

## Adult day case hallux valgus surgery—a safe and viable option<sup>☆</sup>

Amit Bhargava<sup>a,\*</sup>, P. Rai<sup>b,1</sup>, R.K. Shrivastava<sup>b,2</sup>

<sup>a</sup> Reading Shoulder Unit, Wensley Road, Coley Park, Reading, Berkshire RG1 6 UZ, UK

<sup>b</sup> William Harvey Hospital, Ashford, Kent TN24 0LZ, UK

Received 17 July 2003; accepted 30 July 2003

### Abstract

The aim of this study was to assess the success of hallux valgus surgery in the day surgery setting. A patient satisfaction survey was undertaken in 65 patients who underwent surgery by one surgeon in the day surgery centre of William Harvey Hospital. The study was done on patients operated on over 4 years from March 1998 to February 2002. 92% patient satisfaction was achieved. This is comparable to 93% reported patient satisfaction in knee arthroscopy and carpal tunnel surgery done on the day care basis. 38 out of 41 patients, who replied to the questionnaire, said that if needed they would be happy to undergo similar surgery again in the same set-up and they would advocate it to their friends and relatives. Problems encountered were postoperative pain and plaster problems in two, swelling in one case and nausea and vomiting in two cases.

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**Keywords:** Day surgery; Hallux valgus; Bunion

### 1. Introduction

Hallux valgus surgery is one of the most common foot procedures in orthopaedic practice. In the United Kingdom many orthopaedic procedures are done on day care basis [1]. Orthopaedic procedures such as knee arthroscopy [7], carpal tunnel decompression [8], and ganglion excision [1] are performed routinely on a day care basis in most District General Hospitals. However, because of the morbidity and complexity associated with some surgical procedures for hallux valgus, past reports have discouraged these on a day basis [10]. This study was undertaken to assess satisfaction in patients under-

going various types of day case hallux valgus surgery under the care of one consultant orthopaedic surgeon.

### 2. Material and methods

A satisfaction survey was undertaken in 65 patients who underwent hallux valgus surgery under the care of one consultant orthopaedic surgeon in the day surgery centre of a District General Hospital. The patients were operated on over 4 years from March 1998 to February 2002. They included 34 patients who had a Mann's 3:1 procedure, 23 had a bunionectomy and soft tissue correction and 8 patients had a Keller's procedure (Fig. 1). All these patients were given a patient satisfaction survey after their surgery. This was returned to the consultant surgeon at the time of the first follow up.

Exclusion criteria of the study included:

- 1) Patients unfit for day surgery due to co-morbid conditions.
- 2) Bilateral operations.
- 3) Revision surgery.

<sup>☆</sup> This work was undertaken at the Department of Orthopaedics and Trauma, William Harvey Hospital, Ashford, Kent, UK.

\* Corresponding author. Present address: 3, Baron Close, Sutton, Surrey SM2 5NJ, UK. Tel.: +44-77-1889-4089; fax: +44-20-8395-3992.

E-mail address: amitseemakartik@aol.com (A. Bhargava).

<sup>1</sup> Tel.: +44-1233-63-3331.

<sup>2</sup> Tel.: +44-1233-63-3331x86281.

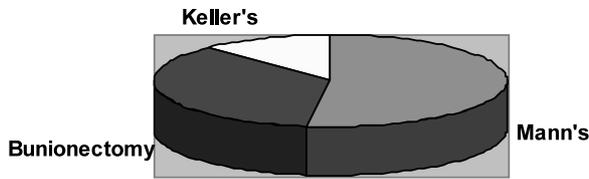


Fig. 1.

The satisfaction survey was based on a questionnaire including:

- 1) Preoperative fitness, assessment and the admission procedure.
- 2) Nursing care, anaesthetic, surgical and physiotherapy facilities on the day of operation.
- 3) An assessment of the postoperative pain on the day of surgery.
- 4) Patients were asked about their physical and emotional adjustment at home on the day of surgery and afterwards. They were also asked to comment on their mobilisation and wound healing after surgery.
- 5) Finally they were asked about their overall satisfaction, whether they would recommend this facility to their friends and relatives and would they be happy to undergo a similar operation in the same set up again if needed?

