Wound swabbing technique

Many nurses perform clinical procedures that are based on ritual, without understanding the rationale behind them (Parker, 1999). Health policy in the UK emphasises the need for evidence-based care and requires practitioners to ensure that clinical practice is founded on scientifically-derived findings rather than intuition and ritual (Hicks and Hennessy, 1997).

There is controversy in the wound care literature as to the most effective method of culturing different types of wounds. The procedure for taking a wound swab appears simple, but is a subject for debate (see Box).

This article reports on a study undertaken to examine the knowledge and current practices used to obtain a wound swab by nurses working in a plastic surgery department. The study explored the rationale underpinning participants’ choice of wound swabbing technique and how this rationale developed.

Methodology The sample group consisted of eight practitioners: an infection control nurse; a clinical facilitator; a G-grade ward manager; an F-grade nurse in charge of the outpatients department; an E-grade nurse; a D-grade nurse; and two health care assistants (HCAs) who had both worked in the plastic surgery department for three years and did not have NVQs.

The study was approved by the ethics committee, a letter was sent to the participants explaining the project and all participants were asked to sign a consent form. Semi-structured interviews were conducted with each participant, each lasting about 20 minutes. The interviews were recorded, transcribed and analysed for categories, themes and patterns (Grbich, 1999).

Results and discussion Thematic analysis lead to the identification of five themes.

Current nursing practice Six participants said that they did not clean wounds before taking a swab. The remaining two – the infection control nurse and the G-grade nurse – stated that their decision to clean a wound before swabbing depended on its appearance.

The E-grade nurse acknowledged: ‘I usually just swab it, I don’t clean it first… I never have done’. This is an example of ritualistic practice that continues because practice is not reviewed or questioned.

The infection control nurse and the F-grade nurse said they would clean a wound prior to swabbing if it looked ‘mucky’, ‘sloughy’ or ‘full of blood’. However, this terminology is subject to interpretation.

Current literature suggests that moistening a swab prior to taking a wound swab makes it more absorbent and increases the survival of bacteria prior to microbiology culture (Donovan, 1998; Gilchrist, 1996; Stotts, 1995).

Five participants (including the two HCAs) reported using a dry swab, while the remaining three stated they would only moisten the swab if the wound was dry.

Four participants, including the HCAs, reported swabbing wounds when requested without questioning why it was required. The infection control nurse and the clinical facilitator said that they would want to know the patient’s history and current treatment and the clinical reason for swabbing the wound. The G and F grades reported that they would only swab the wound if there was a clinical reason to do so, and would question a doctor’s request. However, the F grade added: ‘I may not think it needs swabbing, but I would probably go

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Should the wound be cleaned prior to swabbing?

Gilchrist and Reed (1989) found cleaning a wound prior to taking a swab made no difference to the organisms isolated. Other authors suggest that exudate on the surface of the wound contains bacteria that are different from those actually responsible for an underlying wound infection. Therefore, cleaning a wound prior to taking a swab reduces the risk of introducing extraneous micro-organisms into the specimen (Fowler, 1998; Hess, 1998). Antiseptic solutions should not be used to cleanse the wound prior to sampling (Kiernan, 1998). In addition, controversy exists as to whether the swab should be moistened prior to swabbing (Gilchrist, 1996).

Technique There are three common techniques used to culture wounds: swabs, biopsy and aspiration (Stotts, 1995). Ideally the chosen method should yield the highest number of significant bacteria, without contaminating the specimen with normal skin flora (Cuzzell, 1993). Swabbing has its limitations, for example, in heavily exuding wounds the swab absorbs a lot of exuding exudate, resulting in an inadequate swab. In such cases a wound aspirate or biopsy may be more appropriate (Donovan, 1998).

Communication The right specimen, correctly taken and supported with sound clinical information recorded on a microbiology request form, will mean the patient can receive the most appropriate treatment for the infection. Anything less may mean the patient receives inappropriate antibiotics for an incorrectly diagnosed infection (Kiernan, 1998). Collaboration between medical and nursing staff, the infection control team and microbiology laboratory is needed to maintain consistent wound culture techniques.

