A study of postoperative pain following day-case hernia repair
Wire localised, wide local excision of breast tumour under local anaesthesia: a case report
The development and evaluation of a new blended learning ambulatory surgery nursing course
Running a financially viable hernia service in the era of best practice tariffs
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South Devon Healthcare NHS Foundation Trust and
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Clare Hammond
Ward Sister, Surgical Day Unit
University Hospital of North Staffordshire
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Goodbye 2011, I believe that few of us will mourn the passing of this last year. It has been a most trying year, marked for many by upheaval and both personal and organisational uncertainty.

At our most optimistic, for those of us committed to service improvement in this age of parsimony, we are destined to view 2012 as an opportunity to attempt to harvest quality innovation from remorselessly decreasing resources.

I take this opportunity to wish you all the very best for what we are warned will be most challenging times for the delivery of healthcare and individual self-fulfilment.

As I am writing this, I have an ear glued to the BBC interview with Mike Farrar, Chief Executive of the NHS Confederation. Hence the title of this script is “no bed like your own bed”. I ponder has this not been the BADS battle cry for the last two decades. He reminds us that NHS services could be provided with improved outcomes in patients homes in the efficiency drive to save £20 billion by 2015. Is this not exemplified by recovering from your day surgery or medical intervention in the comfort of your own home?

I hope that the nascent commissioners take time out to read the new BADS specialist handbook “Day Surgery”. Many of the answers they seek to service re-birth can be found within the covers.

In the President’s Letter, Ian Smith describes in detail how it came into being and acknowledges the many who contributed. I am taking this opportunity to highlight his enormous contribution to the work.

I have learned to appreciate that one of the greatest challenges in such an undertaking is standardising the literary style. This is largely to be attributed to Ian.

Continuing in the theme of recovery from surgery at home, Rana et al. remind us of the need to ensure that to stay at home after discharge our patients need to have adequate analgesia following hernia repair. Their work is reassuring that both client outcomes and experiences proved acceptable.

I always feel that whenever cash is in short supply that education is the first element of the NHS to take the financial hit. Tarling describes an approach to delivering a day surgery specific training package for nurses. This is a project in development and this early paper has whetted my appetite for a future bulletin describing a long term evolution.

In their case presentation, Pollard et al. have again demonstrated that in the UK we have perhaps become too dependent on general anaesthesia. As demonstrated in other areas of surgical care, if in the most medically vulnerable of patients the procedure can be completed under local anaesthesia then why are the healthy denied similar care? It also prompts another question – if we are uncertain whether general anaesthesia has a negative effect on cancer prognosis will local anaesthesia be the future choice for cancer surgery where technically possible?

That does then bring us to the costs saved by avoiding a general anaesthetic.

Explicit in the paper by Kreckler et al. in their aspirations to deliver a financially viable comprehensive hernia service is reserving general anaesthesia for those patients who clinically require it. The additional costs sustained are to be offset by financial surplus generated from local anaesthetic hernia repair under the Best Practice Tariff model of payment.

Finally, I am pleased to include the results of the website questionnaire by Armstrong et al. that was undertaken at the Annual Scientific Meeting at Leeds Armouries in June. The feedback that you provided is greatly appreciated and will be a major guide for future development.

Wishing you a happy and successful New Year

BILL HORTON

References

1. “NHS services could be provided at home in efficiency drive”. Interview with Mike Farrar CBE Chief Executive: NHS Confederation. www.bbc.co.uk/news/politics, 29 December 2011.


Presidential Letter

IAN SMITH

For me, the highlight of 2011 must surely be the final publication of “Day Case Surgery” in the Oxford Specialist Handbook series. This book has taken a couple of years to complete and has been written by many current and recent members of BADS Council, as well as other experts who have been frequent contributors to our association meetings and handbooks. We have also spent a lot of time editing this multi-authored work so that it has a consistent style and philosophy, thereby representing the collective view of our association.

We are fairly confident that this book fills an important gap in the market. There has not been a new British day surgery textbook for over ten years, during which time there have been enormous changes in our speciality. Furthermore, these earlier books, as well as more recent Scandinavian offerings, have focussed almost exclusively on anaesthesia and analgesia. In contrast, just like the ethos of BADS itself, this new publication is a truly multidisciplinary work, which devotes equal importance to surgical, nursing and anaesthetic aspects of care. The book starts with an overview of ambulatory surgery and a very forward looking chapter on the organisation of ambulatory services. Several chapters deal with preoperative assessment, selection criteria, general, local and regional anaesthesia as well as sedation, perioperative analgesia and the management of postoperative complications. The main focus of the book is on adults, but this is supplemented by a very comprehensive chapter on paediatric day surgery. A large chapter on surgical procedures is subdivided into nine different specialities and provides practical advice on managing a wide range of common, and not so common, day surgery procedures. While the focus of this section is predominantly surgical, specific aspects of the anaesthetic and nursing care are also highlighted where these are fundamental to the overall management of the procedure. Nursing care is further and more broadly described in two dedicated chapters, one focussing on the basic principles, the other concerned with managing more advanced day surgery procedures. This is in turn supported by chapters on pushing the boundaries of day surgery and future developments in the speciality. BADS places considerable importance on the views of our patients and values lay input into the association. These aspects also feature heavily in the book, with chapters on outcome measures, patient safety and the patient’s experience. Finally, the book concludes with a chapter on teaching and training in the day unit. As with the rest of the book, this too is multidisciplinary and looks at how we teach future generations of nurses, surgeons, anaesthetists and medical students.

It had originally been our intention to publish a BADS textbook of day surgery, but the financial risk of printing and distributing such a work on our own was thought to be too great, so we decided to “sell” the concept to an established publisher, in this case the prestigious Oxford University Press. This decision means that the association will not directly profit from sales of the book, but it also protects us against any potential losses and means that we have the marketing might of a large publisher to distribute the book widely and thereby spread our influence further. Although clearly part of the OUP brand, this is still very much a BADS book, with the association logo proudly and prominently displayed on the front cover. Working with a publisher also meant adhering to an existing style and format, but this could not have been better, as the style of the Oxford Specialist Handbooks is almost exactly what we had in mind from the earliest concept. This book is small and concise, fitting easily into a jacket pocket or briefcase, yet is packed with practical help and advice. Instead of a heavily referenced, lengthy academic debate on the pros and cons of every issue, what you will find is a clear step by step guide of how to do it, written in concise terms by authors with copious practical experience in their fields. As many of the authors are leading day surgery practitioners who are actively and continually advancing the frontiers, it is also bang up to date. This is the essence of modern day surgery, distilled into small and manageable sections, each supported by suggested further reading for those who also want to see the underlying evidence.

