

Pilonidal sinus disease is usually treated by surgery, but can recur. Laser hair removal can make it less likely to return, and this procedure can be carried out by nurses

# Reducing the recurrence of pilonidal sinus disease

## In this article...

- › Causes of pilonidal sinus disease
- › Treatment of the condition
- › How to reduce the risk of recurrence

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Pilonidal sinus disease is a painful disorder of the natal cleft between the buttocks. Primary treatment is by surgery but there is a high recurrence rate. Laser hair removal reduces the rate of recurrence by diminishing the number and thickness of hairs. It should be recommended along with personal hygiene measures for patients to reduce short-term and long-term recurrence of the condition.

Pilonidal sinus disease (PSD) is a painful disorder usually found in the natal cleft; it is diagnosed by the presence of a characteristic epithelial track between the buttocks (Miller and Harding, 2009). The sinuses may be caused by hair growing into the skin where there is excessive body hair or if tight clothing is worn, and is often seen in occupations such as barbers and shepherds, as well as those that involve sitting for long periods (Nelson and Cima, 2007) (Fig 1). The pits in the dermis tend to be distended with debris, but not all this debris is made up of hair.

Primary treatment for PSD is by surgery but there is a high recurrence rate. Laser hair removal reduces the rate of recurrence by diminishing the number and thickness of hairs. It should be recommended along with personal hygiene measures for patients to reduce both short-term and long-term recurrence of the condition.

Laser depilation is used in a number of medical conditions, such as ingrown hairs, hirsutism (male pattern of hair

distribution in females), and folliculitis (inflammation around the hair follicle), as well as PSD. Lasers emit specific wavelengths of light that are absorbed by a different colour in the tissue, known as chromophore, and are converted into heat. The chromophore for laser hair removal is melanin; since this is lacking in light hairs, laser hair removal treatments are better suited to people with darker hairs.

## Incidence of PSD

The incidence of pilonidal sinus disease is approximately 0.7% and depends on age, ethnicity and gender (Caestecker et al, 2002). It is most common in Caucasians due to differing hair characteristics and growth patterns, and in men with excessive amounts of hair living in hot countries (Schlomo et al, 2004). It is usually seen in people in their late teens to early 20s and rarely after the age of 45 (Hull and Wu, 2002).

The following factors are thought to predispose individuals to developing PSD:

- » Positive family history (one or more family members with PSD);
- » Shape and curvature of the buttocks;
- » Abundant hair surrounding the sinus;
- » Folliculitis in the perianal area;
- » Local irritation or trauma before onset of symptoms;
- » Occupation and lifestyle
  - » Sitting for over six hours a day
  - » Driving for long periods
  - » Having fewer than two baths a week;
- » Obesity (Harlek et al, 2010; Akinci et al, 1999).

Hull and Wu (2002) report the ratio of PSD occurrence as 3-4 men to every one woman affected. In the US, pilonidal sinus affects on average 26 per 100,000 people. In

## 5 key points

- 1** Pilonidal sinus disease is a distressing condition that affects mainly young men with excessive body hair
- 2** Predisposition factors include a family history of PSD, abundant hair surrounding the sinus, sedentary occupation and obesity
- 3** The incidence of pilonidal disease is approximately 0.7% and depends on age, ethnicity and gender
- 4** The recurrence rate depends on the treatment method, the use of laser hair removal and the length of the follow-up
- 5** Nurses are better placed than non-clinical practitioners to assess the wider implications of the condition and treatment

England, a total of 11,534 admissions for treatment were recorded for PSD between 2000 and 2001, and the mean hospital stay in 2001 was 4.3 days (Caestecker et al, 2002).

**Presentation and treatment**

Pilonidal sinus disease may present as an asymptomatic, acute, chronic or recurrent condition (Miller and Harding, 2009). Table 1 shows the asymptomatic and symptomatic stages and the recommended treatment and management for each stage.

Infected PSD should initially be treated with broad-spectrum antibiotics (Miller and Harding, 2009); however, surgery is often necessary for both acute and chronic PSD. Surgeons agree that the area where the infection occurred should be excised, but there is much debate over whether the resulting wound should be stitched or left open; a Cochrane systematic review concluded that each surgical treatment has advantages and disadvantages (Al-Khamis et al, 2010). The decision as to which method to use should also be guided by the patient's own desired goals for the treatment. The definitive recommendation from the systematic review was that wound closure should not be undertaken in the central area between the buttocks, as this may increase the chance of PSD recurrence and other complications, such as infection. Doll et al (2008) recommended putting blue dye into the sinus at the start of the operation to make it clear which areas need to be excised.

**Recurrence**

The recurrence rate of PSD varies depending on the treatment method and the length of follow up, but can be up to 50% (Velasco and Dunlap, 2009).

Early recurrence is usually due to failure to identify one or more sinuses at the time of incision and drainage. Later recurrence

FIG 1. **RECURRENT PSD**



Hairy buttocks in a 22-year-old male with recurrent PSD before depilation

(more than six months after surgery) is usually due to tension in the midline cleft and a secondary infection caused by further build-up of hair or other debris (Khanzada and Samad, 2007). Recurrences have been reported as late as 20 years after the surgery (Doll et al, 2007) (Fig 2).

**Laser hair removal**

A number of studies have found that laser hair removal considerably reduces the recurrence rate of PSD.

Badawy and Kanawati (2009) looked at 25 patients who had surgery to remove the pilonidal cyst and were then divided into two groups: group 1 had laser treatment and group 2 was the control. Patients were followed over a period of 23 months. None of those who received laser treatment developed recurrence, while seven patients in the control group developed recurrence. The authors concluded that laser hair removal can prevent recurrence of the PSD

FIG 2. **RECURRENT SINUS**



Recurrent asymptomatic sinus one year after surgery

and should be advised both before and after surgery.

