Caring for pilonidal sinus wounds and fistulas: a practical management guide

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Pilonidal sinuses are a common condition, and are often found in young males. Treatment is mainly by surgery and caring for these wounds is generally undertaken by primary care practitioners. Fistulas are also challenging wounds to care for. This article offers practical advice on the management of these, often problematic, wounds. Issues, such as cleansing, selecting appropriate wound care dressings, measuring and monitoring progression to healing will be discussed; together with advice on when to refer for specialist input.

KEYWORDS:
- Pilonidal sinus wounds
- Fistulas
- Management

Anatomically deep natal cleft
Extensive or stiff body hair
Family history of pilonidal sinus formation
Poor personal hygiene (fewer than three baths per week)
Sitting down for more than six hours a day
Smoking

Maintaining physical activities
Many patients with pilonidal disease are generally healthy young adults who are physically active and it is important to ensure that they can continue their activities, while balancing the risk of trauma to the wound and delayed wound healing (Harris and Holloway, 2012). Patients should be encouraged to avoid activities which involve sitting for long periods, for example, driving and cycling, also swimming, which can cause friction to the buttocks. More gentle activities, such as walking and yoga are recommended until their wound has healed (Harris and Holloway, 2012).

Wound management
As with any wound, a comprehensive wound assessment should be undertaken, noting size and depth to ensure accurate monitoring of healing. The width and length of the sinus can be measured using disposable paper rulers. The quickest and easiest way to measure the depth of the sinus is by using the single-use plastic probe, which is often supplied.

Table 1: Risk factors for developing a pilonidal sinus (adapted from Harris et al, 2016)

- Family history of pilonidal sinus formation
- Smoking
- Extensive or stiff body hair
- Poor personal hygiene (fewer than three baths per week)
- Sitting down for more than six hours a day
- Anatomically deep natal cleft
by the manufacturer with the packing material, for example, Sorbsan® Ribbon and Packing (Aspen Medical). There are more sophisticated 3D wound imaging and measurement tools available now; however, they are still not widely available. The dimensions should be documented and repeated every 2–4 weeks to ensure the wound is progressing normally through the wound healing process. Kantor and Margolis (2000) found that a reduction of 20–40% in wound area after 2–4 weeks of healing was a reliable predictor of healing, although this was for venous leg ulceration. Others found that a wound size reduction greater than 50% by four weeks was predictive of healing in diabetic foot ulceration (Lavery et al, 2008; Snyder et al, 2010). Photography is another way of documenting the wound size, although the depth cannot be measured this way and will not be accurate. Furthermore, healthcare professionals need to be mindful of obtaining consent and also the potential embarrassment to the patient in photographing this area of their anatomy.

Wound cleansing
Due to the proximity to the anus and the resultant exposure to bacteria as a result of bowel movements, the potential risk of infection is high (Harris et al, 2016). Additionally, the natal cleft area is an excellent environment for the proliferation of bacteria due to perspiration and moisture (Harris et al, 2016). To reduce the risk of infection and promote patient autonomy, they should be advised to shower daily, and if convenient, to remove the dressing materials before dressing change and direct the showerhead into the wound to clean the area thoroughly, avoiding highly perfumed cleansing products. There is currently no evidence that using tap water to cleanse acute wounds increases infection rates (Fernandez and Griffiths, 2012), and this will give the patient some control over dressing removal and promote more comfort.

Dressing products
Pilonidal sinus wounds frequently have a heavy volume of exudate and so the aims of the dressing selected should be to absorb exudate, wick moisture away from the wound, prevent strikethrough, and protect the wound margins from maceration. There are many products available for packing cavities, including alginates and Hydrofiber®, many of which are impregnated with antimicrobial substances if infection risk remains a problem. Packed lightly within the cavity, these products are designed to absorb the exudate, trap the bacteria and form a gel, thus facilitating relatively pain-free removal. If more than one piece of ribbon dressing is used, this must be documented clearly in the care plan, to ensure no dressings are accidentally retained.

Although the goal of modern dressings is to extend the wear time between changes, generally two to three times weekly, this may not be appropriate for patients with pilonidal sinus wounds due to the need for frequent showering (Harris et al, 2016). The selection of a suitable product will depend on exudate volume, frequency of bowel movements, comfort, patient acceptability and cost.

Many patients prefer to be taught how to dress their wounds themselves, or, if appropriate their carers (Harris et al, 2016). This may be more acceptable for patients in employment who need to return to work, as it reduces the time spent waiting for appointments for dressing changes by healthcare professionals. Patients must be educated on the signs of infection and abnormal healing and provided with contact details on how to get in touch if they suspect that a wound infection has developed. These wounds should still be checked on a regular basis to ensure that the wound is progressing well and to assess whether the care plan needs to be reviewed and adjusted.

Wound complications
The two most common complications associated with pilonidal sinus wounds are local wound infection and hypergranulation, both of which can delay healing. Localised infection can be due to the accumulation of bacteria in the wound where there are two interfacing surfaces, combined with moisture, warmth and bacteria due to faecal contamination (Wolcott et al, 2009). An increase in exudate volume, abnormal smell, red friable granulation tissue which bleeds easily, and obvious delayed wound healing indicate a probable topical infection, and a change in dressing regimen to one which incorporates an antimicrobial agent should be first-line intervention. It is recommended that only one product is used at a time and only while the signs of infection are still present (Woo et al, 2015).