We hope the book will be useful to surgeons, anaesthetists, nurses and all students working in elective short stay surgery and should also prove to be a useful reference to keep on the day surgery unit. It should be widely available by the time you read this.

IAN SMITH
A Study of Postoperative Pain Following Day-Case Hernia Repair

TAHAWAR A RANA & JACOB A AKOH

Keywords: Hernia repair; Day case surgery; Postoperative pain; Local anaesthetic.

Abstract

Purpose: To prospectively explore the severity and duration of acute pain following ambulatory hernia repair.

Methods: Fifty-four patients with abdominal wall hernia repairs between October 2006 and January 2007 were included. The types of hernia, anaesthetic techniques, the “time to rescue” and the “time to discharge” were recorded prospectively. The subjective pain scores after surgery, on days one to seven and day 28 postoperatively were analysed.

Results: All 50 patients planned as day-cases (93% day case rate) were discharged on the same day (100% success rate). Local anaesthesia was used for hernia repair in 37 patients (69%). The mean pain score decreased from 3.5 on day one to 2.1 on day seven. The median “time to rescue” was 225 minutes, while the median “time to discharge” was 125 minutes. Fourteen (26%) patients still had residual discomfort on day 28.

Conclusion: The majority of groin herniae can be repaired as day case under local anaesthesia with satisfactory pain control after discharge.

Introduction

Day case repair of groin herniae is rapidly becoming established as the gold standard of care with numerous advantages including shorter hospital stay, lower bed occupancy and improved patient satisfaction. Though local, regional and general anaesthesia have been employed for hernia repair, local anaesthesia (LA) is emerging as a clear choice and this has notable implications where resources are limited. This study prospectively assessed the severity and duration of postoperative pain following ambulatory hernia repair in a centre with a well established hernia service.

Methods

Fifty-five consecutive hernia repairs at Derriford Hospital, Plymouth over a three-month period between October 2006 and January 2007 were included in the study. These patients were firstly seen at an outpatient clinic where the need for surgery and the type of anaesthesia were discussed. Small to moderate fully reducible hernias were deemed suitable for repair under local anaesthetic (LA). This was followed by a telephone health questionnaire conducted by a pre-assessment nurse. The technique used was the open tension-free repair with or without a mesh. LA was used for most cases but general anaesthesia (GA) was used either according to patient’s preference, for large hernias or in obese patients.

All the procedures were performed in an ambulatory day case setting. On arrival at the centre, patients were admitted by the day-case theatre nurse, seen and consented by the surgeon, with appropriate marking of the relevant site/side of the operation. For those undergoing repair under LA, this was administered in the anaesthetic room before the patient was transferred into theatre. The LA technique used in this series consisted of a mixture of 0.25% levobupivacaine mixed with 1% lignocaine with or without adrenaline (1:200,000) infiltrated to block the ilioinguinal and iliohypogastric nerves (near the anterior superior iliac spine), the genital branch of the genitofemoral (near the pubic tubercle) and to all layers starting at the internal ring to the skin along the proposed line of incision. Patients who wished, were given 2–4 mg midazolam IV to provide awake sedation. Top up LA in the form of 1% lignocaine was given during surgery where necessary. At the end of the procedure patients were transferred to the recovery room and given a cup of tea.

The patient was asked about any pain pre-operatively and then assessed immediately after the operation, 1 hour post-operatively, and upon discharge. The ‘subjective pain score’ was used on a scale of 0–10, where zero = ‘no pain’ and 10 = ‘worst pain ever’. The time from surgical closure to discharge was recorded. The ‘time to rescue’ (defined as

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the time in minutes from completed surgical closure to when patients requested or self-administered analgesia) was also recorded. If analgesics were not required prior to discharge, the patient was asked to record the time at which analgesics were taken and this was confirmed by telephone on the following day.

Plans were made to admit patients who had a complicated operation or postoperative problems (nausea, vomiting, severe pain). Otherwise they were discharged home with an ‘analgesia pack’ consisting of Diclofenac, Co-codamol, Ibuprofen, Paracetamol and Tramadol, either singly or in varying combinations according to the surgeon’s preference. No follow up with the surgical team was scheduled routinely and all patients were asked to visit their General Practitioners at four to six weeks for a review. The hernia nurse specialist contacted patients by telephone daily for the first seven days and then on day 28 to ascertain pain severity and other complications. If necessary, patients with significant wound problems were referred to the relevant surgeon in the outpatient clinic.

Information on each case was collected prospectively and entered into a proforma designed for this study. This included: age, sex, type of operation, type of anaesthesia, pain scores, time to rescue and time to discharge (from end of surgery time to patient discharge), time and date of discharge, and medications prescribed and given for peri-operative and post-operative analgesia. The data collected was analysed separately for patients who underwent operations under LA, GA + LA or GA alone.

Pain scores were interpreted as follows: 0 = no pain, 1–3: mild pain (not requiring analgesia); 4–7: moderate pain; and 8–10 was regarded as severe pain (would warrant conversion to GA peroperatively, delay discharge from hospital and merit follow up by the surgical team).

### Results

Fifty five hernia repairs were carried out in 54 consecutive patients during this period: one patient had bilateral repairs. Of these, 46 (85%) were male and 8 (14%) were female. The median age was 55 years (range 19 to 86), with 9 patients (17%) over 65 years of age. Forty four (80%) herniae were inguinal, eight (14.5%) were umbilical/paraumbilical, with one femoral, one epigastric and one incisional hernia. Three of the 44 inguinal herniae were recurrent. All the operations were performed by two general surgeons.

