

# Emergency Day Case Surgery for Abscess Drainage – Time for change?

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## Abstract

**Introduction:** Emergency day case surgery for drainage of abscesses is an established care pathway that is not widely practised. This paper reviews the current length of stay for patients in England undergoing treatment, specifically for perianal abscesses.

**Methods:** Data from Hospital Episode Statistics for 2010-2012 were reviewed to assess the length of stay for patients presenting as an emergency, with a perianal abscess.

**Results:** From 3 years pooled data, more than 35,000 procedures were identified. There is wide variation in the rate of day case emergency surgery for this condition in England. At a provider level, day case rates vary from 10% to 77%, with a median value of 35%. If activity were undertaken to British Association of Day Surgery suggested rates of day

surgery for this procedure, over 9,000 bed days per year could be saved.

**Discussion:** Emergency management of perianal abscesses using Day Surgery ethos and resources is a previously reported pathway that remains underexploited in England, and the rationale and evidence base for further development is presented.

**Conclusion:** This analysis suggests that we are delivering well short of the achievable standards of efficiency and quality, with few providers undertaking day case emergency abscess surgery at the advocated rate. Delivering emergency day case surgery for patients presenting with perianal abscesses offers a more timely and responsive service, with an opportunity for significant reduction in the use of hospital beds.

**Keywords:** Day Surgery; Utilisation; Abscesses.

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## Introduction

Patient management in the Day Surgery environment has traditionally been viewed as a service predominantly involved with planned rather than emergency care [1]. However, the ability to manage patients presenting as surgical emergencies on a day case basis thus enhancing the quality and timeliness of their care has been reported for over 10 years [2,3], and advocated in recent guidelines for day surgery management [4]. Specifically, drainage of superficial abscesses including perianal abscesses can be safely and effectively carried out as day case emergencies [5]. The British Association of Day Surgery (BADs) Directory of Procedures [6] estimates that 90% of perianal abscess drainage operations could be treated as day cases. This expectation comes with the caveat of the need for a redesigned and optimised care pathway, drawing lessons from elective [7] and other emergency processes. For the latter, transformational work developing the use of ambulatory care for common acute medical conditions presenting to Emergency Departments is ongoing in England [8]. Delivering activity as day case procedures when appropriate, can contribute to local health economy Quality, Innovation, Prevention and Productivity (QIPP) savings and provider Cost Improvement Plans (CIPs), with the potential to improve patient experience and reduce cost by saving in-patient bed-days. Emergency day surgery for abscesses is already recommended as an example of QIPP and published in 2012 on the NHS Evidence website [9]. Given the potential benefit to patients, providers and the wider health economy, the purpose of this review was to determine the current use of day surgery for emergency surgical care of perianal abscesses in England and to evaluate the degree of variation between provider hospitals.

## Methods

A definition of relevant activity for perianal abscesses using diagnostic (ICD10) and procedure (OPCS4.6) codes was agreed with the British Association of Day Surgery and the Professional Association of Coders UK (PACC-UK). Hospital Episode Statistics data for the calendar years 2010–2012 were extracted for activity matching the definitions shown in Table 1. Provider organisations with fewer than 5 admissions for this procedure were excluded from the analysis. An adjustment was made in order to include patients attending as an emergency who then underwent elective surgery within 7 days, in line with the best practice pathway.

The data were analysed at Provider Trust level across England to show the day case rate for activity undertaken as an emergency, whether planned as a day case or not. A provider level gap analysis was undertaken demonstrating the impact on bed usage that would be generated if each Trust achieved the day case rate recommended by the British Association of Day Surgery.