Hypergranulation
Pilonidal sinus wounds are prone to developing hypergranulation, due to chronic inflammation and low grade persistent topical wound infection (Harris et al, 2016). As well as hypergranulation, there may be evidence of slough, bridging or pocketing in the wound base and undermining (Harris et al, 2016). This may indicate the presence of topical infection, which needs to be treated to kick–start the wound healing process. Traditionally, hypergranulation was treated with silver nitrate (AgNO3), however, this is no longer recommended as its application may cause further inflammation, requires repeated applications and does not address the other additional problems, such as increased exudate volume, malodour and pain, which are associated with wound infection (Widgerow and Leak, 2010).

If debridement is needed to remove the slough, dressing products that promote autolytic debridement should be used initially. If the infection has been resolved but there...
is still evidence of hypergranulation, a very brief application of Haelan Tape — a tape impregnated with a topical corticosteroid — may reduce this. This is a prescription-only product and must be used according to the manufacturer’s instructions. A short course of Maxitrol® eye drops, which combine an antibiotic and a corticosteroid, have also been anecdotally reported to reduce hypergranulation. However, this is off-license use and advice should be sought from a medical professional before use.

There is evidence that good clinical outcomes have been achieved with the use of negative pressure wound therapy (NPWT) in pilonidal sinus wounds (Isik et al, 2016), as this therapy absorbs the exudate, reduces the level of bacteria in the wound and manages tissue oedema. NPWT has also been associated with accelerated wound healing, as a result of enhanced oxygen to the wound bed, blood vessel formation and rapid granulation tissue formation (European Wound Management Association [EWMA], 2008). Careful assessment of the wound, together with consideration of patient factors, such as concordance and practical day-to-day coping with a pump and contraindications to the therapy, need to be performed before this therapy is implemented, as it still remains a relatively high cost treatment (Farrell and Murphy, 2011).

However, the emergence of many more alternative suppliers on the market, together with portable and single-use systems, means that this treatment is becoming more cost-effective and readily available in the community.

**FISTULAS**

A fistula is an abnormal opening or tract between two or more organs or spaces (Deroo et al, 2013). They may develop in a dehisced wound or a surgical incision (Deroo et al, 2013). A simple fistula will have a short tract and no organ involvement, whereas a complex fistula may connect several organs and often have a high fluid output (Lee, 2012). Fistulas tend to occur in debilitated patients and can be very challenging to manage, requiring expert clinical and technical skills (Lee, 2012). Risk factors for the development of a fistula depend on the type of fistula. Table 2 outlines general risk factors.

**Management principles**

**Maintaining optimum nutritional status**

Fistulas can drain more than 1,000mls daily, particularly if located within the small bowel area (Pontieri-Lewis, 2005) and the maintenance of adequate fluid and electrolyte balance can be challenging. The effluent contains sodium, potassium, magnesium and phosphate, which frequently require total parenteral nutrition (TPN) or intravenous therapy. As a result of this copious discharge, the aim of wound management is to promote healing of an open wound with a draining fistula and prevent the breakdown of the skin around the entrance of the fistula.

**Wound management**

The principal and most challenging strategy for managing fistulas is effective containment of the effluent and odour, while preventing damage to the peri-fistula skin (Deroo et al, 2012). This is usually achieved with the use of pouches or wound drainage systems specifically designed for this purpose, such as Confidence Wound/Fistula (Salts Healthcare), Option Wound Manager™ (Oakmed) or Eakin Wound Pouches™ (Pelican Healthcare). These systems are designed to enable the accurate measuring of the effluent, which is important to ensure the maintenance of fluids, electrolyte balance and nutritional support (McNaughton et al, 2010).

However, the anatomical location and output of the fistula will influence the choice of appliance, in terms of whether a closed system is required, an appliance with a window for visualisation of the wound or an appliance that can be attached to a bag to facilitate a longer wear time (Pontieri-Lewis, 2005). In some cases, a Foley catheter can be inserted into the fistula to divert the effluent into the fistula pouch (Deroo et al, 2013).

To maintain an effective seal, additional skin protection will be required and healthcare professionals may need to work together with stoma nurses to develop an effective plan. Table 3 outlines the various products available and their mode of action.

As well as managing the effluent, there may also be an additional wound that needs to be treated and this should be assessed and managed according to the condition of the wound bed.

More recently, NPWT has been used successfully to treat fistulas by controlling the high effluent output, reducing odour and accelerating wound healing, although the decision to implement this must be taken in conjunction with medical advice as two of the main contraindications for NPWT are suspected malignancy or confirmed malignancy where the tumour has not been cleared, and unexplored fistulas where the exact cause and location is unclear (Smith and Nephew, 2009; Deroo et al, 2013).

Patients with fistulas which have failed to close after eight weeks of conservative management should be referred for surgical opinion and potential surgical closure, but will need to be infection-free for at least 6–8 weeks (Deroo, 2013).

**CONCLUSION**

This article has discussed the management of pilonidal sinus wounds and fistulas, often considered two of the most challenging wounds that healthcare professionals in primary care may encounter. To develop an effective treatment plan, practitioners will need to use critical

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**Table 2: Risk factors for developing a fistula**

(adapted from Deroo et al, 2013)

- Co-existing disease, such as irritable bowel syndrome (IBS), Crohn’s disease or a malignancy
- Emergency surgical procedures
- Radiotherapy
- Infection
- Steroid therapy
- Malnutrition
and innovative thinking skills, together with advanced clinical and technical skills. To achieve a good clinical outcome for the patient, collaborative working and close liaison with other specialist nurses, such as stoma nurses, is necessary.

REFERENCES


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