

British Journal of Community Nursing

Assessing, planning, implementing and evaluating wound care in older adults.

--Manuscript Draft--

Manuscript Number:	bjcn.2018.0083
Full Title:	Assessing, planning, implementing and evaluating wound care in older adults.
Article Type:	Professional
Corresponding Author:	Alexandra Carlin, MSc Nursing (Specialist Practice) District Nursing University of Lincoln Lincoln, UNITED KINGDOM
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	University of Lincoln
Corresponding Author's Secondary Institution:	
First Author:	Alexandra Carlin, MSc Nursing (Specialist Practice) District Nursing
First Author Secondary Information:	
Order of Authors:	Alexandra Carlin, MSc Nursing (Specialist Practice) District Nursing
Order of Authors Secondary Information:	
Abstract:	Piece does not require an abstract.

Assessing, Planning, Implementing and Evaluating wound care in older adults

Title: Assessing, planning, implementing and evaluating wound care in older adults.

Keywords:

Wound care, older adults, prescribing, assessing, planning, evaluating.

Key points:

- In order to achieve person-centred, holistic approach consider using a consultation model such as Calgary Cambridge (Silverman et al., 2005), Pendleton (2003) or a nursing model.
- A nursing process such as: Assessing, Planning, Implementing and Evaluating (Yura and Walsh, 1978) provides structure to wound care interventions.
- Wound care in older adults is highly complex. Consider wound dressing selection as a prescribing decision and establish the desired outcomes inclusive of the patient perspective.

Reflective discussion:

1. Do you consider dressing selection as a prescribing decision?
2. Reflect on an occasion when you selected a dressing. How did you assess, plan, implement and evaluate this dressing selection? List the influencing factors that generated your decision.
3. Have you witnessed an increase in demand on community services for wound management in older adults?

Introduction

In the United Kingdom; 18% of the population is 65 years and over and this figure is increasing (Office of National Statistics, 2018). Global figures suggest that the number of over 60 years is expected to more than double by 2050 (United Nations, 2017). An aging population provides added complexity for nursing practice, particularly as 75% of 75 year olds in the UK have more than one long term condition (Barnett et al., 2012).

Wound care is mainly a nursing task in the UK (Pagnamenta, 2017). The assessment and management of wounds is complex (Cryer, 2015) and selecting an appropriate regime for wound management is no easy task. In 2012/13; wound care and the associated comorbidities accounted for 18.6 million practice nurse visits and 10.9 million community nurse visits (Guest et al., 2015). Aging is associated with alterations in wound healing such as delayed healing (Gould et al., 2015).

The aim of this paper is to provide guidance on achieving a holistic and person centred approach to the assessment and management of wound care with older adults. In order to

ensure a logical and structured approach to wound care; consider using a nursing process. This paper recommends Yura and Walsh's (1978) nursing process: Assessing, Planning, Implementing and Evaluating (APIE).

Assessing:

The underpinning principles of assessment should be applied to all older adults with a wound. Assessment is a systematic, deliberate and interactive process (Heaven and Maguire, 1996). It is essential that nurses involve patients in the assessment process. Allow the patient to tell their story and use a model to provide structure. Consultation models such as Pendleton (2003) or Calgary Cambridge (Silverman et al., 2005) provide structure and recognition of the patients perspective.

Nursing models such as Roper, Logan and Tierney (1985) and Gordon's functional health needs (1994) also provide useful structures to prompt holistic assessment; particularly for staff less familiar with consultation models. One such example includes nutrition; older adults who are undernourished are at a greater risk of chronic wounds (Sherman and Barkley, 2011; Williams and Barbul, 2012). Carbohydrates, protein, fatty acids, minerals and vitamins are required for wound healing; therefore assessment of diet is essential for achieving holistic assessment.

Part of the assessment process should consider if the wound is acute or chronic. Cutting and Tong (2003) recognise a complex science to such a process. However, put simply;

'An acute wound is traumatic or surgical and moves through the stages of the healing process in a predictable time frame. A chronic wound does not progress through the stages of healing and is not resolved over an expected period of time regardless of the cause.' (Broderick, 2009).

Alternatively, chronic wounds could be considered according to time frame; present for more than 6 weeks (Kane and Krasner, 1997).

When assessing acute wounds; consider if closure could be achieved through the use of primary, secondary or tertiary intention. Frail, older adults are often at risk of skin tears (Payne and Martin, 1990; Everett and Powell, 1994) and therefore if the skin flap is viable; healing by primary intention may improve healing rates. Rando et al., (2018) provide a useful protocol to facilitate wound healing in residential settings, which with adequate training carers could use.

Chronic wounds are more likely to affect older adults than younger adults (Gould et al., 2015). Delayed wound healing in older adults; combined with the unpredictable and complex

healing of chronic wounds, creates a challenge for professionals involved with wound care. The majority of chronic wounds are associated with conditions which are more common in older adults such as vascular disease, venous insufficiency, unrelieved pressure, diabetes mellitus (Gould et al., 2015) and malignancy. Therefore, consider specific assessment tools to explore underlying aetiology. Patients with leg ulcers should be screened for arterial disease, via Doppler assessment to determine Ankle Brachial Pressure Ulcer Index (Association for the Advancement of Wound Care, 2017; Scottish Intercollegiate Guidelines Network, 2010). Consider bloods: FBC, ESR, U&E, Albumin, HbA1c, autoantibody screen and clotting and haemoglobinopathy screen (National Institute for Health and Care Excellence [NICE], 2015a) as part of the assessment. Pressure areas must be graded using the European Pressure Ulcer Advisory Panel (2014) tool. Risk of pressure damage should be assessed using a validated scale to support clinical judgements (NICE, 2014) such as Waterlow (1985) or Braden (Bergstrom, 1987) tools.

Wound bed preparation is part of the assessment process to inform dressing selection. TIME (Tissue, Inflammation/Infection, Moisture, Edge advancement) provides a specific tool to underpin assessment.

Table 1: TIME descriptors for wound bed preparation

Tissue	Inflammation	Moisture	Edge Advancement
Epithelial tissue (pink), Granulation (red), Slough (yellow), Necrosis (black/brown), Unhealthy granulation, Over granulation, Visible tendon/bone, Visible muscle,	None, Normal, Abnormal; unexpected time period, Abnormal; unexpected acute inflammation, Abnormal; chronic inflammatory disease.	Dry, Moist, Wet, Saturated, Leaking, Serous, Haemoserous, Seropurulent, Purulent, Haemopurulent,	Callus, Encrusted debris, Overgranulation, Rolled wound edge, Thickened wound edge, Undermining.
<p>Infection: Most important diagnostic indicators of infection: Cellulitis Pus Abscess.</p> <p>Subtle signposts of wound infection: Delayed healing Erythema (with or without induration) Haemopurulent exudate Malodour Seropurulent exudate Wound breakdown or enlargement</p>			

Increase in local skin temperature Oedema Serous exudate with erythema Swelling with increase in exudate volume Unexpected pain or tenderness (European Wound Management Association, 2005)
--

Planning and Implementing:

When planning care it is vital that nurses consider outcomes that are specific, measurable and achievable (Dougherty et al., 2015). In wound care, selecting a wound dressing to reach the desired outcome is no easy feat. There are a large range of wound dressings with differing performance characteristics and costs, which creates a challenge for healthcare professionals (NICE, 2015b). Cutting (2016) highlights the imprecision surrounding wound dressing selection, acknowledging that there is a lack of awareness in relation to the role that appropriate dressing selection can play. With a changing workforce within nursing, exacerbated following the Willis (2012) report a wider range of clinical staff are now being involved with the selection of wound dressing strategies.

There is an argument for dressing selection to be considered a prescribing decision. Certainly, NICE (2015b) considers wound selection a prescriber's decision in terms of dressing optimisation. Historically, DNs have prescribed dressings as part of the care planning process; taking on board the associated contraindications, side effects, cautions and risks as part of that prescribing decision. However, as the number of DNs has dwindled (Maybin et al., 2016) a changing workforce aims to bridge the gap in demand. Healthcare assistants, nursing associates and registered nurses need to do little more than pick a dressing from a store cupboard that has been dictated via trust formulary. Use of trust formularies and on a larger scale the 'generic specification project' (NHS Supply Chain, 2015) has not aided in raising the awareness of associated prescribing risks with dressing selection. When nursing older adults with comorbidities; caution must be taken with dressing selection. Iodine can be systemically absorbed (depending on the dose) and is contraindicated in patients with severe renal impairment and thyroid disorders (Royal Pharmaceutical Society, 2018). Similarly, silver is contraindicated in patients with significant renal or hepatic impairment, or G6PD deficiency; and can interact with other drugs, for example; Sulfonamides (Royal Pharmaceutical Society, 2018).

Pagnamenta (2017) highlights that dressings are listed as medical devices from a legal standpoint. Arguably, a non-prescribing nurse would have the skills to consider Evidence

Based Practice (EBP) as part of the dressing selection process. Interestingly though some clinicians express an antagonistic relationship towards EBP (Madden, 2012). There is a debate around the meaning of EBP particularly with overreliance for randomised controlled trials according to hierarchies of evidence. Essentially, the concept of EBP is the; *'use of current best practice in making decisions about the care of the individual patient...integrating individual clinical expertise'* (Sackett, 1996, 71). Therefore, consider individual requirements of older adults; such as medication, comorbidities and patient preferences, prior to making decisions on wound care regimes. To provide one example; A hydrocolloid dressing may well demonstrate better healing rates than paraffin gauze in one systematic review on acute and chronic wound dressings (Chaby et al., 2007). However, if the wound is a fungating breast wound, on a patient reaching a terminal phase of life; it might be more appropriate to consider a foam dressing with silver to reduce odour (Kalemikerakis, 2012) as ultimately quality of life takes priority (Adderley and Holt, 2014). The outcome may not be to heal the wound but instead keep the patient infection free and comfortable.

The NHS is under significant financial strain and therefore cost effectiveness with dressing selection will contribute to ambitions for a sustainable NHS. Annual cost for wound care and associated morbidities was estimated at £4.5-£5.1 billion (2012/13); two thirds of which occurred in community care (Guest et al., 2015). Each clinician recognises the burden of making a cost-effective decision; in terms of dressing selection this might be ill conceived. Essentially a dressing might cost more per unit than its cheaper counterpart, but may reduce costs for the overall episode of care. However, if a specific regime cannot be justified on clinical grounds, it is recommended that professionals select the least costly dressing that meets the characteristics for wound healing (NICE, 2015b).

Practice nurses and DNs are under pressure to reduce demand and therefore faster wound healing may be welcomed notion. Wherever possible, consider an appropriate frequency of dressing change and prescribe the minimum quantity of dressings to reduce stockpiling and wastage (NICE, 2015b). Regardless of the wound care regime selected; it is imperative that specific, achievable and measurable outcomes are clearly written to aid assessment, planning, implementation and evaluation.

Evaluating:

Reassessment is part of the evaluation process. Consider whether the dressing has been effective and achieved the desired outcome. Review the wound bed using TIME to establish progress. Wound edges provide a parameter to determine improvement (Mulder, 2011). If the wound has healed, consider long term preventative measures to protect newly formed epithelial tissue. During maturation a scar will only be up to 80% of the strength of the pre

wounded tissue (Kanzler et al., 1986). Consider underlying aetiology; such as long term graduated compression for venous deficiency (NICE, 2015a) or ongoing pressure relieving equipment for patients at risk of pressure damage, with particular attention to vulnerable sites.