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Sue Starr and Tom MacLeod describe the results of a small-scale qualitative study which explored nurses’ knowledge of wound swabbing techniques on a plastic surgery unit.

KEY WORDS

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ahead with the swab anyway… I do not feel in a position to question the doctor’s judgement’. This response highlights the hierarchy that still exists within health care.

When questioned about other ways to sample a wound, the two HCAs stated that they have never seen wounds cultured in any other way. The clinical facilitator commented: ‘I have only ever taken wound swabs’.

The five remaining nurses all suggested taking wound aspirates, but only the infection control nurse suggested taking tissue biopsies saying that: ‘they are a more accurate way of sampling what is in the wound, rather than what could simply be colonisation’.

Knowledge of current research Three participants were not aware of any research related to wound swabbing techniques and the clinical facilitator and the G grade, who both work in a managerial role and often teach others, admitted that they had not tried to access any literature on the topic. It could be concluded that this may be one reason that rituals persist, as not all practices are evidence-based.

The remaining three registered nurses had read research. The infection control nurse said she kept herself updated with research. She noted that: ‘although there is a lot of research available, it is important that the individual nurse can read and critique it, and the nurses need to be able to recognise whether the research they are reading is ‘hard data’, or whether it is merely someone’s opinion’.

Communication Wound swabs are only useful if taken and transported correctly, and accompanied by a completed specimen request form. Failure to provide adequate information could lead to the production of a false report (Donovan, 1998).

When asked whether they completed microbiology forms, only the G grade felt that she completed the forms accurately. The HCAs said that nurses normally completed them, while the remaining five nurses all felt that the forms were completed incorrectly.

The infection control nurse commented that medical and nursing staff did not always include details of the site the swab was taken from. Different areas of the body have their own flora, and providing details of the site of the swab gives the microbiologist an idea of the normal expected bacterial flora so that further tests can be requested appropriately (Donovan, 1998).

Professional development Nurses are frequently involved in teaching nursing students, HCAs or other nurses and advising and educating patients. It is, therefore, important to keep up to date with current practices. However, seven of the participants had never received any formal training or education in the wound swabbing technique – only the G grade had learnt the technique, as part of a plastic surgery course.

Three nurses had attended an infection control study day within the last two years, but had not been taught wound swabbing techniques. The infection control nurse, who led study days, acknowledged that she did not formally teach wound swabbing techniques.

It is interesting to note that the four respondents with senior roles acknowledged that they taught others to take wound swabs, although it appeared that they had not read the current literature on wound swabbing.

Guidelines Setting local and national guidelines, together with audit, is a means of standardising practices with the aim of improving the standard of care.

Four respondents were not aware of any wound swabbing guidelines. Three – all of whom were in a position to teach – shared the belief that guidelines were probably set, but never actually read them. These participants were in influential roles and could determine a change in practice that moved away from ritual to an evidence-based model.

Limitations of the study This qualitative study had a number of limitations, some inherent to a small-scale study. While there was a restricted sample number, those selected were of different grades, which provided a varied skill mix. While inferences cannot be made about all nurses, this small-scale study has raised some interesting points about wound swabbing technique.

The use of interviews has many advantages, but can also limit studies (Rice and Ezzy, 2000; Field and Morse, 1990). They are a useful way to avoid misinterpretations, but are time-consuming and can be expensive.

Conclusion The results of this small-scale study suggest that discrepancies exist in the knowledge and practice of wound swabbing technique among a group of nurses on a plastic surgery unit. Such differences will continue until evidence-based guidelines are established and adhered to at a local level. Nurses need access to current literature to provide effective patient care.

Wound swabbing appears to be straightforward, yet it can lead to inappropriate treatment, patient morbidity and increased hospital stays if not performed correctly. By standardising the technique with emphasis on simple but important facts, such as when to actually take swabs, guidelines can be established to improve the quality of service provided to patients.