

## Septoplasty as a day-case procedure – a two centre study

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### Abstract

Day-stay surgery is an integral part of Otolaryngology. Many procedures which have traditionally been thought to require overnight stay can be carried out on a day care basis. We report our experience of treating 163 patients admitted for septal surgery as a day-case procedure. The paper summarizes the experience of two centres. One of these is a London Teaching Hospital, where surgery was performed through a dedicated day-case unit, and the other is a District General Hospital where patients were admitted to a day-case unit but had their surgery on a routine in-patient list.

As the result of this study we conclude that day-stay septoplasty is associated with a low complication rate and is a safe and acceptable procedure provided that strict selection criteria are followed. The cost implications are discussed.

**Key words:** Day care, surgery; Nasal septum, surgery

### Introduction

Increasing pressures on NHS resources has led to reassessment of many common procedures with a view to establishing the feasibility and safety of performing these as day cases. While close to 50 per cent of surgical procedures might safely be carried out on an ambulatory basis, it is apparent that day-stay surgery facilities are often under utilized (Audit Commission: HMSO, 1990). Moreover, comparative data for the same procedure show wide variations in lengths of stay between different units which, in turn, suggests that there are many instances where there are widely differing perceptions as to the appropriateness of certain procedures for ambulatory surgery (Audit Commission: HMSO, 1991). Advocates of day-stay surgery have argued that it is cost-effective and have suggested that it reduces long waiting lists and leads to fewer cancelled operations. They have also suggested that day care offers a more convenient service for patients and that it reduces the psychological trauma of hospitalization for children (Audit Commission: HMSO, 1991). But, in order to evaluate day-stay surgery appropriately, it is also important that the procedures performed and the patient selection criteria applied are closely evaluated (Kaddour, 1992; Kendrick and Gibbins, 1993; Fenton and O'Dwyer, 1994). This means that complication rates and unplanned overnight admissions are kept to a minimum. It is also essential to establish that those

cases dealt with on an ambulatory basis do not impose an extra and unwelcome burden, with all its attendant costs, on hard stretched community services.

Nasal septal surgery is one of the most commonly performed operations in routine otolaryngological practice. In the majority of units patients having this surgery are admitted the day before the procedure and have intra-nasal packing inserted at the end of the operation in order to prevent bleeding and haematoma formation in the immediate post-operative period. Because of this, such cases are usually discharged on the day following surgery (Buckley *et al.*, 1991).

In the hospitals included in this survey the use of day-stay surgery has expanded considerably and septal surgery is now routinely offered as a day case. However the facilities offered differ slightly since, in Southend, patients are admitted to the day-stay unit and are operated on a routine list in the main theatre complex whereas at the Royal London Hospital a purpose-built unit with designated day-stay theatres and lists is available. We report our experience in treating 163 patients who underwent septoplasty under general anaesthesia as day-cases in each of these environments and discuss the patient selection that is necessary to ensure that this procedure can be performed safely and with maximum cost-effectiveness.

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TABLE I  
GENERAL CRITERIA FOR PATIENT SELECTION

Age	<60 years
Body weight	<100Kg
No history of chronic illness	
No previous history of complications following general anaesthetic	
No past history of prolonged bleeding	
Permanent or temporary residence within 5 miles	
Availability of personal transport	
Adult companion in attendance for first 24 hours	

### Materials and methods

A prospective study was undertaken of adult patients undergoing septoplasty as a day-stay procedure. Patients requiring turbinate reduction by submucosal diathermy or linear cautery were entered into the study but those cases needing partial turbinectomy were excluded. All patients who required any other supplementary nasal procedures were also excluded.

Care was taken to ensure that all patients were suitable for day-stay surgery. All patients treated satisfied a set of general criteria for admission (Table I) as well as a group of specific criteria for this procedure (Table II). One hundred and sixty-three patients were entered into the study. Of these, 40 had surgery at Southend and 123 had their operation at the Royal London Hospital. In all cases a standard anaesthetic with endotracheal intubation and a pharyngeal pack was employed; in addition a consultant anaesthetist was present at all times. Patients were allowed to breathe spontaneously during the surgery and in all instances anaesthesia was maintained using a nitrous oxide and oxygen mixture with Isoflurane.

Surgery was performed by Registrar and Consultant grade surgeons. Prior to operation the nose was prepared with Travasept (chlorhexadine acetate and cetrime) and the mucosa was then painted with 25 per cent cocaine paste. Following this lignocaine with 1:80 000 adrenaline was injected deep to the septal mucosa on both sides. A Cottle's incision was made and the mucoperichondrium and mucoperiosteum were elevated from one side of the cartilaginous septum only using blunt dissection. The mucosa was then raised bilaterally over the bony septum and the cartilage was freed from the perpendicular plate of the ethmoid and from the vomer and maxillary crest. Bone was removed with Tilley Henckels forceps as necessary until all significant deviations had been eliminated and until the anterior cartilage was freely mobile. The mucosa was then closed at the incision line using two

TABLE II  
SPECIFIC EXCLUSION CRITERIA FOR DAY-CASE SEPTOPLASTY

- Previous nasal septal surgery
- Patients requiring other nasal procedures eg. trimming of inferior turbinates, nasal polypectomy intranasal antrostomies or sinuscopy.

interrupted stitches and was quilted to obliterate any dead space using a continuous absorbable suture (30 plain catgut). Nasal packing was not routinely used.

