

# Anaesthetic burns

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## Summary

Patients frequently complain of numbness after surgery via the Pfannensteil incision. The two cases in this report demonstrate clear evidence of impaired sensory perception following such an incision. While this is often regarded as a trivial complication, a brief warning to patients should help avoid such superficial burns.

**Key words:** Transverse suprapubic incision; Pfannensteil incision; Superficial burn.

## Introduction

A lower suprapubic incision is commonly used in many gynaecological procedures as it provides for good pelvic access and leaves an aesthetic scar. Nerve injuries can occur which can cause sensory impairment in some patients. We report two cases in which the patients received burns postoperatively from placing hot water bottles over the abdominal skin that had been anaesthetised. It is important patients and clinicians be made aware of this potential complication.

## Case Reports

### Case 1

A 48-year-old Eritrean woman underwent a myomectomy via a suprapubic incision for a large fibroid uterus. The postoperative course was uneventful. While at home, two weeks after the operation, a hot water bottle was used to alleviate abdominal discomfort while she was recuperating from her operation. She sustained a partial thickness skin burn when she fell asleep (Figure 1).



Figure 1. — Partial thickness skin burn in case 1.

### Case 2

A 53-year-old English woman underwent an abdominal hysterectomy with bilateral salpingo-oophorectomy for an 8 cm right ovarian cystadenoma which was found on scan when she presented with postmenopausal bleeding. The abdomen was opened via a suprapubic incision. She made an uneventful recovery from the procedure and her wound healed well. She too sustained a superficial burn from a hot water bottle that she had used to comfort her symptoms postoperatively. Her general practitioner provided treatment for the burn, which had almost healed when she attended for a follow-up appointment at the gynaecology outpatient clinic.

## Discussion

The lower transverse abdominal incision, described by Hans Hermann Johannes Pfannensteil, was popularised in 1900 [2]. It is the incision of choice for many gynaecological procedures and has stood the test of time. Advantages to this incision are lower incisional hernia rates, less wound infection, haematoma formations, and postoperative pain, as well as better cosmetic results [1]. The incision traverses the skin, subcutaneous fat, rectus sheath, and extends through the fascia of the internal and external oblique muscle before reaching the anterior fascia. Although the scar it leaves is aesthetic, it can cause impaired sensory perception by involving the iliohypogastric and ilioinguinal nerves in 25% of patients [1].

The iliohypogastric and ilioinguinal nerves, which provide sensory innervations to the skin overlying the pubis, inguinal region, labium, and upper inner thigh, run inferior medially within the internal and external oblique muscles before entering the inguinal canal. These nerves can be damaged while gaining pelvic access via a Pfannensteil incision, leading to sensory impairment. Injury to these nerves is more likely to occur because of the nerve's superficial course.

Complications of nerve damage occur most commonly when the incision is extended too far laterally [2]. If the incision needs to be extended more laterally, the nerve should be identified and preserved. Additionally, the iliohypogastric nerve can be avoided if the incision passes at least 5 cm cranial to the inguinal ligament [3].

In addition to avoiding direct damage, it is important to recognise that the nerves can become entrapped during the suturing of abdominal layers, or by scar tissue formation [1]. The classic triad of nerve entrapment includes burning pain that radiates to the region supplied by the nerve, evidence of sensory

impairment to the affected area, and pain relieved by application of anaesthetic [4]. This complication is reported in 3.7% of cases [1].

Although most experienced gynaecological surgeons are aware of the anaesthetic effect of this incision, a review of the literature does not reveal any previous publication of this complication. It is important for patients, especially in colder climates, to be made aware that numbness can occur following this incision, so they can avoid unwanted superficial burns as experienced by our patients.

## References

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