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Increased antibiotic resistance in many organisms makes it vital that any infection is treated in the most appropriate way. To support this process, swabs are often taken for microbiological analysis.

While taking wound swabs is common practice, literature on best practice is scant and there appears to be no consensus (Beldon, 2001).

Swabs are taken primarily for two reasons:
- To identify organisms in wounds known or suspected to be infected;
- As part of screening programmes to identify patients who may be carrying infections without displaying any signs or symptoms.

The swab taken will undergo testing to identify the any organism that may be present. The three common tests are:
- Microscopy – inspection using a microscope to identify organisms;
- Culture – placing in an environment optimal for organism growth, usually for 48–72 hours, after which it is re-examined for further growth;
- Sensitivity – identified organisms are exposed to various antibiotics to ascertain which will be an effective treatment and any it is resistant to.

Indications
A swab should be taken if:
- A wound or lesion shows clinical signs of infection including: local heat, redness, pain, inflammation and/or exudate (Fig 1);
- A patient shows signs of a systemic infection such as: pyrexia, raised white cell count, blood C reactive protein levels (CRP) and/or blood erythrocyte sedimentation rate, but no source for this can be identified;
- It is part of a screening programme, such as for preoperative assessment for methicillin-resistant Staphylococcus aureus (MRSA) or in critical care units.

It should be noted that inflammation at a wound site may be part of a healing rather than infection, so inflammation in isolation may not be a reliable indication for taking a wound swab (Beldon, 2001).

The procedure
The swab is similar to a long cotton bud. When the sample has been collected, the swab is put into a tube containing a culture medium to promote organism growth. Both swab and tube are supplied in sterile packaging. Care must be taken to avoid contaminating them with anything other than the sample material.

- Explain the procedure and purpose of the sampling to the patient and gain verbal consent.
- Wash and dry your hands thoroughly.
- Apply gloves and apron.
- Position the patient comfortably, ensuring that their privacy and dignity are maintained throughout.
- Remove the swab from the sterile packaging (Fig 2).
- If the area to be swabbed is relatively dry, such as a nostril or axilla, the swab may be moistened using sterile sodium chloride. This will help to ensure that any organisms present adhere to it (Donovan, 1998).
- Gently pass the swab over the area, ensuring minimal discomfort for the patient (Fig 3).
- If there is exudate, ensure it thoroughly wets the swab (Fig 4).

Fig 1. Clinical signs of infection include: local heat, redness, pain, inflammation and/or exudate
Fig 2. Remove the swab from the sterile packaging
Fig 3. Gently pass the swab over the area, ensuring minimal discomfort for the patient
- Remove the top from the culture tube and place the swab inside, closing firmly (Fig 5).
- Label the sample carefully (Fig 6).
- Document procedure clearly.
- Discard gloves and apron, and wash your hands thoroughly.
- Safely dispose of any waste in accordance with local policy.
- Ensure the sample is left for collection with relevant paperwork according to local procedures.

**Labelling the sample**

As a minimum the sample should be labelled with:
- The patient’s name, date of birth and identification number;
- The location of the patient;
- The site from which the sample was taken;
- The date and time of the sample;
- The clinical indication for taking the sample;
- The investigation required;
- Any current antibiotic therapy in progress.

**Information for patients and relatives**

A diagnosis of infection in hospital often causes concern for both patients and their relatives and friends. Due to the time taken to receive test results treatment may be commenced for suspected rather than proven infection. Due to media attention given to health care-associated infections and the often misleading reports of their consequences, patients, their relatives and friends should be given accurate and concise information. This may include:
- The name of the infection;
- The mode of transmission;
- The need for any treatment;
- The need for any treatment for family members;
- Whether the patient needs to be isolated;
- Basic hand hygiene and infection control information.

This information should be given at an appropriate time by a qualified practitioner and in a way that the patient can understand.

**Professional Responsibilities**

The practitioner is responsible for ensuring that she or he has had adequate education to undertake the procedure and is both competent and confident to do so. The practitioner should also ensure that the indications for the procedure are appropriate and that unnecessary investigations are not undertaken.

**REFERENCES**