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Original Citation

Ousey, Karen and Milne, Jeanette (2010) Negative pressure wound therapy: suggested solutions to barriers. *British Journal of Community Nursing*, 15 (6 (Sup)). pp. 36-40. ISSN 1462-4753

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Negative pressure wound therapy: suggested solutions to barriers

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Negative pressure wound therapy (NPWT) or topical negative pressure (TNP) has been increasingly used over the past decade for the treatment of acute and chronic wounds (Beldon, 2005) and has been shown to have the potential to promote wound healing, alleviate signs and symptoms of increasing exudate and odour and to improve quality of life (Wounds UK, 2008). The Department of Health (DH) (2008) stated that there should be increasing access to services that help people maintain and improve their health and wellbeing with primary and community clinicians playing a lead role in promoting equality of opportunity and equality of health outcomes (Ousey and Milne, 2009a). The NHS Scotland action plan *Better Health, Better Care* (2007) suggested that this requires a health service that works together with its partners, places the patient at the heart of everything it does, integrates care, realizes efficiencies and ensures the highest standards of quality and safety. As a result a focus group was convened to discuss and explore the use of NPWT within community settings and to identify advantages, disadvantages, possible barriers to the use of NPWT and potential solutions to overcome these barriers (Ousey and Milne, 2010). Following analysis of the data from this focus group, a second group was convened to further explore effective communication, maintenance of a seamless quality service for patients undergoing NPWT in the community and to develop an algorithm to assist in a seamless discharge from the acute to community

care settings for patients with NPWT. This will provide a template for practitioners to use when discharging patients to the community to enhance timely and effective transfer.

Methods

Invitations to participate were sent to the tissue viability specialists across the UK who had participated in the first focus group (Ousey and Milne, 2010). Six specialists were able to take part; the remainder had prior clinical commitments. Once they agreed to participate, they received a letter informing them of the venue, date and time and the aims of the day. Ethical approval was sought and granted from the School of Human & Health Sciences School Research Ethics Panel, University of Huddersfield for this focus group. Informed written consent was obtained from all participants prior to their participation in the group with identities of all participants remaining anonymous.

A qualitative approach to data collection was used through a focus group. Focus groups have been described as a form of group interview that capitalizes on communication between research participants in order to generate data (Kitzinger, 1995) and use group interaction as part of the method. This second focus group allowed for further exploration of themes that have been elicited from the first focus group stimulating in-depth discussion.

The focus group aimed to explore the following:

- ♦ Who makes the clinical decision for commencing NPWT?
- ♦ Is there any controversy or conflict surrounding decision making?
- ♦ Solving conflict for appropriate use of NPWT on discharge
- ♦ Perceived barriers to seamless discharge for patients with NPWT from the acute to community sectors
- ♦ Benefits of having a UK-wide standardized NPWT discharge document
- ♦ Costs associated with NPWT.

Data analysis

The focus group interview was transcribed by an independent person. A concept analysis was undertaken through the selection of certain words and phrases that were relevant to the study being undertaken. Reliability of

Abstract

Effective communication to ensure maintenance of a seamless quality service for patients being transferred to the community from the acute sector with negative pressure wound therapy (NPWT) is essential. This paper reports the findings of a focus group convened to explore the decision making process; controversy or conflict surrounding the decision-making process; perceived barriers to seamless discharge and potential benefits of developing a UK standardized NPWT discharge documentation. A proposed algorithm is presented as a template for practitioners to use when discharging patients to the community to enhance timely and effective transfer.

KEY WORDS

Negative pressure wound therapy ♦ Topical negative pressure ♦ Community focus group interview ♦ Communication

the interpretation of the transcripts was achieved through independent validation of the analysis by an additional researcher.

Findings

The major findings from the data generated were:

- ◆ Ensuring seamless and appropriate use of NPWT on discharge
- ◆ Clinical decision making
- ◆ Cost implications
- ◆ Generating solutions.

These findings are discussed below and a proposed template to promote a seamless discharge from the acute to the community setting is offered following discussion of the findings.

Haphazard discharge

The need to ensure an effective, seamless and appropriate discharge from the acute sector to the community with NPWT as the treatment of choice was discussed at length. It was identified that there was sometimes a lack of co-ordination when the patient was discharged home with NPWT. One participant remarked that community staff were not always effectively communicated with regarding the decision to discharge patients with NPWT. This often led to no assessment being undertaken of: the patient's overall suitability for the device; whether funding was in place or the home circumstances were appropriate for NPWT. Situations had arisen where the patient had received little or no education regarding the management of NPWT prior to being discharged and when they returned home they could not manage the therapy. The home circumstances of patients were not always considered by the acute sector. It was identified that not all homes were suitable for NPWT owing to:

- ◆ Lack of space
- ◆ The affect that NPWT could have on a patients mobility, for example if NPWT was being used on the lower limb, mobility could be restricted owing to a risk of falls
- ◆ Psychological capability of patients being able to cope with the therapy, for example if it should alarm at night
- ◆ If the patient was a known substance abuser, there were examples of non-concordance with treatment and devices being 'sold' to fund habits.

