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A pathway to enable same-day abscess surgery

In this article...
- Why an abscess surgical pathway was needed
- Development and implementation of the pathway
- Audits of compliance with and effect of the pathway

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Cutaneous abscesses are a common surgical referral, often requiring surgical intervention. Frequently, patients are added to the emergency theatre list and kept fasting but surgery is delayed to make way for more urgent procedures. This leads to increased lengths of hospital stay, increased costs and inadequate quality of care. An abscess pathway developed at Darent Valley Hospital is a simple measure to enable same-day surgery and discharge home; an audit found that 92% of patients completed their episode of care the same day. The pathway also reduces pre-operative fasting times.

Cutaneous abscesses are a common cause of hospital admission (Chong et al, 2014). Most patients require incision and drainage under local or general anaesthetic. However, since no national guidance or care pathway has been developed for this procedure, practice varies widely.

Patients with abscesses are often put on the emergency list and kept fasting until they can be accommodated in the theatre. However, if patients requiring more urgent surgery, such as procedures to save life, limb or organ, are admitted then those with abscesses can be delayed, often for long periods. During this time they are needlessly kept fasting in preparation for general anaesthesia. This leads to increased length of hospital stay, bed use and costs for the NHS and, most importantly, inadequate quality of care.

Care pathway
To tackle the problem at Darent Valley Hospital, we designed an abscess pathway with the aim of:
- Reducing repeated prolonged fasting and cancellation of procedures;
- Giving patients information on fasting, hospital contact details and what time/where to arrive for their procedure;
- Creating a clerking pro forma to facilitate clear communication between health professionals and patients.

The initial abscess pathway included a clerking pro forma to collect all the necessary information for the surgeon responsible for the operating list, and a patient leaflet giving clear information about the procedure – such as on fasting, hospital contact details, and where to go when returning for the procedure. The doctor discharging the patient was also responsible for reinforcing information on ‘red flag’ signs to alert patients of the need to seek urgent medical attention. Guidelines within the pro forma included criteria for inclusion or exclusion to the abscess pathway; inclusion criteria were that the patient was systemically well and aged 16 years or over. Patients were excluded if they:
- Were systemically unwell;
- Were under 16 years of age;
- Had newly diagnosed or insulin-dependent diabetes;
- Presented with unstable blood glucose;
- Had newly diagnosed or insulin-dependent diabetes;
- Presented with unstable blood glucose;

5 key points
1. Abscesses are a common reason for admission to hospital
2. Patients often fast excessively as their surgery is delayed for more urgent procedures, and experience long hospital stays
3. An abscess pathway can improve quality of care and patient satisfaction, maximise hospital resources and make service provision more cost effective
4. The abscess pathway leads to patients fasting for not longer than six hours for food
5. Nurses with the appropriate training may be able to clerk patients with subcutaneous abscesses

Most patients who have an abscess require incision or drainage under anaesthetic

www.nursingtimes.net / Vol 112 Online issue 14 / Nursing Times 30.11.16 6
Nursing Practice

Innovation

**BOX 1. AUDIT STANDARDS**

- All guidelines as per the pro forma (as set after the audit in 2013) to be strictly adhered to
- 100% of patients with subcutaneous abscesses to be appropriately allocated to the inclusion or exclusion arms of the pathway
- 100% of patients to be operated on the same day as admission
- All fields of the abscess pathway pro forma to be completed by clinicians in 100% of cases
- All patients on the abscess pathway to have a hospital stay of under 23 hours in the surgical admissions lounge unless clinically complicated
- Whether patients have been given the information leaflet to be documented on the pro forma in 100% of cases
- Fasting to be in line with trust guidance, based on Royal College of Nursing (2014); Sproat et al (2012); Brady et al (2010); Soreidi et al (2005), in 100% of cases
- Required significant amounts of opiates;
- Required intravenous antibiotics;
- Were intravenous drug users with infected sites (where false aneurysm cannot be excluded and ultrasound scan is required);
- Were confused.

Patients who were suitable for admission to the abscess pathway were listed and consented for theatre (recorded using a yes/no tick box on the pro forma) and given an appointment to return for their procedure, usually the following day, or the day after if this was not possible.

