

# The broken nose: does familiarity breed neglect?

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**Key words:** NASAL FRACTURES; CLOSED REDUCTION; NASAL DEFORMITY

## Summary

A questionnaire method was used to assess the ability of early primary reduction to treat the fractured nose. Questionnaires were sent to one hundred and twenty eight such patients of whom eighty five (66%) replied. Seventy two (85%) of the patients expressed satisfaction with their nasal appearance with only thirteen (15%) requesting corrective surgery. Thirty one patients (36%) experienced nasal obstruction following reduction and of those, eighteen (21%) wished to undergo further surgery.

In a separate study the cause of nasal deformity in fifty five patients undergoing septorhinoplasty was ascertained. In thirty six of these patients (65.5%) the deformity resulted from a neglected nasal injury. The value and limitations of early primary reduction of nasal fractures is discussed.

## Introduction

The nose, being a prominent midline structure is frequently injured. The most common single cause of these injuries is assault which is often alcohol related (1). Many are also caused by injuries incurred during sport. Treatment may be necessary to correct the external deformity, to alleviate nasal obstruction or for a combination of these factors. Until recently the accepted treatment for nasal fractures was simple manipulation. The increasing number of patients requesting reconstructive surgery to correct post-traumatic deformity is thought by some to reflect a high incidence of unsatisfactory results following simple manipulation of nasal fractures (2). Evidence to support this supposition is, however, lacking. The aim of this study was to assess the effectiveness of simple manipulation as a means of treating the recently fractured nose.

## Patients and Methods

To determine the adequacy of primary reduction as a form of treatment, a questionnaire (Table I) was sent to 128 patients whose nasal fracture had been treated by simple manipulation in the Ear, Nose and Throat Department of the Radcliffe Infirmary. The Departmental policy was to undertake reduction either immediately (within 24 hours) or, more usually, between 7 and 10

TABLE I. Questionnaire sent to 128 patients

1	Following your operation, is the appearance of your nose similar to what it was before the injury?	YES/NO
2	If not, would you consider another operation to improve the appearance?	YES/NO
3	Have you had more difficulty breathing through your nose since the injury?	YES/NO
4	If yes, is it bad enough for you to consider an operation that would improve your breathing?	YES/NO

days when most of the post-traumatic oedema had settled. Fractures presenting later than 10 days were generally not considered suitable for primary reduction. A standard closed surgical technique was used by all. Plaster of Paris was applied at the discretion of the surgeon. Patients were admitted on the morning of surgery with a view to being discharged home later the same day. An interval of at least 3 months had been allowed between reduction and follow-up to allow for any late deviation or buckling of the skeletal elements to occur.

To complement the questionnaire study, the cause of nasal deformity in 55 patients seeking nasal reconstructive surgery was determined.

## Results

Eighty five of the 128 questionnaires (66%) sent were returned. Sixty five patients (76%) were male and the peak age group was 15–25 years. Sixty one manipulations had been carried out by Senior House Officers, 12 by Registrars, 9 by Senior Registrars and 3 by Consultants.

In reply to the question 'Is the appearance of your nose similar to what it was before the injury?', 61 patients (72%) felt that it was. Twenty four patients (28%) had a residual external deformity, but only 13 of those were willing to consider further surgery (Table II). When asked about their nasal airway, 31 (36%) complained of nasal obstruction of whom 18 were willing to consider surgical correction (Table III). The effectiveness of manipulation was not related to the experience of the surgeon who had carried out the procedure.

Fifty five patients undergoing septorhinoplasty were asked about the cause of their deformity. In 36 patients

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TABLE II. Nasal appearances following manipulation in 85 patients

Nasal deformity	Patients	
	n	%
None	61	72
Slight	11	13
Significant	13	15

TABLE III. Nasal function following manipulation in 85 patients

Nasal obstruction	Patients	
	n	%
None	54	64
Slight	13	15
Significant	18	21

TABLE IV. Causes of nasal deformity in 55 patients undergoing septorhinoplasty

Cause	Patients	
	n	%
Untreated nasal injury	36	65.5
Nasal injury treated by manipulation	5	9.0
No history of trauma	14	25.5

(65.5%) the deformity resulted from a nasal injury which had gone untreated. Some had presented to Accident and Emergency departments where their injuries were dismissed as being insignificant. In 5 patients (9%) the nasal injury had been treated by manipulation, but a deformity, nevertheless, resulted. In 14 patients (25.5%) no history of trauma was obtained (Table IV).

### Discussion

Despite nasal fractures being one of the most common fractures of the human skeleton, the evaluation of their treatment has been neglected. This is partly because nasal fracture patients are notoriously poor at attending for follow-up and because it is difficult for a surgeon to assess the effect of treatment when the prior shape and function is unknown (3). A questionnaire study has the distinct advantage of allowing the patient, who alone knows the pre-injury shape and function of his nose, to assess the effect of treatment. We consider the 66% reply rate to be a satisfactory response from what tends to be a rather unreliable group of patients.

The results from the questionnaires show that 72% of patients were satisfied that the shape of their nose was the same as before the trauma. A further 13% thought that there was a slight residual deformity, but it was not severe enough to warrant surgical correction. This indicates an overall satisfaction of 85% in relation to nasal appearance. Nasal function was considered to be unchanged by the trauma in 64% of patients. Fifteen per cent of patients were aware of some nasal obstruction, but not severe enough to merit surgical correction. Overall, 79% of patients were satisfied with their nasal function following manipulation. It is noteworthy that these results were obtained even though about two-thirds of

the reductions were undertaken by Senior House Officers with only a basic experience of nasal surgery. Far from being unsatisfactory, these results indicate that simple manipulation has considerable merit in the treatment of nasal fractures.

As well as effectiveness, other important considerations need to be taken into account when assessing a particular treatment. The treatment needs to be acceptable to the patient. