

Evidence Table: Wound Care

Reference	Evidence level (I-VII)	Key findings, outcomes or recommendations
Vermeulen H, Ubbink D, Goossens A, De Vos R, Legemate D, Westerbos S J. "Dressings and topic agents for surgical wounds healing by secondary intention" (2009) The Cochrane Wounds Group.	II	<ul style="list-style-type: none"> ○ The use of gauze for the local treatment of surgical wounds healing by secondary intention should be considered carefully as it may be associated with greater pain or discomfort for the patient ○ Foam alginate and hydrocolloid were associated with less pain than gauze in the few studies identified
Dumville JC, Walter CJ, Sharp CA, Page T. "Dressings for the prevention of surgical site infection" The Cochrane Library Issue 7 (2011)	II	<ul style="list-style-type: none"> ○ There is no evidence to suggest that covering surgical wounds healing by primary intention with wound dressings reduces the risk of surgical site infection or that any particular wound dressing is more effective than others in reducing the rates of surgical site infection, improving scarring, pain control, patient acceptability or ease of dressing removal
Australian Wound management Association Inc (2009) "Position Document of the Australian Wound management Association: Bacterial impact on wound healing; From contamination to infection".	II -IV	<ul style="list-style-type: none"> ○ Service providers and practitioners should adopt a consistent consensus framework for defining the level of bacterial impairment and wound healing based on assessment of the patient and their wound. ○ Wound Management regimen should include strategies to minimise infection risk. These strategies should be embedded in service provider protocols and practices. ○ All wounds should be assessed regularly for the indicators of infection and outcomes of the assessment documented ○ A wound should be considered infected if the clinical signs of local infection are present ○ Agents for treatment of wound infection should be tailored to the extent of the infection and based on recommended treatment guidelines ○ For complex, unresponsive or recurrent infections consultation with a infectious diseases specialist ○ The length of treatment with a topical and/or systemic agents should be determined by the response of the wound and the patient ○ Regular wound assessment and documentation includes <ul style="list-style-type: none"> ~ Identification of factors that might indicate infection and if present those signs are acted upon ~ Evaluation of the response of the patient and wound to any treatment for wound infections

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<p>Ashton J, Morton N, Beswick S, Barker V, Blackburn F, Wright C, Turner L, Morton K, Jennings A. Bolton NHS – Primary Care Trust. (March 2008) “Wound care Guidelines”</p>	<p>VII</p>	<ul style="list-style-type: none"> ○ Holistic assessment of the patient is an essential part of the wound care process ○ Optimal nutrition facilitates wound healing, maintains immune competence and decreases the risk of infection ○ Wound cleansing (where necessary) should be carried out by irrigation with sterile normal saline warmed to body temperature ○ Antiseptics are toxic to human tissue and may delay wound healing ○ Topical antibiotics are frequent sensitisers and should be used with caution ○ Systemic antibiotics should be used to treat clinical wound infections ○ Guideline demonstrates an effective layout of information and utilises a Wound Assessment Chart ○ Wound dressings should: <ul style="list-style-type: none"> - Maintain a moist environment at the wound/dressing interface - Be able to control (remove) exudates. A moist wound environment is good, a wet environment is not beneficial - Not stick to the wound and cause trauma on removal - Protect the wound from the outside environment - Aid debridement if there is necrotic or sloughy tissue in the wound (caution with ischaemic lesions) - Keep the wound close to normal body temperature - Be acceptable with the patient - Be cost-effective - Diabetes – choose dressings which allow frequent inspection
<p>Ken J Farion, Kelly F Russell, Martin Hamond, Lisa Hartling, Terry P Klassen, Tamara Durec, Ben Vandermeer “Tissue adhesives for traumatic lacerations in children and adults” (January 2009) Cochrane wounds Group</p>	<p>II -IV</p>	<ul style="list-style-type: none"> ○ Cuts (lacerations) often need to be closed to ensure proper healing, and prevent infection or scarring. ○ Wounds may be closed with stitches (sutures), staples, tapes or glue (tissue adhesive). The review found that glue is an excellent substitute for stitches, staples or tapes to close simple cuts. Glue causes less pain, is quicker and needs no follow up for removal. A slightly higher number of cuts may break open (dehisce) after being glued, compared to cuts closed with stitches, staples or tapes. Though there are a few different types of glue available, no one glue seems to be superior

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<p>Dunk AM & Taylor J. "A survey of clinicians' perceptions of, and product choices for, the infected wound" (February 2009) Wound practice and Research. Volume 17 Number 1. Page 5-11</p>	<p>V</p>	<ul style="list-style-type: none"> ○ In wound management, specifically in the case of the infected wound, accurate knowledge and assessment skills are required ○ The consequences of infected wounds present considerable challenges for clinicians, especially those not expert, particularly with respect to identification, decisions surrounding wound swabbing and choosing an appropriate management strategy for a particular situation ○ Using consistent language in defining or describing infection in different types of wounds can only provide a clearer guidance for patient care, faster intervention, reduced patient mortality and lower financial cost to health services ○ Clear documentation of wound management informs the progression of healing ○ Experts consistently chose cellulitis as the most important clinical indicator of infection in all wound types ○ Expanding nurses repertoire of clinical indicators and emphasising the importance of cellulitis as a cardinal indicator of infection could result in better practice outcomes ○ The choice of dressing must be determined after assessing the needs of the person and the current state of the wound and wound type ○ Despite the technological advancement in wound products that are available for nurses, traditional dressings such as calcium alginate and hydrocolloid were the two highest ranked dressings of choice ○ Hydrocolloid products are not recommended for wounds clinically infected with anaerobic bacteria ○ Modern dressing products such as silver-based dressings and negative pressure device –did not rank as high as the traditional dressings, suggesting lack of confidence knowledge and support on using these dressings of choice ○ Over 50% of nurses use senior nursing colleagues' opinion when dealing with management decisions regarding infected wounds ○ More mentoring in relation to managing infected wounds may result in improved practices ○ Access to specialty wound products for clinicians is often limited and not readily available from clinical store rooms ○ Only 7% of respondents notified an infection control practitioner when a wound showed signs of infection ○ Dressing product choices need to be diverse to meet clinical needs, as does educational support to meet specifically the science, technique and application needs in this highly challenging and changing area of practice. ○ Developing common language through the use of clinical indicators may help avoid difficulties in the diagnosis and management of infected wounds for both clinician and expert, thereby improving patient outcomes