All 50 (93%) of the 54 patients who were planned as day-cases were discharged on the same day giving a 100% day case success rate and a 93% day case rate overall. Pre-operative Diclofenac (50 mg) was prescribed and administered to 45 (83%) patients, with 2 (4%) receiving Paracetamol alone, whereas 7 (13%) patients received no pre-operative analgesia. All patients were prescribed postoperative analgesics with Co-codamol and Ibuprofen being the commonest combination (Table 1). The type of anaesthesia employed is shown in Figure 1. Thirteen of the 17 patients requiring GA also received LA peroperatively (GA + LA group) while 4 did not (GA alone group). None of the patients operated under LA were converted to GA.

Two patients (3.7%) experienced post-operative nausea. One had been operated under LA and the other under

| Table 1 Drugs used to achieve post-operative analgesia in 54 patients. |
|------------------|----------------|-----------------|------------------|
| Analgesic agent | Dose           | Number of patients | Percentage of patients |
| Co-codamol      | 30mg /500mg    | 51               | 94%              |
| Ibuprofen       | 400mg TDS      | 45               | 83%              |
| Opiates (e.g., Tramadol) | 50mg TDS | 7               | 13%              |
| Paracetamol     | 1g QDS         | 4                | 7.4%             |

![Figure 1 Type of anaesthesia used.](image-url)
GA, and only one of the two had been given opiates postoperatively. The overall mean pain scores immediately post-operatively, one hour post-operatively and on day one were 1.2, 1.0 and 3.5 respectively (Table 2 and Figure 2).

For patients who were operated under local anaesthesia, the mean pain scores over the first 7 days after surgery steadily fell from 3.6 on the first postoperative day to 2.0 on the seventh post operative day. Patients who had GA with LA infiltration had similar scores: 3.4 on day one and 2.2 on day seven (Figure 2). All patients were successfully contacted at four weeks, but on two earlier occasions patients could not be contacted (one patient on day 4 and one patient on day 7).

At 28 days, 13 (26%) patients had some residual discomfort but pain-score ratings were not taken. Discomfort was present in 22% of the LA group, 23% of the GA + LA group and 50% of the GA alone group. The median ‘time to rescue’ was 225 minutes, whereas the median ‘time to discharge’ was 125 minutes (Table 3). Only patients not receiving any type of LA had a median time to rescue shorter than the time to discharge.

### Table 2 Mean postoperative pain score ratings (out of 10) post-operatively according to type of anaesthesia.

<table>
<thead>
<tr>
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<th>Immediate</th>
<th>1 hour post-op</th>
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<tbody>
<tr>
<td>LA</td>
<td>0.5 [± 1.52]</td>
<td>0.5 [± 1.28]</td>
</tr>
<tr>
<td>GA + LA</td>
<td>3.2 [± 2.77]</td>
<td>2.6 [± 1.89]</td>
</tr>
<tr>
<td>Mean pain score</td>
<td>1.2 [± 2.27]</td>
<td>1.0 [± 1.72]</td>
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</table>

### Figure 2 Mean post-operative pain scores (out of 10) for the first seven days after hernia repair according to the type of anaesthesia.

### Discussion

Hernia surgery is still the most commonly performed general surgical procedure with over 100,000 inguinal hernia repairs being performed in the UK each year. The Royal College of Surgeons England recommends that at least 50% of groin hernias repairs should be performed under LA, while the British Association of Day Surgery (BADS) recommends that 95% of primary inguinal hernia repair should be performed as day case. Excluding the one incisional hernia and three recurrent hernias in this series, a 100% day case rate was achieved for primary abdominal wall herniae. Though LA repair rates are low (<18%) in many European countries and 22% in Ghana, an LA rate of 69% exceeds the 50% recommended by the Royal College of Surgeons of England and approaches the rates reported in specialist hernia centres.

Good analgesia was achieved with LA during surgery in our series, and no patients had to be converted to GA due to inadequate pain control. This is probably a result of detailed discussions with patients preoperatively and selection of patients with smaller hernias and excluding obese patients. Similar results have been reported from Jerusalem with zero conversion to GA, but other series quote rates of conversion from <1% to 7%. However, one study demonstrated higher intraoperative pain with LA compared to regional anaesthesia, even though it was mild to moderate and mostly during infiltration. Ilioinguinal block as utilised in this series has been shown to reduce intraoperative pain.

Most studies have concentrated on chronic residual pain (more than three months after hernia repair) with little information on acute pain after hernia repair. This study specifically looked at this and its effects on analgesic prescription and time of discharge. Although the visual analogue score (VAS) is considered a more appropriate method of assessing pain than the subjective verbal score, the latter was employed in this study as the VAS could not be easily assessed over the telephone. Patients were adequately counselled with respect to scoring for severity.
of pain. Immediate and one hour postoperative mean pain scores in the LA group were significantly better than the other two groups (GA alone and GA + LA). This is in keeping with reports by other authors16–20. The use of a long-acting local anaesthetic is probably accountable for the longer median time to rescue (230 minutes) in those operated under LA compared to GA patients with or without infiltration of LA (180 and 120 minutes respectively). It is not clear why the time to rescue was shorter for the GA + LA group than the LA group in this study. Perhaps the quantity of anaesthetic infiltrated [less in this case] and the technique [more likely to be wound infiltration rather than nerve block] may be important factors. As in this study postoperative pain can be significantly reduced by the infiltration of LA at the end of a procedure carried out under GA18. The unusual finding of a higher immediate postoperative pain score (3.2) in GA + LA group compared to GA alone (1.5) is probably due to the small number of patients involved.

With appropriate analgesic management and patient counselling prior to the procedure, pain did not hamper discharge following hernia surgery. The median time to discharge for all groups was 125 minutes. Forte et al19 were able to significantly reduce hospital stay with the use of LA, while other authors have been able to achieve mean discharge times of under two hours [106 minutes]21. LA facilitates early patient mobilisation and discharge, with fewer complications than spinal anaesthesia16. While early return to work is attributed to the use of LA, counselling about the procedure also helps significantly in preparing the patients about what to expect19. All our patients had a detailed briefing with a doctor or a hernia nurse specialist on the day of the operation, and the daily communication over the telephone for the first week after the operation potentially helped as well. Millikan and Doolas20 used LA with sedation in 2000 patients and showed that 95% returned to normal activity in 3 days and only 18% required prescription of pain medication. In our series the mean pain score was 2.5 (median score 2) by day three (Figure 2), meaning the vast majority of patients did not require analgesia beyond this. Beyond the first week the mean [and median] pain scores had fallen to 2 signifying more of a discomfort than actual pain. It is interesting that none of the patients in this series complained of significant pain at 28 days postoperatively.