**Introduction**

The abscess pathway service was introduced in 2009 for patients attending Darent Valley Hospital via accident and emergency, either by self-referral or GP referral, requiring incision and drainage of a subcutaneous abscess under general anaesthetic. The service aimed to admit, operate on and discharge patients on the same day, without using an acute ward bed; patients deemed unsuitable for the pathway were admitted to hospital immediately. However, initial review of the pathway revealed two flaws that hindered effective patient management:

- Overall hospital capacity was delaying the admission process and time to theatre for the abscess pathway patient because patients could be contacted and added to the theatre list only when a bed became available;
- We were still making unnecessary use of acute beds due to the operation often being carried out late in the afternoon or evening, so patients needed to remain in hospital overnight.

In 2010, the hospital opened a surgical admissions lounge (SAL), a designated area for elective patients to wait prior to surgery between 7.30am and 4.40pm. These hours were later extended to 8.30pm. A further review of the abscess pathway’s use led to an agreement that patients on the pathway could be prepared for their procedure in the SAL, rather than waiting for a ward bed.

The anaesthetic and surgical consultants also agreed that these patients would be operated on in the morning session of the emergency operating list, Monday to Friday, unless they were required to perform a critical procedure. This approach would ensure patients well enough to go home could be discharged on the same day, thereby minimising bed occupancy.

**Compliance audit**

In 2013, compliance with the use of the abscess pathway and completion of the clerking pro forma were audited by randomly selecting notes of 48 patients from admissions over a six-month period and checking parameters, such as whether patients were given the information leaflet, the consent form was completed, clerking completed and documented in full, along with fasting times. All patients were put on the pathway appropriately.

This, in turn, has improved patients’ experience and, therefore, satisfaction, as demonstrated in the following example of feedback from a patient who had undergone surgery for abscesses both before and after the pathway was developed:

“Excellent – I had to attend the hospital for a day surgery. I had done this surgery once in 2009. In 2009, I was kept for two nights but discharged on the same day the second time. The care I received was excellent. The nurses were very nice and bubbly and checked on me regularly. Not sure if I could offer any more compliments but I would say the treatment I received was top notch!”

This first audit recommended:

- Adding the pathway inclusion/exclusion criteria to the pro forma (in response to staff requests);
- Undertaking the anaesthetic team review in the SAL on the day of surgery, rather than when patients are present in A&E, as assessment by the anaesthetist in A&E was neither consistent nor practical due to on-call commitments;
- Updating fasting guidelines to recommend that a glass of water is given in the event of more than two hours’ delay for a theatre slot (Box 1);
- Including a ‘yes/no’ option on the pro forma to indicate whether patients have been given the information leaflet.

**Repeat audit**

The recommendations from the 2013 audit were implemented and a re-audit commenced in May 2015 to compare practice with a set of standards (Box 1) to determine:

- The effectiveness of the abscess pathway service after implementation of the recommendations from the initial audit in 2013;
- Whether the extended opening hours of the SAL had enabled same-day discharge;
- Compliance with the inclusion/exclusion criteria;
- Compliance with completion of the clerking pro forma and the quality of documentation;
- Whether the pathway was effective in reducing costs from reduced bed occupancy;
- Whether the quality of care had improved for these patients in terms of the procedure being undertaken in the morning session of the emergency operating list;
- Whether use of the pathway had led to any changes in fasting times;
- Whether further guidelines were required to support good practice.

**RESULTS**

**BOX 2. 2015 AUDIT RESULTS**

- 98% of patients had their surgery on the same day as their surgery was scheduled (target 100%)
- 92% were discharged on the day of their surgery (target 100%)
- 21% were recorded as having been given a patient information leaflet, compared with 23% in 2013 (target 100%)
- 46% of patient documentation was fully completed, compared with 80% in 2013 (target 100%)
- 75% fasted for six hours or fewer before surgery, compared with 43% in 2013 (target 100%)

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A retrospective audit was undertaken of 50 patients who had undergone surgery for subcutaneous abscesses, randomly selected from weekday admission records on the SAL (Monday to Friday) from January to August 2015. Patients’ ranged from 16 to 82 years of age (mean 38 years). Case notes were obtained through the clinical audit department. One patient was excluded from the pathway and admitted to hospital due to poorly controlled diabetes; all 50 patients were included in the analysis.