Examples of patients being commenced on NPWT immediately prior to discharge were highlighted, this was felt to be limiting as there was no first dressing change to enable assessment of wound progress or allow patient familiarization. Some patients had not received NPWT during their hospital stay but had been recommended its use to facilitate an early discharge home:

'If the use of NPWT is freeing up hospital beds then the acute trust should part fund some of the therapy - there is no national standard and things are different across the country'

It is interesting to note that not all primary care trusts (PCTs) have a defined budget for the use of NPWT. As such if a patient requires therapy on discharge the tissue viability or district nursing budget has to be accessed thus creating a 'postcode lottery' of where funds to maintain therapy can be retrieved and reiterates the importance of effective pre-discharge communication as it may not be possible to acquire funding.

Who pays?

As the use of NPWT becomes a more widespread choice of treatment, participants of the focus group had noted a rise in referrals for the therapy from members of the multidisciplinary team including podiatrists, surgeons and medical staff in both the acute and private health-care setting. Although it was recognized that the treatment was often appropriate, it could prove problematic in ensuring that: there were enough units available for use in the community; funding was available for its use and there were enough trained staff to care for NPWT. Podiatrists were happy to review the patient at clinics once a week but the remainder of the care was seen to be the responsibility of the tissue viability or district nursing team. The decision of who would fund the device when the patient was discharged from the private sector also caused some confusion. Historically, NPWT was only commercially available from one supplier, however, over the last 2 years new providers have emerged. This has led to some acute centres using a different system from that being used in the community. This leads to increased costs if the patient or the prescriber is unwilling to change systems. The group also felt that this posed risk management issues with regard to training and education of staff. Examples were given where a device was coupled with consumables from an alternate provider and while no harm had occurred to the patient the device had alarmed constantly which was distressing for the patient. Additionally, it proved time consuming in terms of man hours for the PCT; there was also no payment system in place whereby the insurers would finance the cost of NPWT in the community and as such the costs had to be met by the PCT.

Education

Participants of the focus group highlighted that not all district nurses were trained and educated in the use of NPWT. If there were numerous patients prescribed NPWT then it could prove problematic for the service to provide 24-hour care if necessary. If the district nurses were unable to use NPWT then the responsibility became that of the tissue viability service and became time consuming in terms of assessment and dressing changes. Participants expressed concern that staff, once trained, sometimes would see NPWT so infrequently that it was difficult to maintain competence. While this is a self-limiting step in the process it would be rectified if patient numbers continue to grow. Company support was viewed as essential to the ongoing training and support of staff;

access to clinical support staff varies from company to company with some seeing this as a priority and others making recent cut backs in this area.

Therapy v brand name

NPWT or TNP is the therapy name, however, it was apparent that not all practitioners understood the generic name of the therapy but rather referred to the treatment by a trade name (VAC®). This could prove difficult when attempting to use different company's units as some practitioners were adamant that VAC® should be the treatment of choice. Additionally, the type of dressing, foam or gauze, could cause problems with some staff not appreciating the difference between the dressings. Participants highlighted that education should be offered to all practitioners involved in using NPWT and that these practitioners should be encouraged to attend. The education should be provided by specialists who have expert skills in providing NPWT, educationalists and industry.

Conflict

Participants suggested that conflict could occur for a variety of reasons. It was identified that negative pressure may be prescribed by a practitioner in the discharging trust but deemed inappropriate by the receiving trust, this could cause confusion for the patient who had been informed they would be treated with NPWT on discharge. The choice of provider for the treatment often caused conflict as patients had to swap devices and in some instances interfaces (gauze to foam or vice versa) as well as swapping provider and funding which added to the complexity. Discussions surrounded the difficulty in accessing information with participants highlighting that community practitioners sometimes found it difficult to access information from acute services and consultants, with particular emphasis given to lack of information about treatment goals and end points. The suggested duration of therapy often caused a degree of conflict, participants discussed instances when NPWT has been stopped in the community prior to outpatient review and the patient had been recommenced or a request to recommence, had occurred following an outpatient appointment despite the wound continuing to make progress without NPWT. Other examples included continued use of NPWT when it was felt to be only masking symptoms and other surgical interventions would have been more appropriate – i.e. NPWT was being used as an indefinite bridge to future surgery where the next steps had been ill defined or undecided. Some examples of prolonged use in excess of 6 months were given, for example:

- ♦ Engaging stakeholders from acute services was seen as difficult by some and impossible by others despite trying to do so. The reason for engagement was to try to establish and define care pathways that ensure patient access to therapy in a safe environment
- ♦ Invoices arriving for therapy that has been commenced in the acute sector that had been continued in the community setting without prior consultation.