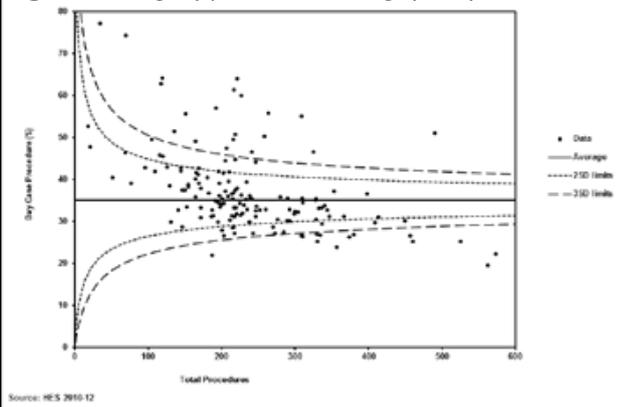
## Results

A total of 35,985 emergency procedures were undertaken for perianal abscesses over the 3 year period. Of these, 12,631 were undertaken as a day case, with a mean rate of 35.1% for provider hospitals. This ranged from 10% to 77% with wide variation (Figure 1). Nationally, 42,568 bed days were occupied for emergency perianal abscess surgery, with a mean length of stay of 1.2 days (SD+ 0.23). If activity was delivered to the recommended rate of 90% day cases, 28,114 bed days would have been saved over the three year period.

**Table 1** Search Criteria for Interrogation of Hospital Episode Statistics.

Procedure	ICD to Include	OPCS to include
Incision and drainage of perianal abscess	K61.0	H58.2
Admission method code (as unplanned care) 'admimeth'='	Definition	
21	Accident and emergency or dental casualty department of the Health Care Provider	
22	General Practitioner: after a request for immediate admission has been made direct to a Hospital Provider, i.e. not through a Bed bureau, by a General Practitioner or deputy	
23	Bed bureau	
24	Consultant Clinic, of this or another Health Care Provider	
28	Other means, examples are: - admitted from the Accident and Emergency Department of another provider where they had not been admitted - transfer of an admitted patient from another Hospital Provider in an emergency	
Identification of Day Case Management	Definition	
Management Intention 'intmanig'=2	Patient not to stay in hospital overnight	
OR Duration of Stay 'speldur'=0	The difference in days between the admission date and the discharge date provided the discharge method confirms that the spell has finished.	
Best practice adjustment	Patients admitted in an emergency ('admimeth = 21,22,23, 24 and 28') who are subsequently admitted electively ('admimeth = 11,12, and 13') within 7 days for a day case procedure('intmanig = 2' or 'speldur = 0') have been included.	

**Figure 1** Emergency peri-anal abscess surgery – Day case rate.



## Discussion

The concept of the use of Day Surgery services to facilitate non-elective care, particularly of infective aetiology, is not new. James Nicoll, the paediatric surgeon from Glasgow widely recognised as the “Father of Day Surgery”, alluded to his management of children requiring emergency care in his seminal report in 1909[10] citing 167 cases of mastoid empyema cared for on an ambulatory basis. Perhaps more significantly, Nicoll’s drive to develop day surgery was motivated by making better use of available resources.

Patients presenting with a perianal abscess to a hospital Emergency Department are frequently subject to delays in timely care. Figure 2 (opposite) typifies the care pathway currently extant in most hospitals.

The Royal College of Surgeons of England published their standards for unscheduled surgical care in 2011[11], in which two of the key

### Figure 2 The usual Care Pathway

A young man attends the Emergency Department with anal pain. He is seen by the surgical registrar who diagnoses a perianal abscess and checks there are no signs of systemic sepsis. Pre-operative investigations are done. He is admitted to hospital, placed nil by mouth, and added to the emergency operating list for the same day. The operation is postponed due to the arrival of other cross-speciality emergency cases that are deemed more urgent. The patient is informed in the late evening, kept in overnight and starved again from 2am. The operation to drain the abscess takes place the following afternoon. He returns to the ward and stays overnight. He is seen by the surgical team the following morning and discharged with an appropriate follow-up plan.

mandates in the Executive Summary were “Appropriate and adequate facilities, laid out in such a way as to provide safe and expeditious patient care in the acute setting”, and, “Careful planning and provision of adequate resources to enable sufficient and timely access to emergency theatres”. On this basis, a more effective pathway for a patient with a perianal abscess could be:

### Figure 3 The more effective Care Pathway

A young man attends the Emergency Department with anal pain. He is seen by the surgical registrar who diagnoses a perianal abscess and checks there are no sign of systemic sepsis. Pre-operative investigations are done. The surgeon gives the patient information and liaises with the theatre coordinator to identify an operating slot. The patient is sent home with oral analgesia and told he will be called at 8am the following day to confirm the operation time. He is asked to starve from 2am. He is phoned at 8am and given a time to attend for operation in the Day Surgery Unit. He attends, has the operation to drain the abscess and discharged home the same day with an appropriate follow-up plan.

