal
 - I am confident that the wound(s) I have will heal
 - I worry that I may get another wound in the future
 - The appearance of the wound site is upsetting
 - I feel anxious about bumping the wound site
 - I worry about the impact of the wound(s) on my family/friends
- Strongly Disagree/ Not Sure/ Agree/ Strongly Agree

Example of questions for CWIS

- Physical Symptoms and Daily Living
 - Have you experienced any of the following during the past week?
 - Disturbed sleep
 - Difficulty in bathing
 - Immobility around the home
 - Immobility outside the home
 - Leakage from the wound(s)
 - Pain from the wound site
 - Discomfort from the bandaging/dressing
 - Unpleasant odour or smell from the wound(s)
 - Problems with everyday tasks (e.g. shopping)
 - Difficulty in finding appropriate footwear
 - Problems with the amount of time needed to care for the wound site
 - Financial difficulties as a result of the wound(s)

Data Collection

- Data was collected at nominal points during the wound treatment
- The initial questionnaire also captured demographic and clinical information, plus information relating to wound characteristics
- The remainder of the questionnaires captured quality of life information and were administered to patients at:
 - Week 1
 - Week 2
 - Weeks 4, 8 and 12
- If the wound healed between administration times of the questionnaire no further questionnaires were completed
- This allowed for any changes in quality of life indicators to be identified at specific points of the patients' treatment.

Results

- 21 patients included
- 10 started treatment on NPWT and 11 started standard treatment
- Of the 10 patients who started treatment on NPWT, 6 were subsequently transferred to standard therapy and 4 remained on NPWT either until the end of the study or until loss to follow-up
- All 4 patients who remained on NPWT for the duration of the study were lost to follow-up before wound healing was reported
- 3 of the patients followed for 56, 81 and 102 days
- The 4th patient failed to return any questionnaires after the baseline questionnaire

Gender

- The standard therapy group comprised 7 males and 4 females (64% male)
- NPWT group comprised 8 males and 2 females (80% male).

Age of participants

- The standard therapy group were slightly older than the NPWT group
- Those living alone were slightly older than those who lived with family
- The average age of those in the standard therapy group was estimated to be 55.0 years
- In the NPWT group it was estimated to be 44.4 years.

Wounds

- The patients with the two largest wounds measured by length and depth (65cm x 50cm, 45cm x 40cm) and the patient with the two deepest wounds (22cm and 20cm) were all initially assigned to the NPWT group.
- All patients in this group had wounds of length 9cm or greater.
- Conversely, many patients with smaller wounds were assigned to the standard therapy group
- One patient in the standard therapy group did have a wound comparable in length and depth to the largest wounds in the NPWT group.

Wounds

- Both groups included patients whose wound duration was in excess of 3 years
- Wound duration in the standard group ranged from 1 week to 3.5 years (mean duration 41 weeks approximately)
- NPWT group it ranged from under 1 week to 3.2 years (mean duration 31 weeks approximately)

Results

- The 6 patients who started treatment on NPWT were transferred to standard therapy between 2 and 57 days after commencement of NPWT treatment
- Remained on standard therapy from between 8 and 77 days
- One of the patients reported wound healing after a total of 103 days
- All others did not report wound healing before either being lost to follow-up or reaching the end of the study

Results

- The 11 patients who started standard therapy remained on this therapy for between 12 and 121 days before either being lost to follow-up or reaching the end of the study; or before reporting wound healing
- 3 patients reported wound healing in this group
- Hence all instances of wound healing occurred in patients experiencing standard wound therapy
- It was not possible to compare standard and NPWT methods in terms of time to wound healing

Results

- Reported quality of life scores two weeks after treatment indicated no significant effect of therapy on quality of life ($p=0.109$)
- Social isolation on quality of life ($p=0.212$) in a controlled multivariate general linear model
- The therapy-social isolation interaction was also not significant ($p=0.636$), indicating that the effect of therapy type was similar on those who lived alone and those who lived with friends or family

Results

- Although there was no overall interaction between the therapies used for wound healing
- NPWT did have an effect on social life: during the first 2 weeks of the application of therapy
- Patients in the NPWT group reported an increase in the social life domain.



Results

- All NPWT patients achieved better social life scores than patients receiving standard therapy.
- However, while patients living alone and receiving standard therapy reported substantially lower quality of life scores than patients living with their families and receiving standard therapy
- Patients living alone and receiving NPWT reported very similar quality of life scores to patients living with their families and receiving standard therapy.

Results

- All NPWT patients achieved better social life scores than patients receiving standard therapy during week 1.
- The NPWT group consisted of younger patients, as such the socialisation element may be purely age-related and not device-related
- The assumption that living alone could potentially preclude patients from NPWT in practitioners' minds from a risk management perspective is not supported

Association between social isolation and quality of life scores: weeks 1-12

- Social isolation was not significantly associated with physical symptoms and daily living ($p=0.885$)
- Social life scores ($p=0.870$); on wellbeing scores ($p=0.393$); or on overall quality of life scores ($p=0.810$)
- The surrogate baseline week 1 score was found to be a significant predictor of week 12 scores in the wellbeing component ($p=0.036$), but was not statistically significant for the other components of the CWIS tool.



Results

- We tested the null hypothesis of no difference between the quality of life score in patients assigned to NPWT and standard therapy who lived alone, and quality of life score in patients who lived with family or friends.
- Our results identified that there were no real differences in quality of life scores recorded by patients over the 12 week period

Results

- QoL can and is affected by many factors:
 - Disease process
 - Social factors
 - Intelligence
 - Expectations
 - Anxiety
 - Depression
 - Patient involvement
 - Perceived control

Limitations

- This was a small pilot study and as such does not allow for all potentially influencing factors to be considered: for example, size of the wound, how long the patient has had the wound, gender and age; a large scale study would be able to account for these
- ?Hawthorne effect on results



The future

- To account for all potentially influencing factors, a full-scale regression-based study would be likely to require at least 200 patients completing the 12-week follow-up period
- It would be beneficial for baseline quality of life scores to be recorded rather than relying on scores documented after week 1