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A report of UK experience in 917 cases of day care foot surgery using a validated outcome tool

Anthony John Maher*, Stuart A. Metcalfe

Dept of Podiatric Surgery, Solihull NHS Care Trust, Chelmsley Wood Primary Care Centre, Crabtree Drive Chelmsley Wood, West Midlands B37 5BU, United Kingdom

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ABSTRACT

Background: Day case surgery is an increasingly important treatment modality and one that foot surgery is particularly well suited to.
Objectives: This article presents an in depth evaluation of the outcomes of day case foot surgery undertaken in the primary care setting.
Method: 917 consecutive day surgery cases were evaluated with the Foot Health Status Questionnaire (FHSQ), patient satisfaction questionnaires and complication audits.
Results: 917 separate day care admissions were audited (696 females and 221 males). The average age at time of surgery was 50 years (range 14–100, S.D. 11). Post-operative follow up was usually complete by 26 weeks (range 21–218 weeks, S.D. 145). A total of 2772 individual procedures with patients receiving between one and five procedures per admission. The majority of patients (81%, $N = 743$) opted for local anaesthesia. The FHSQ scores for foot pain, foot function, foot health, shoe fitting, general health, physical activity, social capacity and vigour improved. Patient satisfaction results were favourable and complication rates were within acceptable limits.
Conclusions: Podiatric surgery is well placed to meet both the demands of government and patients in delivering a high quality, safe and efficient treatment for patients requesting elective surgical intervention for foot deformity.

1. Background

Day surgery is not a new concept and today in the UK more than 60% of patients have elective surgery as day cases whereas the figure reaches 70% in the USA [1]. This is compared with only 15% of elective surgeries in the early 1980s [2]. The shift towards day surgery has been a gradual one and the concept can perhaps be traced back to 1910 when Dr Nicoll reported the results of operating on sick children in Glasgow [2–5]. The revolution in surgical practice through the 20th century cannot be over emphasised, the traditional approach of prolonged bed rest following treatment has been replaced with early ambulation and reduced stays in hospital [3,5].

However, it was not until the 1980s that day surgery was popularised in the UK following publication of a report by the Royal College of Surgeons titled "Report of the Working Party on Guidelines for Day Case Surgery". This report emphasised the need to utilise day surgery, and made the suggestion that 50% of elective surgery was suitable for day care treatment [3,6]. The government became particularly interested in the concept of day surgery in the 1990s with the publication of a number of key reports. The Bevan report published in 1989 recommended day care surgery as a cost effective alternative to inpatient management [3,7,8]. This was followed by the Audit Commission which found potential cost savings of £10 million per year if the most common elective surgeries were performed as day cases [3,9]. The commission created a list or 'basket' of 20 elective procedures which could be provided as day cases, these procedures accounted (at that time) for 30% of all admissions [3,9]. A second report produced by the commission a year later concluded that 80% of patients preferred day surgery and 83% of patients would recommend such treatment to a friend [3,10].

The benefits of day surgery over traditional inpatient management are multilayered; patients may expect a rapid recovery, shorter waiting lists, and improved satisfaction rates [10–13]. Service providers may expect rapid throughput of activity, lower bed occupancy rates and improved cost effectiveness [7,9,12]. In addition day surgery need not be offered in traditional acute hospital settings with treatment now being offered in the community setting in purpose built stand alone units [11,14]. Further to this day surgery may also be offered at independent treatment centres run in the private sector and contracting back into the NHS [11]. The most recent report on the national health service by Lord Darzi continues to support day surgery noting that cataract surgery offers the highest quality of care but is provided almost universally as an

* Corresponding author. Tel.: +44 7894582901.
E-mail address: anthony_maher79@yahoo.co.uk (A.J. Maher).

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outpatient service. The report also emphasises the importance of patient involvement in decision making and patient choice [15]. Offering patients the choice of outpatient foot surgery under local anaesthesia fulfils these requirements.

Advancement in surgical skills has also increased the scope of day surgery with techniques such as cataract surgery and minimally invasive key hole surgery particularly well suited to day care [16].

Podiatric surgery has historically been judicious in its use of resources driven by necessity with access to only relatively small primary care budgets. The sub-speciality has evolved to be an economical service pioneering the delivery of a broad range of corrective foot surgery as day cases with appropriate regional nerve block anaesthesia [17,18].

2. Objectives

This paper will present the experience and results of 917 episodes of community day care surgery in a Podiatric Surgery department over a 4-year period. The paper will concentrate on several key aspects of patient care; satisfaction as determined by outcome measures, anaesthetic choice, pain management and complications.

3. Method

A standard protocol was introduced within the Solihull Care Trust department of Podiatric Surgery to evaluate surgical outcomes in all NHS cases. Ethics approval was obtained locally for the implementation of a patient administered audit tool in conjunction with a perioperative and post-operative complication audit and post-operative patient satisfaction survey.