All patients were booked in from the out patients clinic. They were seen 2–3 weeks before the operation by a pre-assessment nurse in a day surgery unit, who explained the operation, the day surgery facility, the help line, the post-operative recovery and rehabilitation to them. All the patients were operated on under the care of one surgeon using standard operative techniques. They all received wound infiltration using 10 ml of 0.5% marcaine at the completion of surgery. Patients were prescribed co-proxamol (paracetamol 325 mg and dextropropoxyphene 32.5 mg)—two tablets six hourly for 1 week and thereafter as needed.

### 2.1. Standard technique for Mann's 3:1 correction [14]

It is a combination of lateral soft tissue release, bunionectomy and proximal first metatarsal dome osteotomy with internal fixation. All patients had preoperative check X-rays using an image intensifier. Plaster slabs were applied around the forefoot and midfoot. Patients were allowed heel walking for 6 weeks. Review was at 2 weeks for removal of sutures and change of plaster. Plaster was continued for a total of 6 weeks.

### 2.2. Bunionectomy and soft tissue correction [15]

Standard V–Y capsuloplasty and bunionectomy. Postoperatively these patients had plaster slabs around

forefoot and midfoot and were allowed heel walking. Follow up was arranged at 2 weeks for removal of sutures and then full weight bearing mobilisation was allowed as tolerated.

### 2.3. Keller's procedure [15]

This was undertaken in relatively low demand elderly patients. It involved excision of part of the proximal phalanx of the big toe with soft tissue correction when required. No internal fixation was used. Plaster immobilisation was not used and full weight bearing was encouraged from the very beginning.

## 3. Results

Our cohort of 65 patients included 57 females and 8 males. Age of the patient varied from 16 to 79 with a mean of 52 years. Mean age for the Mann's procedure was 40 years, for the bunionectomy 44 years and for the Keller's procedure 66 years (Fig. 2).

Out of these 65 patients, 41 replied to our questionnaire making the response rate 63%. Out of the 41 who replied 19 had Mann's procedure, 18 bunionectomy and 4 Keller's procedure.

### 3.1. Preoperative fitness, assessment and admission procedure

40 out of the 41 (97%—Fig. 3) patients were satisfied with the pre-assessment explanation. 40 out of 41 had surgery on the designated date. One patient postponed the surgery due to personal reasons.

All the patients were operated on on the morning list. On the day of surgery all the patients found the day surgery centre environment clean and comfortable. 39 out of the 41 patients were happy with the information and education given at the time of admission by nursing staff, surgeon and anaesthetist. Seven out of the 41 found physiotherapy input inadequate.

### 3.2. Discharge

Out of the 41 patients, 36 (Fig. 3) went home the same afternoon as planned. Three patients stayed in the

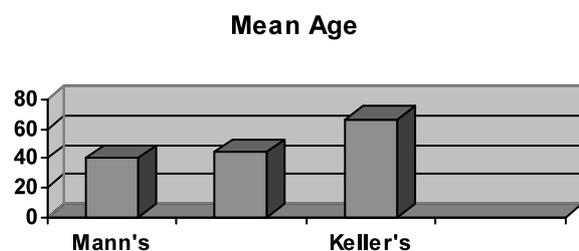


Fig. 2.

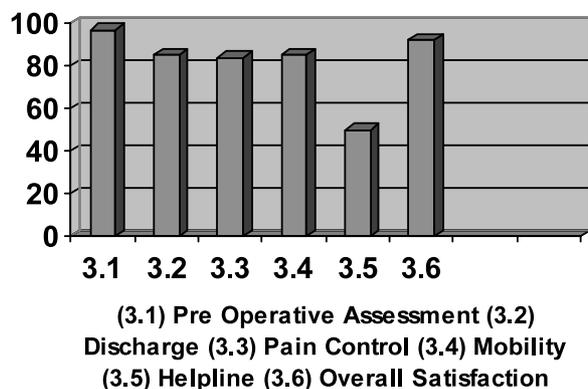


Fig. 3.

hospital hotel accommodation for one night due to poor mobility. Two patients developed sickness postoperatively and were kept as an inpatient for overnight observation. They were all discharged home the next day.