If the wound is not improving, consider infection. Swabs may be required if there are clinical signs of infection; extracted from the wound after cleansing and debridement (Public Health England, 2018). Further bloods form part of this reassessment; if clinically indicated. A dressing change might be appropriate and again, consider this as a new prescribing decision. Antimicrobial dressings hold value with colonised wounds. However, silver will delay wound healing and may incur a greater cost. In 2015, silver accounted for 9% (£20.5 million) of the items supplied on prescription (NICE, 2015b). However, Leaper et al. (2013) established a lower overall cost for when using silver compared to non-silver dressings, due to shorter healing time and reduced specialist care.

Conclusion:

Wound care in older adults is complex and it is imperative that a structured approach is considered; such as APIE. Ideally evidence based practice will inform dressing selection. However, it is noted that this is not straight forward (NICE, 2015b; Cutting, 2016). This paper encourages professionals to consider wound care and dressing selection as a prescribing decision. Nursing older adults holds greater prescribing risks due to comorbidities and polypharmacy. Wound care is a great expense to the NHS and whilst it is sensible to optimise dressing selection with the lowest associated cost (NICE, 2015b); consider a holistic approach as shorter healing rates and lower dressing frequency may be more cost effective in the longer term.

References:

Adderley, U. and Holt, I. (2014) Topical agents and dressings for fungating wounds. *Cochrane Database of Systematic Reviews*, 5. Available from https://www.cochrane.org/CD003948/WOUNDS_topical-agents-and-dressings-for-fungating-wounds-ulcers-caused-by-cancer [accessed 01 November 2018].

Association for the Advancement of Wound Care (2017) *International consolidated guideline task force; venous ulcer guideline*. Available from <http://www.aawconline.org/prof>. [accessed 03 November 2018].

Barnett, K., Mercer, S., Norbury, M., Watt, G., Wyke, S. and Guthrie, B. (2012) Epidemiology of multimorbidity and implications for health care, research and medical education: a cross-sectional study. *The Lancet*, 380 37-43. Available from https://ac.els-cdn.com/S0140673612602402/1-s2.0-S0140673612602402-main.pdf?_tid=8abcf81-986d-429d-82f7-f80f65766401&acdnat=1539943199_38ba58e32c25a945447d3c034eabc389 [accessed 19 October 2018].

Bergstrom, N., Braden, B., Laguzza, A. and Holman, V. (1987) The Braden scale for predicting pressure sore risk. *Nursing Research*, 36(4) 205–10.

Broderick, N. (2009) Understanding chronic wound healing. *The Nurse Practitioner*, 34(10) 16-22. In: Dougherty, L., Lister, S. and West-Oram, A. (2015) *The Royal Marsden Hospital manual of clinical procedures*, 9th edition. Oxford: Wiley-Blackwell.

Chaby, G., Senet, P., Vaneau, M., et al. (2007) Dressings for Acute and Chronic Wounds. A Systematic Review. *Archives of Dermatology*, 143(10) 1297–1304.

Cryer, S. (2015) Improving the selection of wound dressings in general practice. *Nurse Prescribing*, 3(7) 336-342.

Cutting, K. (2016) The imprecision surrounding wound dressing selection and application. *British Journal of Nursing: Tissue viability supplement*, 25(12) S4.

Cutting, K. and Tong, A. (2003) *Wound physiology and moist wound healing*. London: Medical Communications UK Ltd.

Dougherty, L., Lister, S. and West-Oram, A. (2015) *The Royal Marsden Hospital manual of clinical procedures*, 9th edition. Oxford: Wiley-Blackwell.

European Pressure Ulcer Advisory Panel (2014) *Prevention and treatment of pressure ulcers: quick reference guide*. Available from <https://www.npuap.org/wp-content/uploads/2014/08/Updated-10-16-14-Quick-Reference-Guide-DIGITAL-NPUAP-EPUAP-PPPIA-16Oct2014.pdf> [accessed 28 October 2018].