Most if not all problems stemmed from a lack of communication, mutual understanding and respect as was evidenced in the first focus group (Ousey and Milne, 2010).

Solutions

Despite the continued increase in use only one participant was actively tracking patient outcomes. Others were recording usage data but this was more to keep a track on devices and invoices. It is acknowledged that tracking outcome data and recording is not always easy in a community setting as systems are limited and many nurses care for the patient within a given episode of treatment. Most community tissue viability services in the sample review patients on NPWT on a regular basis but there was little consensus over what was an acceptable frequency, as this was largely dictated by resource availability and staffing. It was felt that such data, if collected over a period of time with patient outcomes, could be used to either support or decline requests for NPWT as themes would emerge from the data that could be used to substantiate decision making.

With regard to discharge, the group suggested that an agreed pathway would be useful for acute staff to follow and community staff to insist upon to ensure discharge was safe, efficient and fair to all parties. The algorithm devised by the group (*Figure 1*) considers the patient home circumstances, coping mechanisms, mental capacity and environmental factors as well as wound suitability for NPWT and only following this suitability screening should acute staff seek to contact community services for consideration of NPWT at home. In the algorithm it suggests that tissue viability be the point of contact for the acute trust as gatekeeper, however, in the absence of this service it is acknowledged that this could be substituted. The DH has recently published '*Ready to go*' *Planning the discharge and the transfer of patients from hospital and intermediate care* (DH, 2010). This guide puts forward 10 key steps to achieving safe and timely discharge. These steps are based on the good practice previously identified and evaluated by practitioners. The steps set out the essential stages in discharge and transfer planning, supported by 10 operating principles. The key messages are: Check it out, ask the patient and make it happen. Its timely release could be used to engage acute trusts about the issues raised above.

In addition to the algorithm it was suggested that the questions in *Table 1* be considered prior to discharge. It is recognized these questions or algorithm are not validated but they do offer some guidance for effective assessment of the appropriateness of NPWT.

If there are any boxes ticked these should be addressed, if they cannot be addressed consideration should be given to as to whether or not NPWT is the most appropriate treatment for the patient on discharge.

Figure 1- Algorithm for patients being discharged with negative pressure wound therapy

Exploring the barriers to adoption of Negative Pressure Wound Therapy in the community setting

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Aim

To explore community tissue viability specialists' (TVNs) experiences and attitudes towards the use of NPWT in community settings.

Method

A literature review was undertaken to identify themes and a discussion guide was drawn up prior to the focus group meeting to act as a prompt on the day. Invitations to participate were sent to 20 practitioners. The focus group was conducted over two sessions with 9 TVNs and 6 TVNs respectively and each lasted for 4 hours. It was carried out in compliance with relevant ethical guidelines, participant consent was taken to record the discussion using MP4 players. Three researchers were present one of whom chaired the meeting, the others took notes. The recordings were transcribed verbatim independent of the researchers and compared to the written notes taken on the day for validity.

Results

Data analysis identified numerous themes most notably untimely referrals: cost implications and mutual benefit and understanding with relation to professional and patient experience / attitude.

Conclusions / Discussion

The focus group interview highlighted that NPWT may help to improve patient care and decrease costs associated with the higher number of visits that a more traditional wound management approach may require. It was stressed that there was a need for clear inclusion and exclusion criteria specific to NPWT use in a community setting. The following inclusion and exclusion criteria were proposed (see table 1).

The focus group also discussed the importance of effective and clear communication between the acute and primary care sectors when discharging a patient with NPWT. It was recognised that there were training and educational needs for district nurses to manage the therapy and that it was vital that all patients who were to be discharged with NPWT be referred either to the tissue viability team or District Nursing team at least forty eight hours prior to discharge or a time set locally. This is to allow for equipment and funding to be put in place. The use of an algorithm may allow for acute care practitioners to assess the patient's suitability for NPWT on discharge and would act as an aide memoire in ensuring all services and assessments had been undertaken prior to discharge (see figure 1 and table 2). The case study on the left hand side courtesy of Wirral PCT, shows the patient and wound benefits of NPWT use in the community when all such factors are addressed.

Table 1: Inclusion – Exclusion Criteria for use of NPWT in the Community

Inclusion Criteria	Exclusion Criteria
Recent wound assessment	Contraindications
Ongoing support available	Poor mental well-being
Patient agreement	Unsuitable home environment
Referrals arranged	Acute vs. Chronic wounds
Funding and budget pathway agreed	Negative impact of the patients quality of life

Table 2: Suggested questions prior to discharge

	Yes	No
Can the patient carry the pump safely when mobilising?		
Can the patient / carer manage the device?		
Have they been shown how to silence the alarms?		
Do they know who to contact in an emergency and what would constitute an emergency?		
Is the psychological capability of the patient sufficient enough to cope with NPWT?		
Is there a risk of potential loss of equipment on discharge?		
Is the patient at risk of falls?		
Has a falls assessment been undertaken?		
Has a home support assessment been undertaken?		
Have the community team been informed of discharge?		
Have appropriate referral forms been completed and sent?		