The average age of the patients in our series was 53 years with 6 [11%] above 75 years of age, with all patients tolerating day case surgery well and good pain control after operation, including under LA. Older patients typically experience less pain after day case surgery when compared to younger patients5, and it is a safe option in the elderly, without requiring sedation or extensive monitoring21. Age alone does not need to be a contraindication to day case hernia repair provided home circumstances allow.

This study confirmed that most groin hernias can be repaired as day cases following careful planning:

• confirmation that social circumstances are conducive to ambulatory surgery.
• surgical assessment.
• telephone pre-assessment.
• well informed patients and carers.

The results of this study may provide a suitable catalyst for the development of a ‘see and treat’ practice for hernia repair.

Acknowledgements

We acknowledge the contributions of Christine Porter, Hernia Nurse Practitioner, Plymouth Hernia Service for collection of data and telephone contact with patients, as well as Dr Felicity Fitzgerald and Dr Toby Winterbottom for data collection.

References


DAY CASE SURGERY

This specialist handbook is the culmination of collaboration between the British Association of Day Surgery and Oxford University Press.

The editors, Smith, McWhinnie and Jackson, have recruited experts from around the world to deliver an up-to-date and comprehensive guide to all that is best practice in Day and Short Stay Surgery.

Contents

- Origins and importance of Day and Short Stay Surgery and its benefits to health economies.
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- The selection and delivery of the differing modalities of anaesthesia to facilitate surgery.
- Post operative care, complications and follow-up thereafter.
- Issues specific to the various types of surgery.
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- Workforce issues and organisational development.
- Developing the required facilities.
- Pushing the boundaries and evolving to meet future challenges and developments.

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The questionnaire we circulated at the Leeds meeting this year represented a first attempt at getting some broad feedback on our website from both members and non-members. Whilst the number of returned questionnaires was small we considered it appropriate to report on the findings in the *Journal* and these are summarised in the tables overleaf, and text below.

Table 1 deals with specific questions asked in the questionnaire.

Clearly this is a biased sample that completed the questionnaire but nevertheless some broad themes did emerge. There was a high awareness of the website: with the majority of respondents having visited it. There does not seem to be an appetite for a separate electronic newsletter but many would wish to see some form of e-learning modules and information about ‘how others do it’.

The questionnaire also had a free text section about likes, dislikes and what respondents would like to see on the website. The general themes emerging from this section are summarised in Table 2.

Finally, we are extremely grateful to those who took the time in a busy programme at the meeting to complete the questionnaire. We are carefully considering these responses and would enthusiastically invite any further comments on the website.

**Ian Armstrong**  BADS Council  
**Lawrence Rowe**  BADS Webmaster  
**Bill Horton**  Editor JODS

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**Authors’ Addresses**  
British Association of Day Surgery, 35–43 Lincoln’s Inn Fields, London WC2A 3PE
**Table 1** Results of Website Questionnaire specific questions, Leeds Meeting 2011.

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**Table 2** Free text comments, Website Questionnaire, Leeds Meeting 2011.

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Wire localised, wide local excision of breast tumour under local anaesthesia: a case report

JENNIFER POLLARD, ANU SHROTRI & BILL HORTON

Keywords: breast cancer, local anaesthesia, co-morbidities, wide local excision.

Abstract
For patients afflicted with breast cancer and other significant co-morbidities, the authors would like to promote an alternative lower risk strategy to general anaesthesia for wide local excision of breast tumours. A similar approach could also benefit those patients with a morbid fear of general anaesthesia.

Introduction
Wide local excision is a breast conserving procedure offered to women with suspected or confirmed breast carcinoma: this enables removal of the lesion without resorting to mastectomy. In non-palpable breast carcinomas, wire localisation is used to pinpoint the lesion. This aids the surgeon to successful remove the carcinoma. A wire is inserted into the area of suspicion under x-ray guidance to ensure the correct area is eradicated. The breast surgeon will then excise the tissue with the wire, and a margin of healthy tissue to ensure complete elimination of the lesion. In the United Kingdom, this is a procedure that is routinely performed under general anaesthesia. It requires tunnelling through the breast tissue to perform extensive dissection, and therefore has the potential to be a very painful procedure. In patients with significant medical co-morbidities, a general anaesthetic can prove highly problematic and a life-threatening risk in its own right. Operative treatment might be avoided on balancing the relative risks and benefits. An alternative is treatment with primary endocrine therapy, which is proven to be effective but is not the therapeutic pathway of choice. Although primary endocrine therapy is largely successful, there is a significant possibility that it might fail at some point in the future. In our organisation, breast cancer surgery is not routinely performed under local anaesthesia. However, in patients whose co-morbidities place them at high risk of morbidity or perhaps mortality consequent to general anaesthesia, could this be an alternative to enable curative surgery for their cancer? We present a case summary of a wire localised, wide local excision of breast tumour performed under local anaesthesia facilitated by conscious sedation.

Case report
MB was a 54-year-old lady
Her past medical history included bronchial asthma complicated by smoking induced severe COPD.

She continues to smoke despite her stated endeavour to stop.

She has been intermittently under the care of the chest physicians for over a decade.

A bronchoscopy, performed in 2000, proved unremarkable. At best, her exercise tolerance was 20 yards; she was rendered exquisitely short of breath by a flight of stairs and needed 3 pillows to sleep at night.

Occasionally she could barely manage to walk around the house to perform basic activities of daily life without getting very breathless.

She suffered from repeated chest infections.

Her initial presentation to the breast clinic was in 2003 with a family history of breast carcinoma – 2 sisters developed breast cancer aged 41 & 61. She was assessed as medium risk for developing breast cancer in the future. In 2007 a third sister developed breast cancer at the age of 56.