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<p>Carville K, Keaton J, Rayner R, Prentice JL & Santamaria N. 'Wounds West education: taking the evidence on wounds to the clinician'. (August 2009) Wound Practice and Research. Volume 17 Number 3 Pages 114 - 120</p>	<p>IV</p>	<ul style="list-style-type: none"> ○ Recognised that poor continuity of wound management across sectors, variation in clinical practice and access to services can lead to poor health outcomes for patients and families ○ Key aims of working groups included; <ol style="list-style-type: none"> 1. Designing, developing and delivering online evidence based wound education for WW 2. Advancing clinical knowledge in evidence based wound management 3. Developing recommendations for the maintenance and sustainability of the WW education programme 4. Developing information on wound prevention and management for health consumers and the community to enable informed decision making and improved health outcomes ○ Online education programme needed to consider the learning styles of individuals, which take into account their cognitive, effective or psychomotor learning skills ○ Education modules are targeted at licensed clinicians from all disciplines who are novices to wound management ○ WW education programme is viewed by WA Health, Curtin university and Silver Chain as an innovative and successful model for online learning development ○ Any clinicians regardless of location, can access the site without cost anytime and anywhere via the internet

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<p>Marja N Storm-Versloot, Cronelis G Vos, Dirk T Ubbink, Hester Vermeulen. (2010) "Topical silver for preventing wound infection". The Cochrane Wounds Group. Issue 3</p>	<p>II - IV</p>	<ul style="list-style-type: none"> ○ The importance of assessment <ul style="list-style-type: none"> - Every aspect of the patient should be considered, from age to gender, medications, medical history, allergies, nutritional state and whether the recipient will be concordant in treatment prescribed ○ The normal healing pathway with four recognised stages of healing –inflammation, reconstruction, epithelialisation and maturation ○ The clinician considers the difference between a newly formed acute wound and a chronic wound to carefully consider dressing choices ○ Clinicians should measure the width, length and depth of the wound to compare with future evaluations to ensure any prescription is working effectively ○ Clinician should assess colour of the wound and condition of surrounding tissue and record any maceration or damage that could delay wound healing ○ Research shows the presence of necrotic tissue actively prolongs the inflammatory response and thus delays healing ○ The recognition of biofilms in wound beds and their ability to survive hostile conditions has also been shown to hamper healing ○ Wound odour can signify that infection may be present ○ Exudates levels identified as part of the healing process also require assessment by the clinician. Too much leads to maceration and degradation of skin while too little can result in the wound be drying out ○ Change in exudates colour or volume produced can also be indicative of infection ○ The less we disturb a wound during dressing changes the lower the interference to healing ○ The reduction of potential wound pain and trauma is the responsibility of the clinician ○ Any prescribed dressing should achieve: <ol style="list-style-type: none"> 1. High moisture vapour permeability (MVP) 2. Low adherence to wound surface. 3. Absorbent. 4. Waterproof or wash proof. 5. Bacterial barrier. 6. Comfortable. 7. Non-sensitizing. 8. Good adhesion to skin. 9. Sterile. 10. Low cost. 11. Non-flammable & non-toxic
<p>Derbyshire A. "Innovative solutions to daily challenges". (September 2010) British Journal of Community Nursing, Volume 15, Issue. 9 Pages S38 - S45</p>	<p>VI</p>	<ul style="list-style-type: none"> ○ Evidence of the validity, reliability, and clinical utility of the FLACC Pain Assessment Tool for assessing pain intensity in pre-verbal children. ○ Pediatric nurses using the FLACC Pain Assessment Tool need to provide some type of analgesic for patients with pain scores of 6 or greater. ○ The FLACC Pain Assessment Tool should be used as a supplement to the pediatric nurse's clinical judgment.

The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

- I Evidence obtained from a systematic review of all relevant randomised control trials.
- II Evidence obtained from at least one well designed randomised control trial.
- III Evidence obtained from well-designed controlled trials without randomisation.
- IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case- series
- V Evidence obtained from systematic reviews of descriptive and qualitative studies
- VI Evidence obtained from single descriptive and qualitative studies
- VII Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology

Melynyk, B. & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing & healthcare: A guide to best practice (2nd ed.)*. Philadelphia: Wolters Kluwer, Lippincott Williams & Wilkins.

National Health and Medical Research Council (2009). *NHMRC levels of evidence and grades for recommendations for developers of guidelines* (2009). Australian Government: NHMRC.

http://www.nhmrc.gov.au/files/nhmrc/file/guidelines/evidence_statement_form.pdf

OCEBM Levels of Evidence Working Group Oxford (2011). *The Oxford 2011 Levels of Evidence*. Oxford Centre for Evidence-Based Medicine. <http://www.cebm.net/index.aspx?o=1025>