Patient A: Example of abdominal wound treated with NPWT in a community setting (Wirral PCT)

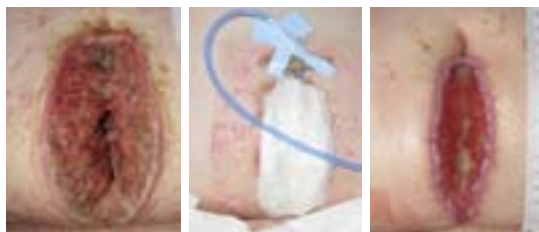
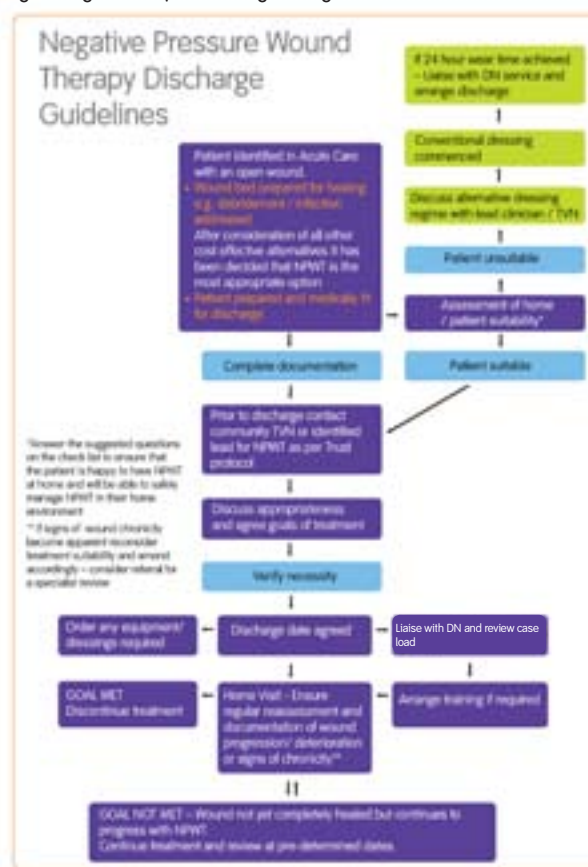


Image 1: On initiation of therapy 16 Jan 09

Image 3: 13 Feb 09 – wound granulated, NPWT discontinued

Figure 1: Algorithm for patients being discharged with NPWT



This poster was presented at EWMA, Geneva 2010
 This poster was supported by an unrestricted medical grant from Smith & Nephew
 At the time of data collection J. Milne was an employee of Smith & Nephew

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Is there a risk of potential loss of equipment on discharge?		
Is the patient at risk of falls?		
Has a falls assessment been undertaken?		
Has a home support assessment been undertaken?		
Have the community team been informed of discharge?		
Have appropriate referral forms been completed and sent?		

Limitations

Only community-based practitioners were present and the results only provide a snapshot of experiences of clinical decision making and overcoming conflict and potential barriers. It would be beneficial to hold a focus group consisting of hospital tissue viability and medical practitioners to further explore these issues.

Conclusion

The focus group discussed the importance of effective and clear communication between the acute and primary sector when discharging a patient with NPWT. It was recognized that there were training and educational needs of district nurses to manage the therapy and that it was vital that all patients who were to be discharged with NPWT be referred to the tissue viability team at least 48 hours prior to discharge or a time set locally. This would allow for equipment and funding to be put in place. The use of an algorithm may allow for acute care practitioners to assess the patient’s suitability for

NPWT on discharge and would act as an aide-mémoire in ensuring all services and assessments had been undertaken prior to discharge. **BJCN**

Conflict of interest

The focus group was supported by an unrestricted educational grant from Smith & Nephew. At the time of data collection Jeanette Milne was UK NPWT Clinical and Education Manager, Smith & Nephew Healthcare, Hull, she is currently Tissue Viability Specialist South Tyne and Wear PrimaryCare Trust.

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Key points

- ◆ There is a need to ensure an effective, seamless and appropriate discharge from the acute sector to the community with negative pressure wound therapy (NPWT) as the treatment of choice.
- ◆ Not all homes are suitable for NPWT.
- ◆ Not all district nurses are trained and educated in the use of NPWT.
- ◆ An agreed pathway for discharging patients from acute trusts to the community with NPWT would be beneficial.
- ◆ Data reflecting patient outcomes discharged with NPWT needs to be collected to substantiate decision making.

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