Surveillance mammography in March 2010 detected new microcalcification in her right breast. She was seen in the Joint Care Clinic where she underwent physical examination and subsequent radiological and cytological
assessment. A stereotactic core biopsy was also performed and histology results showed Ductal Carcinoma In-Situ (DCIS). The results were explained to the patient and her family, and her treatment options were discussed. Her treatment was fast tracked onto the earliest available operating list.

Initially she was listed for a wire localised wide local excision under a general anaesthetic. However, this was reconsidered on the day of surgery. The patient herself was extremely fearful of undergoing general anaesthesia and was fully aware of the risks this would pose to her chest. After a full and frank discussion between the clinicians and the patient, it was decided to proceed with the operation under local anaesthesia facilitated by conscious sedation. The patient was counselled extensively regarding how the procedure would be performed, how she would receive the anaesthetic and the risks involved. After this comprehensive dialogue, the patient readily agreed to have the procedure performed under local anaesthesia. The operation was performed as a collaborative effort between the anaesthetist, the surgeon and the theatre staff in an isolated day surgery centre.

The Operation: wire localised, wide local excision of right breast tumour under local anaesthesia.

Procedure

The local anaesthesia technique employed was one of progressive tissue infiltration with 0.25% bupivacaine to a total dose of 40mls.

Skin incision and excision of the mass were performed without untoward event. Specimen x-ray showed the lesion was close to medial and inferior margins, so an inferior cavity shave was undertaken.

The defect was closed with 3-0 Vicryl to subcutaneous tissues and 3-0 Vicryl interrupted sutures to skin.

Pressure dressing was applied to area and left in situ for 24 hours.

Conscious Sedation

Breathlessness required that the patient be transferred by wheelchair the 20 or so yards from the day ward to the anaesthetic room.

Peripheral intravenous infusion and routine physiological surveillance were established.

The latter included pulse oximetry, three lead electrocardiography and intermittent non-invasive blood pressure readings.

Supplementary oxygen was delivered by nasal speculae.

Increments of fentanyl [total dose = 100 micrograms] and propofol [total dose = 60 milligrams] were used to assure anxiolysis and ameliorate pain during the injection of local anaesthetic agent.

Verbal contact was maintained with the patient throughout the operative journey.

The patient was entirely comfortable throughout the procedure and did not voice any dissatisfaction.

She had no complaints after the procedure was completed and stated that she was very pleased to have been offered the option of surgery under local anaesthesia.

She encouraged the authors to publish this case report that other patients might benefit from her very positive experience.

Conclusions

Given the success of this procedure, particularly the patient’s satisfaction, it raises the possibility of performing more wire localised wide local excisions under local anaesthetic in patients for whom general anaesthesia represents additional and avoidable risk.

MB is not alone in having a greater fear of the general anaesthesia than the surgery. It is believed that more than 30% of patients are of similar mind and there is a belief that failure to attend on the day of surgery is a significant consequence.

References

BADS ASM 2012
21–22 June 2012
Torquay
Riviera International Centre
Theme: “Challenges in Day Surgery”
Call for Abstracts
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The development and evaluation of a new blended learning ambulatory surgery nursing course

MAGGIE TARLING

**Keywords:** Ambulatory Surgery: Day Surgery; Nurse Education; Blended Learning; Distance Learning.

**Abstract**

Nurses make an important contribution to the care of patients in the day surgery setting. This includes nurse led pre-assessment, surgical nursing care pre and post operatively, intra-operative care, and nurse led discharge. With the increasing demand for day surgery and the limited availability of education provision for day surgery nurses a short training course was developed. The aim was to provide nursing staff with up-to-date, evidence based knowledge of nursing practice within day surgery. A blended learning approach was taken with the course running over 4 Saturdays. The first course ran in September 2010 and had a total of 11 students attending from several different London NHS Trusts. The course was positively evaluated by students and participating Trusts. The course has now been expanded and a distance learning course has also been developed. Future work will focus on the evaluation of the impact of this educational approach on nursing practice.

**Introduction**

This short report describes the development of and initial evaluation of a new blended learning ambulatory surgery nursing course. Day or ambulatory surgery offers timely and effective treatment that is highly valued by patients. The provision of day surgery has expanded significantly with the evolution of surgical techniques and the need for healthcare organisations to provide timely and efficient surgical treatments. In recent years government policy expectation has been that day surgery should be the preferred option for all surgical patients. Despite the challenges of the recent Comprehensive Spending Review and the uncertainty of how this will impact upon the provision of healthcare, day surgery specialities are well placed to continue to deliver cost effective surgical care and indeed it could be argued that this area may see continued expansion.

Nurses make a significant and important contribution to the care of patients in the day surgery setting and take on multi-skilled roles within the day surgery context. This includes nurse led pre-assessment, surgical nursing care pre and post operatively, intra-operative care, and nurse led discharge. In an audit of 247 day surgery units in the UK, Mitchell found that there was very little evidence of effective nurse education programmes of study available to equip nurses for practice in day surgery. The findings indicated that 90% of staff nurses had not undertaken any formal education in day surgery since qualification despite working in the environment. The results indicated that many units depend upon education provision focused on in-patient care rather than the unique considerations found within the day surgery setting. Clearly there has been little investment in education and there are few Higher Education Institutes in the UK providing education in this sector of healthcare. The absence of nurse education in both pre and post registration nurse training will have a negative impact on the potential for nursing to make a significant contribution to knowledge in this important and expanding area of healthcare. Indeed nursing engagement has the potential to contribute to our understanding of the physical experiences (pain and post-operative nausea and vomiting) and psycho-educational experiences (satisfaction, information provision, anxiety and recovery) of patients undergoing day surgical procedures. With the increasing demand for day surgery and the limited availability of education provision for day surgery nurses, a short course to run over one term was developed to provide nursing staff with up-to-date, evidence based knowledge of nursing practice within day surgery.

**Methods**

The course was designed as a degree level module of 15 credits that could be taken as a standalone learning unit or could be combined with other modules run within the critical care degree programme at the school. This allowed flexibility for students if they wanted to expand their education.