Audit data was collected between 01/01/2004 and 18/01/2008. All patients attending the department of Podiatric Surgery who subsequently went onto surgical intervention were included in the audit trail. During the preoperative evaluation all patients were advised of the likely benefits and potential complications of each planned procedure, in addition recovery periods and likely impact on leisure interests and occupation were also discussed. All patients were offered the choice of surgery under either general anaesthesia, regional local anaesthesia or regional anaesthesia with sedation. The procedures were undertaken at either an acute unit or a purpose built standalone primary care unit and all procedures were undertaken by a single Podiatric Surgeon (SAM).

The Foot Health Status Questionnaire (FHSQ) was chosen as the primary measure of outcomes following surgery. The FHSQ has been validated for this purpose but as yet it has not gained widespread acceptance amongst the medical community [19,20]. The FHSQ is a patient administered pre- and post-intervention questionnaire free from clinician bias which covers eight separate domains regarding foot health and general well being, each domain generates a score; low scores indicate higher levels of pain, dysfunction or poor health whereas high scores indicate an improvement. Therefore when the FHSQ scores are applied to the outcomes of surgery, higher scores would be hoped for post-operation.

In addition to the FHSQ scores participants also completed a patient satisfaction questionnaire (PATSAT) taken from the Podiatric Audit of Surgical Outcome Measures (PASCOM) [21]. PASCOM is a British audit system which has good repeatability but as yet has not been validated [22]. PASCOM is widely used in Podiatric Surgery departments for the collection of perioperative data. The PATSAT component is a patient administered questionnaire completed at final review focusing on the patients' experience of foot surgery, the recovery period, management of complications and return to normal footwear. Answers to all questions are collated to create a PATSAT score out of 100. Each patient has their own score summarising their personal level of satisfaction. A score of 100 equates to being very satisfied with the outcome while a score of 0 equates to total dissatisfaction [21,22].

In addition to the FHSQ and PATSAT scores, complication rates were also recorded. Standardised forms were created by the senior author (SAM) solely for the recording of complications within the department. Two separate complication forms were utilised, the first related to perioperative complications, the second related to post-operative complications. The use of separate forms allowed for simple analysis of complications at differing stages through the care process.

All data was collected and analysed on Microsoft Access and Microsoft Excel software. The data was analysed for mean scores, range and standard deviations utilising the PAST statistics program [23] and PASCOM software. Statistical analysis for significance of the FHSQ results was undertaken with the Wilcoxon rank sum test at the 5% level of significance.

Data from the FHSQ questionnaires was further evaluated for minimal important differences (MID). The MID concept was proposed by Landorf and Radford [24] and is essentially a value added measure which determines the minimum score change necessary for the patient to feel actual benefit, the premise being that a statistically significant change in scores may not equate to an improvement (or deterioration) for the patient. At the time of writing the authors are not aware of any other wide-ranging published service report or performance review which has applied the MID concept in the interpretation of data.

4. Results

Study data was collected between 01/01/2004 and 18/01/2008. During this period 917 consecutive foot surgery day care admissions were audited (696 females and 221 males). The average age at time of surgery was 50 years (range 14–100, S.D. 11). Post-operative follow up was usually complete by 26 weeks (range 21–218 weeks, S.D. 145) at which point the patient was discharged from the service. The 917 admissions resulted in a total of 2772 individual procedures with patients receiving between one and five procedures per admission. Fig. 1 demonstrates the range of primary procedures undertaken. A primary procedure is defined as the treatment directed at the primary diagnosis.

4.1. Anaesthetic choice

The majority of patients (81%, $N = 743$) opted for local anaesthesia. Local anaesthesia was administered as a regional nerve block

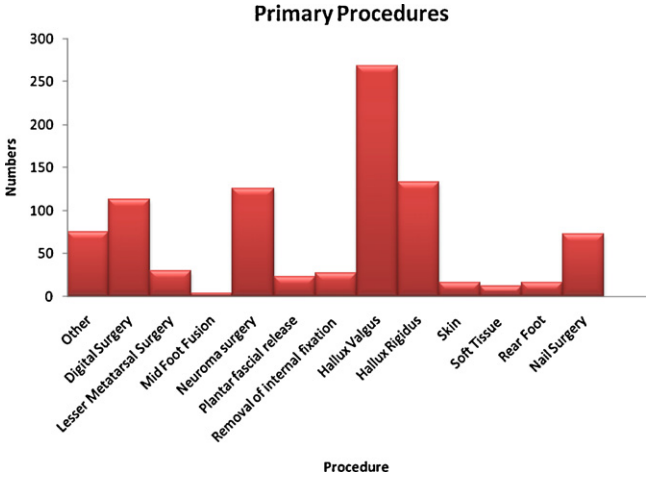

Fig. 1. Cases by primary procedure.