European Wound Management Association (2005) *Position document: Identifying criteria for wound infection*. London: Medical Education Partnership Ltd.

Everett, S. and Powell, T. (1994) Skin tears- the underestimated wound. *Primary Intention*, 2(1) 28-30.

Gordon, M (1994) *Nursing diagnosis: process and application*. St Louis: Mosby.

Gould, L., Abadir, P., Brem, H., et al. (2015) Chronic wound repair and healing in older adults: Current status and future research. *Journal of the American Geriatric Society*, 63 427-438.

Guest, J., Ayoub, N., McIlwraith, T., Uchegbu, I., Gerrish, A., Weidlich, D., Vowden, K. and Vowden, P. (2015) Health economic burden that wound impose on the National Health Service in the UK. *British Medical Journal: Open*, 5 1-8.

Heaven, C. and Maguire, P. (1996) Training hospice nurses to elicit patient concerns. *Journal of Advanced Nursing*, 23 280–286

Kalemikerakis, J. (2012) Comparison of foam dressings with silver versus foam dressings without silver in the care of malodourous malignant fungating wounds. *Journal of the Balkan Union of Oncology*, 17(3) 560-564.

Kane, D. and Krasner, D. (1997) *Chronic wound care: A clinical source book for healthcare professionals*, 2nd edition. Wayne Philadelphia: Health Management Publications Inc. 369-372.

Kanzler, M., Gorsulowshy, D. and Swanson, N. (1986) Basic mechanisms in the healing cutaneous wound. *Journal of Dermatologic Surgery and Oncology*, 12 1156-1164.

Leaper, D., Münter, C., Meaume, S., Scalise, A., Mompó, N., Jakobsen, B. and Gottrup, F. (2013) The Use of Biatain Ag in Hard-to-Heal Venous Leg Ulcers: Meta-Analysis of Randomised Controlled Trials. *PLoS ONE*, 8(7). Available from <https://doi.org/10.1371/journal.pone.0067083> [accessed 01 November 2018].

Madden, M., (2012) Alienating evidence based medicine vs. innovative medical device marketing: A report on the evidence debate at a Wounds Conference. *Social Science and Medicine*, 72 (12): 2046-2052.

Maybin, J., Charles, A. and Honeyman, M. (2016) *Understanding quality in district nursing services: learning from patients, cares and staff*. London: The King's Fund.

Mulder, M. (2011) The selection of wound care products for wound bed preparation. *Professional Nurse Today*, 15(6): 30-36.

National Institute for Health and Care Excellence (2014) *Pressure ulcers: prevention and management CG179*. Available from <https://www.nice.org.uk/guidance/cg179/chapter/1-Recommendations#prevention-adults> [accessed 04 November 2018].

National Institute for Health and Care Excellence (2015a) *Leg ulcer-venous*. NICE CKS. Available from: <https://cks.nice.org.uk/leg-ulcer-venous#!diagnosisissub:2> [accessed 28 October 2018]

National Institute for Health and Care Excellence (2015b) *Wound care products Key therapeutic topic*. Available from [nice.org.uk/guidance/ktt14](https://www.nice.org.uk/guidance/ktt14) [accessed 28 October 2018].

NHS Supply Chain (2015) *National wound care and dressing generic specification to establish "clinical acceptable" standard*. Available from <https://www.dressings.org.uk/response-nhs-supply-chain-generic-specification-project> [accessed 1 November 2018].

Office of National Statistics (2018) *Living longer-how our population is changing and why it matters*. Available from <https://www.ons.gov.uk/adultpopulationandcommunity/birthsdeathsandmarriages/ageing/articles/livinglongerhowourpopulationischangingandwhyitmatters/2018-08-13#how-is-the-uk-population-changing> [accessed 19 October 2018].

Pagnamenta, F. (2017) Evidence generate for wound care dressing selection: reviewing the issues. *Journal of Wound Care*, 26(9) 545-550.