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their studies to a degree. The decision was made to take a blended learning approach with a combination of face to face tutorials and online e-learning material. The tutorials were delivered on four Saturdays over a term in order to ensure access for staff working within clinical areas that deliver a Monday to Friday service. The course comprises sections on pre-assessment, anaesthesia and peri-operative care. Also included are the principles of minimally invasive surgery; surgical nursing care and effective discharge planning. The course was assessed with an academic reflective piece of work. This required the students to reflect upon practice and provide a clear rationale and evidence base for the care provided for patients in their areas and the completion of a competence document that assessed their clinical skills. This was completed by their mentor in practice. Table 1 shows the learning outcomes identified for the course. The first course ran in September 2010 and had a total of 11 students attending from several different London NHS Trusts.

**Results**

Following the delivery of the taught component of the course, the students and representatives from the participating Trusts were asked to evaluate the course.

Overall the students reported that they had enjoyed the course and felt that it was highly relevant to their clinical practice. They found the tutorials useful and particularly valued meeting colleagues from different Trusts and gaining insight into how day surgery is delivered in different organisations. Most students found the Saturday attendance valuable though there were a few students who would have preferred a weekday attendance. There were some technical problems with the e-learning platform and some students had problems accessing the system. These issues have now been resolved.

Feedback from the participating Trusts indicated that these organisations valued the content of the course and the availability of a Saturday study day provided the flexibility to allow more staff to attend. In the light of this experience and the feedback, further developments of the course have been undertaken.

**Discussion and conclusion**

The experience of undertaking the development and delivery of the first course illustrated the need for specialist education provision for day surgery nursing. Feedback from the students and from the participating Trusts was

<table>
<thead>
<tr>
<th>Table 1 Learning outcomes of the day surgery nursing course.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes</td>
</tr>
<tr>
<td>• Critically examine the evidence-base literature.</td>
</tr>
<tr>
<td>• Utilise an approach to care that reflects the knowledge and skills required to deliver effective communication with the patient/client/family and members of the healthcare team.</td>
</tr>
<tr>
<td>• Contribute towards a culture in which diversity, with regards to both clients and colleagues, is respected and equality is evident.</td>
</tr>
<tr>
<td>• Critically review and judge the evolving role of the ambulatory surgical care nurse.</td>
</tr>
<tr>
<td>• Evaluate the moral, legal, ethical and political implications of ambulatory surgical care nursing practice.</td>
</tr>
<tr>
<td>• Debate the strategies that may be employed to ensure effective and careful resourcing, whilst maintaining the quality nursing care.</td>
</tr>
<tr>
<td>• Analyse how competent leadership can facilitate positive and clear roles for professionals within ambulatory surgical care setting.</td>
</tr>
<tr>
<td>• Facilitate learning with clients, students and colleagues.</td>
</tr>
<tr>
<td>• Appraise the knowledge and skills required for inter-professional collaboration in ambulatory surgical care.</td>
</tr>
<tr>
<td>• Clinical competence including complex and critical decision making relating to the assessment planning and delivery of nursing care within the ambulatory surgical care setting.</td>
</tr>
</tbody>
</table>
positive and that the course content was highly relevant for nursing practice in day surgery. The Saturday provision was seen as useful and the blended approach proved a valid method of delivery. The experience did highlight problems with electronic systems and has stressed the importance of addressing Information Technology issues early on in the course.

Table 2 lists the developments that have taken place since the delivery of the first course. The intention is to deliver a wider range of provision in the speciality in a flexible way. Therefore the course has been expanded to include a 30 credit course with a more detailed clinical component. A shorter 15 credit course has been developed as a theory only course that could be delivered at a distance with academic support. The e-learning provision continues to be developed to support both courses. A small pilot of the use of the professional networking site LinkedIn is being undertaken. The proposal is to provide ongoing professional support and networking for registered nurses who have attended the course and to open this resource for participating students. The aim is to discuss up-to-date developments in the area of day surgery nursing.

Though the experience has been positive it is acknowledged that there are some limitations to this small evaluation reported here. The evaluation focused primarily upon how students had felt about participating in the course and the feedback from the Trust representatives was based upon general comments. However, future work will focus upon a more comprehensive evaluation looking at the impact that this education experience has upon nursing practice. A fuller evaluation of the use of LinkedIn to support registered nurses following participation on the courses will be undertaken.

Table 2  Education developments for the day surgery nursing course.

<table>
<thead>
<tr>
<th>Day Surgery Nursing Course Developments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The development of a 30 credit course.</td>
</tr>
<tr>
<td>• The development of a 15 credit theory only course.</td>
</tr>
<tr>
<td>• The development of the 15 credit course into a distance learning module.</td>
</tr>
<tr>
<td>• Further development of the e-learning material.</td>
</tr>
<tr>
<td>• The development of an ongoing forum on the professional networking site LinkedIn.</td>
</tr>
</tbody>
</table>

References

3. NHS Institute for Innovation and Improvement. Day surgery: Treat day surgery as the norm. 2008 Available at: http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/day_surgery__treat_day_surgery_as_the_norm.html [accessed August 2011].
Running a financially viable hernia service in the era of best practice tariffs

SIMON KRECKLER, DOUG McWHINNIE, HARMEE T KHAIRA & IAN JACKSON

Keywords: Comprehensive Hernia Service, Best Practice Tariff.

Abstract

A prime purpose of the Payment by Results (PbR) initiative is to incentivise quality and better outcomes. Best Practice Tariff (BPT) intends to reward providers for quality of care rather than simply pay an average price. It is acknowledged that day surgery delivers both quality and is cost effective. Subsequent to the successful pilot of incentivising the day case model for cholecystectomy in 2010, the programme is now expanded to embrace a further twelve day case procedures including hernia repair. However there are differences in clinical practice resulting in marked variation in costs and therefore financial viability. The authors describe the variation in cost consequent to the choice of hernia repair undertaken and anaesthesia employed. They introduce the concept of evolving a “comprehensive hernia service” within the Best Practice Tariff structure.