The suggested model making use of potentially available day surgery capacity with a “planned” admission for emergency care was first advocated in 1997 by Loftus and Watkin [3] who demonstrated in a review of 100 patients, that times from admission to operation for 92 patients was less than 6 hours, with the longest delay of greater than 12 hours occurring in three patients. The concept was further explored in 2002 by Conaghan and co-workers [2] with a randomised controlled trial comparing length of stay and outcomes for two groups allocated to either day surgery or inpatient intent. The patients scheduled for day surgery had a significantly reduced length of stay compared with the inpatient cohort (median 0 vs 2 nights,  $p < 0.001$ ), with concomitant cost savings. Mayell [5] audited the introduction of an emergency day case service within which 75% of the managed cohort underwent superficial abscess drainage (39% were perianal) over a 20 month period. She found an average reduction in length of stay of 29 hours per patient and estimated that for a population of 100,000 there would be an annual productivity saving of 65 bed days. In New Zealand, Baker and Windsor [12] carried out a large retrospective study of the management of superficial abscesses from 1992–2007, from which they estimated that 59% of the surgical admissions could have been managed on a day case basis, whereas in fact only 6% were. Comparing average costs for inpatient and day case treatment, the authors calculated an average saving of over \$3,000NZ per patient for day case treatment.

Translocation of emergency care to the daycase environment has been reported with similar success for orthopaedic [13] and plastic surgical hand trauma [14], while a similar model for the surgical management

of evacuation of retained products of conception is in widespread use by gynaecology units in the UK. Recently published guidelines for Day Surgery management by the Association of Anaesthetists of Great Britain and Ireland and the British Association of Day Surgery [4] offer further examples of procedures suitable for this method of management.

This analysis suggests that there is an opportunity for Trusts in England to optimise both the quality and productivity of emergency care for this group of patients in line with the recommendations of the Royal College of Surgeons of England. The London Quality and Safety Programme review of Hospital Episode Statistics (HES) data in 2011 demonstrated similar findings in hospitals across London [15], while Faiz and colleagues [16] evaluating a seven year epoch of data from 1998 to 2005, showed that an annual average of 8559 (+307 SD) perianal abscess drainage procedures were performed in England, occupying an average 18831 (+718 SD) bed days. They similarly concluded that by lifting some of the barriers to day case surgery, significant resource savings may be possible. While we recognise that there may be an inherent limitation with the accuracy of information derived from HES data, it is the only source available to evaluate day case rates on a national basis, and its accuracy relates to information submitted directly by hospital trusts.

Delivering emergency day case surgery for patients presenting with perianal abscesses has the potential to release an additional 9,000 bed days per year compared with current practice. The challenge now is to move from theoretical knowledge to implementation. Failure to develop this pathway may relate to a lack of priority attached to this condition, especially in busy hospitals and where surgeons have not yet separated their emergency and elective workloads. In Conaghan’s study [2], one of the reasons why the daycase pathway was thought to be successful was that it did not involve any additional work for the surgical registrar; once the diagnosis was made and systemic sepsis excluded, the administration of the patient’s care pathway was passed to staff in the Day Surgery Unit, or the out of hours bed management team.

Managerial and public awareness of the pressure on emergency services in the NHS has increased over the last year, and an alternative approach to facilitating timely care is one way to help relieve this pressure. In London, new quality standards for acute care have been agreed by commissioners and include a standard promoting ambulatory emergency care for both medicine and surgery [17]. The analysis presented in this paper provides an opportunity for clinicians to make the case for implementing such change to both raise quality and improve productivity in their local health economy. Uptake of the opportunity can also be encouraged by hospital managers and Clinical Commissioning Groups, developing an easily monitored measure that has the potential to improve the care pathway for patients and reduce the demand for hospital beds. NHS Evidence, part of the National Institute for Health and Care Excellence (NICE), has published ‘Emergency day surgery’ as an example of a process that can both raise the quality of care and improve productivity [9].

## Conclusion

Emergency day surgery for patients with peri-anal abscesses without systemic sepsis is an evidence based practice that can provide high quality patient-centred care and improve productivity. Nevertheless it has not yet been fully implemented across England. As surgeons and managers pay increasing attention to emergency care pathways, this is a relatively “easy win” for patients and for hospital Trusts.

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