Audit results

The results of the audit can be seen in Box 1, and Fig 1 illustrates the decrease in fasting time. While the audit demonstrated that compliance had increased since 2013, some areas needed further improvement, such as documentation (only 60% of patients’ documentation was completed) and the provision of the patient information leaflet (only 22% of patients in 2013 and 21% in 2015 were documented as having received the leaflet); other key areas of the pro forma, such as urinalysis, HGG level results (to exclude pregnancy) were also lacking, so not all the audit’s standards had been met.

The completion of the consent form at point of clerking (in A&E) had marginally improved, but this standard is influenced by the availability of the on-call registrar (who may be busy in theatre) and by whether the on-call SHO (who may be the clerking clinician) has been trained in consenting for this procedure.

However, there was significant improvement between the 2013 and 2015 audits in all other standards, most notably in the target that patients should fast pre-operatively for no longer than six hours for food and two hours for clear fluids; adherence to this standard rose from 43% in 2013 to 75% in 2015.

The 2015 audit showed an overall improvement in the effective use of the abscess pathway service, and that the pathway is facilitating same-day operation and discharge home; 92% of patients audited in 2015 completed their episode of care on the day of admission to the SAL.

To illustrate the pathway’s effect on cost effectiveness, our finance department calculated that the average price for various types of ‘skin procedures’ in 2015 was approximately £750 when performed electively, compared with £850 when performed non-electively. However, the greatest benefit was found in terms of reduction in bed days; in July 2015 there were 27 cases of subcutaneous abscess admitted through the SAL. The average bed day cost for this period was £243, meaning a total saving to the trust of £6,036. This is based on 92% of patients being discharged on the day of surgery and thus avoiding the use of a bed. Extrapolated, this could mean a saving of approximately £72,000 per year, in bed day costs alone.

The objectives of our re-audit were met: we determined that the abscess pathway service improves the quality of care, augments patients’ experience, maximises hospital resources and makes service provision more cost effective. Furthermore, enabling our patients to be operated on and discharged home on the same day increases surgical turnover as we would not have had the capacity to perform so many incision and drainages, or indeed other procedures, if patients had stayed in hospital while waiting for their procedure. We also incur financial penalties if we generate bed days beyond what is determined as the ‘norm’ for any given category of patient, so the pathway also helps to avoid these penalties.

Further developments

Our focus now is on improving areas that showed little or no improvement, or deteriorated marginally in the 2015 audit. As per the documentation, less than a quarter of patients were given the information leaflet, yet this can be vital in helping them to understand the procedure and minimising their anxieties about it. It is worth noting, however, that in observed practice far more patients are given the leaflet than is subsequently recorded on the pro forma (which, again, highlights poor compliance with completing documentation).

In summary, the abscess pathway saves our trust money and avoids the disappointment, to patients, of cancellations (thus increasing patient satisfaction). It has also led to marked reductions in fasting times and bed occupancy. Documentation is poorer than expected, with improvements needed in, among other things, recording of observations, full clerking and recording of whether patient information has been passed to the patient.

We are therefore aiming to achieve:

» Improving compliance with documentation;

» Undertaking a formal review of patient satisfaction with the current service compared with that prior to the introduction of the abscess pathway by contacting two random sets of patients from before and after introduction of the pathway;

» Enabling the emergency access nurse to be carry out clerking of patients with subcutaneous abscesses, with subsequent surgical registrar review and consenting;

» Presenting this as an established service for GPs to directly refer to the ambulatory care unit, avoiding A&E altogether;

» A re-audit in 6–12 months.

The emergency access specialist nurse now routinely clerks patients, and we have developed written guidelines for obtaining patients’ consent for the procedure and a log book for the pathway. These are awaiting formal trust approval.

References


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