Another study assessed the outcomes of 28 teenagers three years after they received a series of laser treatments following surgery for PSD (Lukish et al, 2009). Only one developed recurrence within three years of treatment, giving a <0.5% recurrence rate.

A prospective study carried out in Egypt by Ghnnam and Hafez (2011) looked at a sample of 86 patients admitted with chronic PSD over a period of three years who had surgery. Group 1 had laser treatment and group 2 was the control. No patient from group 1 developed recurrence while two in group 2 did. The authors also concluded that follow ups should be longer than three years.

Doll et al (2007) provide further evidence to support the recommendation for longer follow-up periods. They looked at the recurrence rate in 205 patients in Germany, none of whom had laser treatments. The study showed that 22% of participants had recurrence and the majority (71%) of these were within four years. The authors concluded that follow-ups should be longer than five years to detect any early signs of infection.

**TABLE 1. SYMPTOMS AND TREATMENT OF PSD**

Stages	Asymptomatic	Symptomatic		
		Acute	Chronic	Recurrent
<b>Symptoms</b>	<ul style="list-style-type: none"> <li>● Small dimple or swelling</li> <li>● +/- Pain</li> </ul>	<ul style="list-style-type: none"> <li>● Pain</li> <li>● +/-Purulent discharge</li> <li>● Swelling</li> <li>● +/- Cellulitis</li> <li>● +/- High temperature</li> </ul>	<ul style="list-style-type: none"> <li>● Pain/discharge</li> <li>● Fistulae</li> <li>● Single or multiple sinuses</li> <li>● Oedema, inflammation</li> <li>● +/- Abscess formation</li> </ul>	<ul style="list-style-type: none"> <li>● Pain/discharge</li> <li>● Infection</li> <li>● Abscess</li> </ul>
<b>Treatment and management</b>	<ul style="list-style-type: none"> <li>● +/-Antibiotics</li> <li>● +/-Painkillers</li> <li>● Physical observation</li> <li>● Depilation</li> <li>● Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>● Antibiotics</li> <li>● Analgesics</li> <li>● Surgery</li> </ul>	<ul style="list-style-type: none"> <li>● +/- Antibiotics</li> <li>● Analgesics</li> <li>● Physical observation</li> <li>● Depilation</li> <li>● Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>● Antibiotics</li> <li>● Painkillers</li> <li>● Surgery</li> </ul>

### Laser treatment protocol

Studies have shown that more frequent laser treatments produce better outcomes (Oram et al, 2010). Most surgeons recommend an average of six treatments at intervals of 6-8 weeks, with annual review for observation of the area and the possibility of later top-up treatments.

The treated area, which must be shaved before treatment, extends to 2cm-5cm margins from the midline on either side of the gluteal crease from the apex to the anal opening and the hairy area above the buttocks' crease (Fig 3).

To reduce pain, local anaesthesia cream may be applied to the area one hour before the procedure and cooling packs applied after treatment.

All types of laser hair removal systems are suitable for reduction of hair growth but the choice of the type of laser used should take into consideration the patient's skin type, hair coarseness and pain tolerance.

### Shaving and hygiene

One much debated area is whether regular shaving of the buttock area after surgery is helpful or actually increases the likelihood of recurrence.

A significant number of surgeons recommend the practice but, as early as 1983, a study showed that shaving was not successful in reducing recurrence; in fact, recurrence was more frequent in patients who did shave (Stirnemann and Blasimann, 1983). A retrospective study of 504 patients concluded that razor hair removal increased the rate of long-term recurrence after surgery for PSD and should not be recommended (Petersen et al, 2009).

In addition to depilation, strict personal hygiene is paramount in reducing the risk of recurrence and infection.

### The role of the nurse

While many laser hair removal treatments are undertaken by non-qualified operators in the beautician business, nurses are increasingly carrying out laser treatments for different medical conditions in hospitals and clinics in the UK.

Nurses have the advantage over clinically unqualified operators in having knowledge of the condition and standard nursing skills. This is desirable in assessing the wider considerations of patients with PSD, such as pain management, as well as issues relating to self-esteem, body image and personal relationships. A lot of patients who have had PSD live with the permanent worry that this distressing condition will return.

### FIG 3. AFTER SURGERY AND LASER DEPILATION



Absence of hairs and a healing wound eight weeks after surgery and laser depilation of the natal cleft

When carrying out the laser treatment, attention needs to be given to body image and maintaining the patient's dignity at all times. The number of staff allowed in the treatment room should be kept to a minimum. The nurse should reassure the patient and explain the treatment to gain fully informed consent, as well as provide information on how to care for the area and advice on lifestyle.

The protocol of shaving or not between treatments should be left to the surgeon's recommendation but is now generally less common.

Nurse practitioners should take the initiative and audit the outcomes of treatments, such as the use of razors or depilatory creams, and record recurrence rates to ensure we can give the best possible advice and treatment to our patients.

There is a strong argument that more laser treatments should be available on the NHS to reduce the recurrence of this debilitating condition and the subsequent cost of surgery and hospitalisation.

### Conclusion and recommendations

Pilonidal sinus disease is a chronic and painful condition that can affect self-esteem, body image and personal relationships.

Multiple studies have shown laser hair removal decreases both short-term and long-term recurrence of the condition and this treatment should be considered in every case.

There is a need for further study into follow-up periods longer than five years, as recurrences are known to occur after this time period. Nurses are well placed to be involved in such studies. **NT**

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