

PURPOSE

- To provide a guideline for taking wound swabs utilising best practice procedure.

1. SCOPE

- a. Community Nurses

2. RESPONSIBILITIES**a. Operations/Service Manager/s**

- i. Ensure Memorandum of Understanding is established with each area DHB enabling Community Nurses to have responsibility for ordering wound swabs without the direction of medical practitioners.
- ii. To arrange for the availability of account codes pertinent to each laboratory used for specimen testing.
- iii. Ensure nurses have access to stock ordering for swabs/laboratory collection bags and lab forms specific to their region.

b. Clinical Nurse Leader/s

- i. Ensure Community Nurses are educated at orientation as to the correct procedure for taking a wound swab including the administrative management of the swab.

c. Community Nurse

- i. To review swab results and to communicate with the client's primary care provider ensuring the result has been received and any appropriate action taken.
- ii. Document result and action taken in Clinical Notes.

3. INDICATIONS

The aim of wound care is to promote healing which can be interrupted by infection. It is important that nurses can identify normal wound healing as dissimilar to the infective process.

Colonisation versus infection¹

All open skin wounds are colonised by bacteria, however this does not mean that all wounds are infected. Inflammation occurs in all wounds during healing while in the Inflammatory Phase regardless of whether they are infected. A certain level of swelling, erythema and increased warmth at the site is normal and should not be confused with clinical infection. When skin is broken its protective defence mechanisms are impaired and the environment becomes more conducive for bacteria which increase in number. These bacteria come from three main sources: the environment

(e.g. dust, foreign bodies, bacteria on hands, clothing and equipment), the surrounding skin (normal skin contains colonising bacteria, referred to as commensals) and from the mucous membranes (gastrointestinal, oral and genitourinary).

Wound infection should be identified clinically with a wound swab done to guide management. Information pertaining to the microbiological organisms present in a wound is important in determining correct antibiotic use and predicting response to treatment.

It is only necessary to swab a wound if there are clinical signs of infection **or** the wound is deteriorating, increasing in size or failing to heal.²

Swabbing a wound that is not infected can result in the identification of colonising organisms and may confuse the overall clinical management of the wound. Multiple factors, both local and systemic, can impact on wound healing – infection is only one of these. Such factors (for example vascular insufficiencies or hyperglycaemia) should be considered when a wound is not healing. Wound swabbing should therefore not be the primary focus until other factors have been considered.

When to take a wound swab

- Acute wounds with classic signs of infection
- Chronic wounds with signs of spreading or systemic infection
- Infected wounds that have failed to respond to antibiotic therapy

Signs of infection in wounds³

Overt (classic) signs of local infection	Covert (subtle) signs of local infection
Erythema beyond the inflammatory healing phase	Friable, bright red granulation
Localised heat	Unresolving hypergranulation
Localised oedema (beyond the Inflammatory healing stage and unexplained by venous insufficiency)	Pocketing in granulation tissue
Purulent discharge	Periwound Induration
New or increased pain	Altered blood glucose levels in persons with Diabetes
Increased malodour	Wound breakdown and enlargement (satellite lesions)
Wound healing is delayed beyond expectations	Wound healing is delayed beyond expectations

4. WOUND SWAB PROCEDURE USING THE ESSEN ROTARY TECHNIQUE

Wound cleaning is advocated before obtaining swabs using the Essen Rotary technique so the culture isolates wound tissue microorganisms not macroorganisms associated with devitalised tissue or topical therapies. Moistening the swab with normal saline or the medium in the swab container before collecting the specimen is also recommended. This enables greater adherence of the microorganisms to the swab.

For the Essen Rotary technique, the specimen is taken by applying pressure in a spiral form from the outside of the wound into the centre with sufficient pressure to express fluid from within the wound tissue. This technique is believed to be more reflective of tissue involvement⁴.



Once the sample has been collected it should be labelled with the patient identification details, date and time of the sample and wound site. On the request form record relevant clinical information such as the site and type of wound, the indication for taking a swab and any medication that the patient is taking that may affect the result, e.g. systemic antibiotics, topical antibacterial products applied to the wound, corticosteroids. It is also important to make it clear on the request form that the sample is from a wound rather than a superficial skin lesion (this will alert the laboratory to select the appropriate culture media).

Check you have the correct GP details and ensure these are documented on the lab form with a request for a copy to TCHS.

The sample should be transported as quickly as possible to the laboratory; ideally it should be processed within 48 hours. The swab should be stored at room temperature if same-day processing is not possible.

Document that a swab has been taken along with the clinical rationale for this in the:

- Clinical Notes
- Wound Evaluation Form
- Swab notification letter (office admin will send this to a client's GP)

Results processing is as follows :

- Copies of all results are sent to the TCHS Head Office via Healthlink
- Office admin inserts these results in the client's file
- If you have concerns prior to receiving these results contact can be made with your local laboratory for preliminary results
- Liaison with the GP is recommended to ensure appropriate treatment is commenced and this should be documented in the Clinical Notes.

5. References

1. Microbiological Assessment of Infected Wounds. Best Tests June 2013
2. Healy B, Freedman A. ABC of wound healing: Infections. BMJ. 2006;332:838.
3. International Wound Infection Institute (IWII) Wound infection in clinical practice. Wounds International 2016;9
4. Evaluation of the Essen Rotary as a new technique for bacterial swabs: results of a prospective controlled clinical investigation in 50 patients with chronic leg ulcers. Al Ghazal P, Körber A, Klode J, Schmid EN, Buer J, Dissemond J. Int Wound J. 2014 Feb;11(1):44-9

6. Associated Documents

Electronic Swab notification letter
Wound Ed 3:

- Handout 2- Wound swabs
- Handout 3- Lab form example