Introduction

The key aim of the Government’s Payment by Results (PbR) initiative is to “incentivise quality and better outcomes for patients”. For surgical procedures, the “Best Practice Tariffs” (BPT) model has evolved with the intention of paying providers according to the costs of excellent care, rather than average price. For an increasing number of surgical procedures there is mounting evidence that day case operating results in a better patient experience, is more cost effective and results in equivalent clinical outcomes. This led to the “incentivising daycase model” which was successfully piloted for cholecystectomy in 2010. This comprises a financial incentive for procedures performed on a daycase basis but not if performed with an overnight stay. As of April 2011 this has been expanded to a further twelve day case procedures.

One of the twelve procedures is inguinal hernia repair, for which the 2011/12 BPT for daycase repair is £1,126, the corresponding tariff for an overnight stay is £826. This is fixed regardless of the surgical approach. Current data indicates that of the 75,000 hernia repairs performed annually in the UK, 17% are performed laparoscopically and around 5% as an open repair under LA.

The aim of this study is to evaluate the comparative costs of providing inguinal hernia repair via different surgical approaches to facilitate a better understanding of the cost implications of running a comprehensive hernia service within the new BPT structure.

Methods

The mean index costs for four different approaches to inguinal hernia repair were gathered from six reference centres providing daycase surgery in the UK. From these figures, the average costs for Laparoscopic Trans abdominal preperitoneal repair (TAPP), Laparoscopic Transabdominal Extraperitoneal repair (TEP), open repair with General Anaesthetic (GA) and open repair with Local Anaesthetic (LA) were calculated. In addition, centres provided an estimate of the cost of an overnight surgical bed.

Variation in operating time was excluded from this analysis. For calculation purposes, it was assumed that 60 minutes of staff time would be required for all procedures including the anaesthetic. General hospital overheads have been excluded but are likely to account for about 5% of tariff remuneration.

As the reference centre costs were analysed, it soon became apparent that the main differences between centres were due to variation in mesh costs and the variable use of endoscopic devices (staplers/ balloon dissectors). Differences in staff costs and standard kit costs were negligible. Consequently, the average cost of staffing and equipping a theatre for each given procedure was calculated and fixed so as to simplify the cost calculation. The variable costs of mesh and endoscopic devices were analysed in their raw form. Therefore, the cost calculation used was:

Tariff Income - Fixed Costs - Variable Costs - overnight stay = Surplus/Deficit

Results

The cheapest option was open repair under LA. Requirement of a GA increased the cost by approximately 75%. Laparoscopic TEP repair was the most expensive option costing 2.5 times as much as open repair under LA.

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HARMEE T KHAIRA Consultant Surgeon, Good Hope Hospital, Heart of England NHS Foundation Trust.
IAN JACKSON Consultant Anaesthetist, York Teaching Hospital NHS Foundation Trust.

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Table 1 Tariff for daycase and elective hernia surgery\(^2\).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>HRG name</th>
<th>Daycase tariff (£)</th>
<th>Elective tariff (£)</th>
<th>Difference (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repair of hernia:</td>
<td>Major Co-morbidity &amp; Complication</td>
<td>1,118</td>
<td>818</td>
<td>300</td>
</tr>
<tr>
<td>- umbilical</td>
<td>Intermediate Co-morbidity &amp; Complication</td>
<td>1,126</td>
<td>826</td>
<td>300</td>
</tr>
<tr>
<td>- inguinal</td>
<td>No Co-morbidity &amp; Complication</td>
<td>1,124</td>
<td>824</td>
<td>300</td>
</tr>
<tr>
<td>- recurrent inguinal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- femoral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Completed costings sheet example.

<table>
<thead>
<tr>
<th>Pay/Non-Pay</th>
<th>Details</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay</td>
<td>1 x ODP (60 mins)</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>2 x Scrub - nurse &amp; assistant (60 mins)</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>1 x Circulating Nurse (60 mins)</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>1 x Anaesthetist (60 mins)</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>1 x Consultant Surgeon (60 mins)</td>
<td>75</td>
</tr>
<tr>
<td>Pay Total</td>
<td></td>
<td>230.00</td>
</tr>
<tr>
<td></td>
<td>20ml 5mg/ml Chirocaine</td>
<td>16.80</td>
</tr>
<tr>
<td></td>
<td>Propofol, opioid analgesia, enflurane or sevoflurane</td>
<td>108.39</td>
</tr>
<tr>
<td></td>
<td>General Basic Set</td>
<td>37.14</td>
</tr>
<tr>
<td></td>
<td>Low Fluid Drape</td>
<td>4.81</td>
</tr>
<tr>
<td></td>
<td>Hand held Diathermy [HCP-01 skintact]</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>Smoke evacuation tubing [E3590 Valleylab]</td>
<td>5.67</td>
</tr>
<tr>
<td></td>
<td>Light handle</td>
<td>1.07</td>
</tr>
<tr>
<td></td>
<td>1 Pack of 10 x 7.5 swabs</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td>20ml Syringe</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>Green Needle</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Discarder pad</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>Suction tube</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Scalpel</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>3/0 Monocryl [3207 Ethicon]</td>
<td>2.79</td>
</tr>
<tr>
<td></td>
<td>0 and 2/0 Polysorb Suture</td>
<td>1.11</td>
</tr>
<tr>
<td></td>
<td>Medium Mepore dressing</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>Ultrapro hernia system mesh [Ethicon] or Flat Ultrapro Mesh</td>
<td>114.36</td>
</tr>
<tr>
<td>Non Pay Total</td>
<td></td>
<td>295.72</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>525.72</td>
</tr>
</tbody>
</table>

Table 3 shows the cost of each procedure as well as the average surplus/deficit for each procedure performed as a daycase or as an overnight stay. The dramatic difference between daycase versus overnight stay is explained by the fact that the tariff is £300 less if admission is required and there is then an additional cost of funding the overnight bed as illustrated in Table 1. The average cost of an overnight bed was £275, however there was considerable variation (£150–£450). The variation in cost of Mesh and endoscopic equipment ranged from 25–100% of list price depending on local procurement contracts. Using these variable figures, a sensitivity analysis was performed to evaluate the range of different centre costs. This is illustrated in Figure 1.