Patients were observed for six hours post-operatively and were only discharged after a review by both the anaesthetic and surgical teams. They were given an information sheet outlining the nature of the procedure and any possible post-operative complications together with a hand-written discharge summary. Co-proxamol, to be used as required, was routinely prescribed and patients were asked to contact their General Practitioner or local casualty departments if they had any bleeding or pain that was not controlled. All patients were reviewed four weeks and four months after surgery.

### Results

A total of 163 patients received a day-stay septoplasty over a two-year period. Patients were aged between 21 and 59 years (mean 34 years) and 119 were male and 44 female. Thirty-three patients (20 per cent) had submucous diathermy and 28 (17 per cent) had linear cautery. All patients tolerated the procedure well. In the immediate post-operative period it was necessary to admit seven patients (four per cent) because of bleeding. Of these, six were admitted directly from the day-stay unit and a further patient was re-admitted the same evening having been discharged home after an uneventful procedure. One patient (three per cent) who had a septoplasty with submucous diathermy required admission from the day-stay unit, but none of the patients who had linear cautery were admitted overnight.

At outpatient review at four weeks patients were asked whether their nasal airway was good, had showed some improvement, was unchanged or was worse as the result of the surgery. One hundred and thirty-four patients (82 per cent) described their airway as good, 15 (nine per cent) said that there had been some improvement and a further 14 patients (nine per cent) believed that there had been no change. No patient reported any worsening of their airway as the result of surgery.

On examination ten patients (six per cent) had a degree of residual deviation at follow-up and two

TABLE III  
PROBLEMS FOLLOWING DAY-STAY SEPTOPLASTY

	Southend General Hospital (n = 40)	Royal London Hospital (n = 123)	Both sites (n = 163)
Overnight admission	2 (5%)	5 (4%)	7 (4%)
Admission from day-case unit	2 (5%)	4 (3%)	6 (4%)
Admission following discharge	0 (0%)	1 (0.8%)	1 (0.6%)
Attendance at GP following discharge	2 (5%)	7 (6%)	9 (6%)
Residual septal deviation	3 (7%)	7 (6%)	10 (6%)
Septal perforation	2 (5%)	0 (0%)	2 (1%)

patients (one per cent) had septal perforations (Table III). Further enquiry found that nine patients (six per cent) were seen by their General Practitioner following discharge. Of these, four were given reassurance only: the other five were started on oral antibiotics but were not re-referred.

## Discussion

This prospective study was undertaken in order to evaluate the safety and efficacy of day-stay septal surgery. A large sample size was evaluated from two hospitals which do not have entirely similar facilities for day-stay care. The results demonstrate that the complication rate is low and it is clear that, using the technique described, this operation can be safely performed in a variety of settings under general anaesthetic and on an ambulatory basis. We conclude from this that the important consideration is that patients are discharged with adequate verbal and written information and from a unit where specialist nursing skills are available in the immediate post-operative period.

Other authors have also reported performing septoplasty as a day case (Buckley *et al.*, 1991). However, while their paper makes reference to performing this procedure under a general anaesthetic, it only describes the experience gained using local anaesthesia. A small group of our patients (who are not reported here) also had this procedure performed after preparation of the nose with local anaesthetic. However we found that this method of analgesia was only suitable for minor surgery to the cartilage and was ineffectual if the nose had been moderately or severely traumatized. We found particularly that patients were disturbed at the sound of bony fragments being fractured and removed and, perhaps because of this, did not consider it practicable to contemplate removing large bony deviations with Tilley Henckels forceps, or spurs of the maxillary crest with gouges, without a general anaesthetic.

In our experience the complication rates from surgery, and the need to admit patients to the in-patient unit, were low. This applied to patients who had a septoplasty with, or without, linear cautery or submucosal diathermy. We believe that this was partly due to a policy of careful patient selection so that inappropriate procedures (such as turbinectomy) were not undertaken. Such selection is clearly critical especially since we found that bleeding was the only symptom which delayed discharge. A policy of observation for six hours seemed to provide sufficient time to warn nursing and medical staff of any haemorrhage which was of sufficient severity to necessitate packing or the need for admission for in-patient observation.

The cost savings of day-stay surgery as compared to performing the same operation as an in-patient have been previously discussed and it has been suggested that day-stay produces an overall saving of 50 per cent (Buckley *et al.*, 1991). We are currently seeking to corroborate this figure. Assuming that it is

verifiable, and given that in the two years in which day-stay septoplasty was performed in the Royal London Hospital only 18 per cent of patients were listed for an in-patient procedure, a shift from in-patient to out-patient treatment equates to an overall saving to the provider of 41 per cent. Of course, this cost saving could be offset if day-stay surgery were to generate a large increase in the community workload. However of the 163 patients in this study only nine visited their General Practitioner prior to their routine out-patient appointment and only one contacted their General Practitioner on the night of discharge. Moreover, an internal audit has found that attendance at General Practitioners follows an entirely similar pattern when this surgery is performed as an in-patient: therefore there do not seem to be major additional community costs incurred by performing this surgery as a day case.

Many units in the UK may already be carrying out this procedure on a day-stay basis although no reported studies are available. We feel that the increasing interest in ambulatory surgery (Maniglia *et al.*, 1989; Leighton *et al.*, 1993) and the greater availability of purpose-built units should lead to this procedure being performed in the majority of day case units. It certainly seems that ambulatory surgery under general anaesthetic is a safe and effective procedure and is suitable for the majority of patients. It also appears to be associated with significant cost savings to providers without increasing community costs. We conclude that we should develop a culture of adopting a wider use of day case septoplasty and this should ensure savings which can be channelled towards reducing long waiting lists in other areas.

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