Payne, R. and Martin, M. (1990) The epidemiology and management of skin tears in older adults. *Ostomy Wound Management*, 26(26-37).

Pendleton, D., Schofield, T. and Tate, P. (2003) *The new consultation: Developing doctor-patient communication*. Oxford University Press, Oxford.

Public Health England (2018) *United Kingdom Standards for Microbiology investigations: Investigation of swabs from skin and superficial soft tissue infections*. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/704283/B_11i6.4.pdf [accessed 28 October 2018].

Rando, T., Kang, A., Guerin, M., Boylan, J., and Dyer. (2018) Simplifying wound dressing selection for residential aged care. *Journal of Wound Care*, 8 504-511.

Roper, N., Logan, W. and Tierney, A. (1985) *The elements of nursing*, 2nd edition. Edinburgh: Churchill Livingstone.

Royal Pharmaceutical Society (2018) *British National Formulary*, 72. Available from <https://www.bnf.org/products/bnf-online/> [accessed 18 October 2018].

Sackett, D., Rosenberg, W., Gray, J., Haynes, R. and Richardson, W. (1996) Evidence based medicine: what it is and what it isn't. *British Medical Journal*, 312(7023) 71-72.

Scottish Intercollegiate Guidelines Network (2010) *Management of chronic venous leg ulcers: A national clinical guideline*, 44(120). Available from <http://www.guidelines.gov>. [accessed 03 November 2018].

Sherman, A. and Barkley, M. (2011) Nutrition and wound healing. *Journal of Wound Care*, 20 357-367.

Silverman J, Kurtz S, Draper J. (2005) *Skills for Communicating with Patients*, 2nd edition. London, Radcliffe Medical Press.

United Nations (2017) *World population prospects: key findings and advance tables 2017 revision*. Department of Economic and Social Affairs. Available from https://esa.un.org/unpd/wpp/Publications/Files/WPP2017_KeyFindings.pdf [accessed 19 October 2018].

Waterlow J (1985) Pressure sores: a risk assessment card. *Nursing Times*, 81(48) 49–55

Williams, J. and Barbul, M. (2012) Nutrition and wound healing. *Critical Care Nursing Clinics of North America*, 24 179-200.

Willis Commission (2012) *Quality with compassion: the future of nursing education. Report of the Willis Commission on Nursing Education*. London: Royal College of Nursing.

Yura, D. and Walsh, M. (1978) *The nursing process: assessing, planning, implementing and evaluating*. New York: Appleton Century Croft.

APIE wound care in older adults.

Title Page

Title: Assessing, planning, implementing and evaluating wound care in older adults.

Author: Alexandra Carlin; Lecturer: University of Lincoln and member of the Association of District Nurse Educators (ADNE).

For further information in relation to publication; please contact acarlin@lincoln.ac.uk

Conflict of Interest

None declared.

Table 1: TIME descriptors for wound bed preparation

Tissue	Inflammation	Moisture	Edge Advancement
Epithelial tissue (pink), Granulation (red), Slough (yellow), Necrosis (black/brown), Unhealthy granulation, Over granulation, Visible tendon/bone, Visible muscle,	None, Normal, Abnormal; unexpected time period, Abnormal; unexpected acute inflammation, Abnormal; chronic inflammatory disease.	Dry, Moist, Wet, Saturated, Leaking, Serosus, Haemoserous, Seropurulent, Purulent, Haemopurulent,	Callus, Encrusted debris, Overgranulation, Rolled wound edge, Thickened wound edge, Undermining.
<p>Infection: Most important diagnostic indicators of infection: Cellulitis Pus Abscess.</p> <p>Subtle signposts of wound infection: Delayed healing Erythema (with or without induration) Haemopurulent exudate Malodour Seropurulent exudate Wound breakdown or enlargement Increase in local skin temperature Oedema Serosus exudate with erythema Swelling with increase in exudate volume Unexpected pain or tenderness (European Wound Management Association, 2005)</p>			