**Discussion**

This current study provides benchmark costings for the different approaches to inguinal hernia repair. LA repair is the
most cost effective approach to hernia repair as it obviates the need for an anaesthetist and the associated drugs which accounts for around 40% of the cost of open repair under GA. Previous studies have suggested that laparoscopic repair is not cost effective compared to open repair. This present study similarly shows that laparoscopic repair is a more expensive option, however, there is still a surplus income of around £300 lower tariff payment and the overheads of the overnight stay means that the same procedure will generate around £575 [range £450–750] less income if not performed as a daycase. This is, of course, the intention of the BPT structure. But not all patients are clinically suitable for daycase surgery, and some patients will be better suited to laparoscopic as opposed to open repair [NB: the tariff for redo surgery is the same as primary repair]. It is therefore the responsibility of providers to plan delivery across a whole service rather than on an individual case basis. Overnight stays and laparoscopic surgery can be accommodated by offsetting these higher costs against more cost effective open daycase procedures. Across a whole service, there is sufficient redundancy to deliver laparoscopic to open ratios at current levels (approx 1:4) as long as daycase surgery is maximised.

The weaknesses of this study are in the assumptions that were necessarily made and the consequent impact on the precision of cost calculations. We have assumed that all cases take the same amount of time. It is unhelpful when planning a service to think in terms of minutes per case, it is however useful to think in terms of how many procedures can be undertaken on a given list. It may be that on a half-day list three open repairs could be performed versus only two laparoscopic ones. This would of course have a considerable impact on cost calculations. We have not attempted to include this in the calculation as it introduces too much variability. Similarly we have assumed that a consultant surgeon and anaesthetist will undertake the list, hernia lists are often run by middle grade surgeons and anaesthetists with lower pay rates. Even within the Consultant grade there is considerable variation in pay levels. We have also assumed that a laparoscopic stapler will be used for both TEPP and TAP repair and that a balloon dissector will be used for TEPP. Techniques have been reported which obviate the requirement for such expensive consumables in laparoscopic hernia surgery. Thus the exact cost of surgery can only really be evaluated at a local level according to local expertise available and the procurement contracts in place. However, within these limitations, this study provides the best estimate currently available of the cost of providing hernia services. Most importantly it highlights the relative cost differentials of the various options.

Beyond the case-by-case cost calculation, service planners will need to take account of other variables such as unanticipated overnight admissions which will have the corresponding impact on tariff payment, and readmissions within 30 days for which there is no payment. Hospital overheads should also be taken into account.

The findings of this study suggest that a cost-effective hernia programme requires maximum day surgery throughput, regardless of technique, with consideration to LA open repair where possible. Quality care, however, requires a clinician overview to allocate the appropriate patient to the appropriate technique. It is important that all those involved in service planning and delivery understand the new remuneration structure within BPT. Surgeons and managers can then work together to organise services to maximise returns by careful list booking and workforce planning. This will enable clinicians to provide more expensive services to those patients who need them whilst maintaining solvency in these increasingly austere times.

### References

Recovering at Her Majesty's Pleasure: JODS 21.3

Authors: Maronge et al.

Dear Sir

What an interesting topic. This paper raised for me a potential gap in our collective thinking.

I do not know a great deal about care in a prison setting. However, I know something of providing acute-care in a patient’s own home and in residential home settings. It occurred to me that there may be some crossover between these two areas.

The move to more ambulatory care is inevitable. And day surgery has been ahead of this trend for a quarter of a century.

Best practice necessitates discharge to a responsible adult. And as professionals we have worked hard to establish procedures, escalation routes and protective infrastructure that keep our patients safe whilst they complete their acute episode beyond the boundaries of the hospital.

When we transfer a patient from hospital to the care of a family member we are confident that that individual will be vigilant if not expert. When we discharge to a care institution such as a residential home, we have confidence in the professional expertise of carers and the infrastructure of both those institutions and the community care providers.

I was struck by the fact that a patient returned to prison from hospital may fall between all stools. Prison officers are not expert carers, cell-mates may not be motivated to be vigilant, and medical infrastructure may not be available around-the-clock.

Recent case law further complicates the question for clinicians by imposing a duty of care [with potential liability for damages] for prisoners with a medical condition.

I was further struck by the absence of guidance and quality standards in this area. It was the authors themselves who established safe practice and appropriate support for the prisons following an increase in ambulatory care and day procedures performed for prisoners.

It seems to me that this is an area of care to be taken seriously and one which deserves continued research, perhaps drawing comparisons between acute care at home and discharges made to prison.

Like prisons, residential homes are a supervised environment but their staff have a wildly different ethos, skill-set and access to supporting services.

Would we find infrastructure deficiencies in residential home care post day surgery?

Have we the right expectations of family members as carers in the patient’s home?

I enjoyed this paper and thank the authors for their ambition to quality-assure post-operative care for prisoners.

It has left me with an appetite for greater understanding of how care is assured in the three very different settings I have described.

James Heffron
Saigei Limited
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First published in 1989, the Journal publishes research, audits, innovative ideas and advances in procedures and techniques in the field of day- and short-stay elective surgery. It also contains articles by leading experts on a wide range of clinical practice, reviews of national policy and modernisation issues.

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A pre-warmed patient is a less vulnerable patient

What could effective
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A 2001 UK study of 421 clean surgery patients found that 14% of non-warmed patients developed surgical wound infections. In contrast, patients who received active pre-operative warming had an infection rate of just 5%.

And wound infections are just one of several adverse consequences of IPH. They add up quickly. NICE estimates the average cost saved by preventing IPH to be between £101 and £683 per patient.

Cost of adverse consequences of IPH:

<table>
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<th>Consequence</th>
<th>Cost (£)</th>
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<td>Surgical wound infection (major surgery)</td>
<td>3,858</td>
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<tr>
<td>Morbid cardiac event (cardiac arrest)</td>
<td>2,021</td>
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<tr>
<td>Mechanical ventilation</td>
<td>1,144</td>
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<tr>
<td>Hospital length of stay per day</td>
<td>275</td>
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Avoiding hypothermia is a lot less expensive. Pre-warming with the unique Bair Paws® forced-air warming gown reduces the core temperature drop nearly all surgical patients experience from anesthesia. The same Bair Paws® gown used for pre-warming can often be used for warming throughout surgery and recovery.

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