### 3.3. Pain control

All the patients were asked to comment on the pain after surgery while in hospital and at bedtime on the day of surgery.

They were asked to grade pain as

- 1) Pain adequately under control—grade 1.
- 2) Inadequate pain control even after taking painkillers—grade 2.

Whilst in hospital four out of 41 (10%) patients said their pain was not under control immediately after surgery. Out of these four, three had Mann's procedure and one bunionectomy.

Regarding the pain at bedtime on the night of surgery:

(84%—Fig. 3) 34 patients reported pain of grade 1 (16 Mann's, 15 bunionectomy, three Keller's); (16%) seven patients reported pain of grade 2 (three Mann's, three bunionectomy, one Keller's).

Degree of pain was not related to the type of surgery.

### 3.4. Mobility

35 patients managed well (Fig. 3) but six patients had postoperative mobilisation difficulties. Out of these six patients, three were kept in hospital hotel accommodation for further physiotherapy.

### 3.5. Help line and readmission after discharge

In our day surgery unit there is a 24 h help line. Six patients having grade 2 pain used this facility but three

(50%—Fig. 3) of them did not find the advice helpful and subsequently two of these attended the Accident and Emergency department. One of them had a tight plaster and a second had swelling and a tight bandage.

### 3.6. Patient satisfaction

40 out of the 41 (97%) patients found the day surgery centre facilities satisfactory. Two of this group of 40 had postoperative problems of pain and were of the opinion that they would have been better taken care of as an inpatient. 38 out of 41 (92%—Fig. 3) were satisfied with their experience in reference to the hallux valgus operation and they were happy to consider the same procedure as a day case again if needed. These patients were also happy to recommend this facility to their friends and relatives.

## 4. Discussion

The benefits of day surgery are well established [12,13]. Patients receive treatment that is suited to their needs and they can recover in their home environment. Cancellation of surgery due to emergency pressures is unlikely [4]. The risk of hospital-acquired infection is less [1]. Clinicians provide high quality care to appropriate patients and release hospital beds for more major cases. Hospitals improve their waiting lists and health care costs [4]. Patients want treatment that is safe, effective and the least disruptive to their lives. Day surgery provides this patient focussed care [5]. As medical technology improves and health care faces more pressure for speed and efficiency, patients regard day surgery as a very acceptable solution [2,3].

Although bunion surgery is sporadically practiced on a day care basis in the United Kingdom [9], it has not been universally accepted. Some surgeons are hesitant to take up this practice because of the high incidence of associated morbidity and the complexity of some of the procedures. Improvements in anaesthetic practice and pain management have made it possible to undertake hallux valgus surgery on a day care basis. As evident from our results patients had a very high level of satisfaction with the facilities and care provided in the day surgery centre.

The main problem in the study was inadequate postoperative pain control experienced by 18% of the patients. Pain control techniques need to be improved. In this series a physiotherapist assessed the patient before their operation and taught them mobilisation but postoperatively the patients were only supervised by nursing staff. Further physiotherapy input in the postoperative period is desirable.

A prolonged stay in hospital was necessary in only 2 (8%) patients due to sickness. 2 (8%) patients had to

attend the Accident and Emergency department after going home due to problems related to dressings and plaster. This was found comparable to the readmission rate reported after the use of the day surgery facility in all clinical specialities [11].

Overall 97% of patients were satisfied with the day care facility and services provided. Two patients who had to go to the Accident and Emergency department on the night of surgery said that they would have preferred to have this surgery as an inpatient. In all 92% patients said that they were happy to undergo similar surgery again in the same set up and they would advocate it to their friends and relatives. This is comparable to 94% reported patient satisfaction in knee arthroscopy [7], carpal tunnel decompression [8], and arthroscopic anterior cruciate ligament reconstruction surgery [6] done on a day care basis.

## 5. Conclusions

We strongly advocate the use of the day surgery facility in uncomplicated unilateral bunion surgery in patients who satisfy the anaesthetic fitness criteria.

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