
Title: Wound swabbing technique

Department: District Nursing Services; Public Sector Residential Aged Care Services

DEFINITIONS

Wound swabbing is a procedure used to identify the infection causing organism/s, and the extent of the microorganisms in the wound, in order to determine the appropriate therapy.

Wound contamination – bacteria on the wound surface with no division occurring, there is no impairment to healing and no obvious clinical signs of infection. (AWMA 2011)

Wound colonisation - the presence of bacteria within the wound which do multiply or initiate a host reaction there is no impairment to healing and no obvious clinical signs of infection. (AWMA 2011)

Topical Infection (Critical colonisation) - multiplication of bacteria causing a delay in wound healing. Bacteria and/or their products have invaded the wound surface. Biofilm may be present. Clinical signs of infection may not be obvious or are subtle. (AWMA 2011)

Local infection –Bacteria and/or their products have invaded the local tissues and there is impairment to healing. Usually obvious clinical signs infection localised to wound environment and immediate peri wound tissue. (AWMA 2011)

Regional/Spreading infection/ Cellulitis Bacteria and/or their products have invaded surrounding tissues and there is impairment to healing. There are usually obvious clinical signs of infection. May have systemic signs. (AWMA 2011)

SCOPE

District Nursing Services, Palliative Care Services and Public Residential Aged Care Services

CLINICAL ALERT

Wound swabs should only be taken if wounds are:

- Showing clinical signs of infection (See appendix 1) prior to starting antibiotic therapy to determine causative organisms and possible sensitivities
- Chronic wounds with signs of spreading or systemic infection
- Infected chronic wounds that have not responded to or are deteriorating despite appropriate antibiotic treatment.

It is not cost effective to swab wounds routinely.⁽⁴⁾

Beware of interpreting a microbiology report in isolation. Consider the report in the context of the client and the wound and, if appropriate consult a microbiologist or infectious disease specialist.⁽¹³⁾

EQUIPMENT

- Small dressing pack
- Sterile normal saline or sterile water
- Wound swab with transport medium
- Pathology form
- Plastic pathology transport bag
- Dressing (Refer to Wound Product Selection policy)
- Gloves, non-sterile
- Paper or plastic bag (for rubbish).

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PROCEDURE

Adapted from Australian Wound Management Association Inc. (2011) using the Levine technique

- Discuss procedure with person
- Decontaminate hands
- Don gloves as per aseptic technique guidelines
- Remove old dressing
- Dispose of into bag
- Cleanse wound with sterile normal saline or sterile water
- If necessary remove and/or debride non-viable tissue to obtain access to the deep compartment of the wound
- Using sufficient pressure to express fluid from within tissue, depress and rotate the swab against a 1cm² area of viable wound tissue for 5 seconds.
- Place swab in a transport medium and seal Label **swab** with;
 - Clients full name
 - Date of birth
 - Date and time collection
 - Site
 - Acute/chronic nature of wound any co-morbidities E.g. Diabetes Place swab and request slip into sealed pathology bag. (*Providing the context allows microbiologist to determine the medium on which to plate the specimen*)
- Specimens should be kept at room temperature and ideally should reach the lab within 12 hours. Do not refrigerate.
- Decontaminate hands.
- Document into patient notes.

A completed request form should include:

- Clients full name and date of birth
- Date and time of specimen collection
- Clients diagnosis
- Type of wound (Chronic or Acute - injury type, mechanism of trauma or injury) required to direct pathologists
- Specific wound site
- Type of specimen / wound tissue to be taken
- Examination requested (by treating Dr.)
- Any current topical or systemic wound treatment
- Anything specific and/or unusual that you are looking for

PATIENT INFORMATION

Explain to the client the reasons for taking the wound swab and the implications on future treatments and outcomes.

EXPECTED OUTCOME

The client wound is assessed accurately for infection by identifying the type and number of organisms within the wound.

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REFERENCES

1. Angel DE, Lloyd P, Carville K, Santamaria N. (2011) The clinical efficacy of two semi-quantitative wound-swabbing techniques in identifying the causative organism(s) in infected cutaneous wounds. *International Wound Journal* ; 8:176–185
2. Australian Wound Management Association (2011) Bacterial impact on wound healing: From contamination to infection – position paper. Accessed via http://www.awma.com.au/publications/2011_bacterial_impact_position_1.5.pdf viewed June 2014
3. Bath and north east Somerset Wound Group (2011) Identification, diagnosis and treatment of wound infection. *Nursing Standard*. 26, 11, 44-48 Swindon, Wiltshire.
4. Benbow, M (2010) Wound swabs and chronic wounds. *Practice Nurse* 39 9:27-30.
5. Bonham, PA (2009) Swab cultures for diagnosing wound infections: A literature review and clinical guideline. *Wound Ostomy Continence Nurse*. 36:389-95
6. Cooper, R. (2010). Ten top tips for taking a wound swab. Practice development. Wounds international. Accessed via www.woundsinternational.com on 21/10/2010.
7. Dorevitch Pathology. Special Instructions. Swab Technique. Accessed via http://www.dorevitch.com.au/portals/0/DOR/Special_Instructions_DOR.pdf on 22 October 2014
8. Drinka, P., Bonham, P. and Crnich, CJ (2012) Swab culture of purulent skin infection to detect infection or colonisation with antibiotic-resistant bacteria. *Journal of American Directors Association (JAMDA)* 13:75-79
9. Gardner, SE, Frantz, RA, Saltzman, CL, Hillis, SL, Park, H, and Scherubel, M(2006) Diagnostic validity of three swab techniques for identifying chronic wound infection. *Wound Repair and Regeneration* 144: 548-557
10. Gardner, S (2010). Expert commentary on Ten top tips for taking a wound swab. *Practice Development*. Wounds International Accessed via www.woundsinternational.com on June 2014
11. Miller CN, Carville K, Newall N, Kapp S, Lewin G, Karimi L, Santamaria N. (2011) Assessing bacterial burden in wounds: comparing clinical observation and wound swabs. *International Wound Journal*; 8:45–55
12. Position document. Identifying criteria for wound infection. European Wound Management Association.(2005) Accessed via http://ewma.org/fileadmin/user_upload/EWMA/pdf/Position_Documents/2005_Wound_Infection_/English_pos_doc_final.pdf
13. Principles of best practise: Wound infection in clinical practice. An international consensus. London: MEP Ltd, 2008. Accessed via <http://www.woundsinternational.com/article.php?channelid=287&contentid=127&articleid=31&page=1> on June 2014

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| <p>14. Santy, J. (2008) Recognising infection in wounds. <i>Nursing Standard</i>. 23:7-53-60</p> <p>15. World Union of Healing Society (2008) Wound Infection in clinical Practice: An international consensus. Accessed via http://www.woundsinternational.com/pdf/content_31.pdf</p> |
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VALIDATION

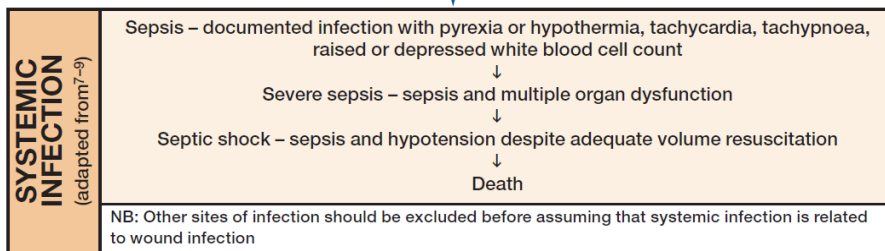
Gippsland Regional Wound Management Steering Committee

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Adapted from WUWHS (2008)

ACUTE WOUNDS eg surgical or traumatic wounds, or burns	
Localised infection	Spreading infection
<ul style="list-style-type: none"> ■ Classical signs and symptoms: <ul style="list-style-type: none"> - new or increasing pain - erythema - local warmth - swelling - purulent discharge ■ Pyrexia – in surgical wounds, typically five to seven days post-surgery ■ Delayed (or stalled) healing (Box 5, see page 10) ■ Abscess ■ Malodour 	As for localised infection PLUS: <ul style="list-style-type: none"> ■ Further extension of erythema ■ Lymphangitis (Box 5, see page 10) ■ Crepitus in soft tissues (Box 5, see page 10) ■ Wound breakdown/dehiscence
Notes <ul style="list-style-type: none"> ■ Burns – also skin graft rejection; pain is not always a feature of infection in full thickness burns ■ Deep wounds – induration (Box 5, see page 10), extension of the wound, unexplained increased white cell count or signs of sepsis may be signs of deep wound (ie subfascial) infection ■ Immunocompromised patients – signs and symptoms may be modified and less obvious 	



CHRONIC WOUNDS eg diabetic foot ulcers, venous leg ulcers, arterial leg/foot ulcers or pressure ulcers	
Localised infection	Spreading infection
<ul style="list-style-type: none"> ■ New, increased or altered pain* ■ Delayed (or stalled) healing* (Box 5, see page 10) ■ Periwound oedema ■ Bleeding or friable (easily damaged) granulation tissue ■ Distinctive malodour or change in odour ■ Wound bed discoloration ■ Increased or altered/purulent exudate ■ Induration (Box 5, see page 10) ■ Pocketing (Figure 2) ■ Bridging (Figure 3) 	As for localised infection PLUS: <ul style="list-style-type: none"> ■ Wound breakdown* ■ Erythema extending from wound edge ■ Crepitus, warmth, induration or discoloration spreading into periwound area ■ Lymphangitis (Box 5, see page 10) ■ Malaise or other non-specific deterioration in patient's general condition
Notes <ul style="list-style-type: none"> ■ In patients who are immunocompromised and/or who have motor or sensory neuropathies, symptoms may be modified and less obvious. For example, in a diabetic patient with an infected foot ulcer and peripheral neuropathy, pain may not be a prominent feature⁴ ■ Arterial ulcers – previously dry ulcers may become wet when infected ■ Clinicians should also be aware that in the diabetic foot, inflammation is not necessarily indicative of infection. For example, inflammation may be associated with Charcot's arthropathy 	
*Individually highly indicative of infection. Infection is also highly likely in the presence of two or more of the other signs listed	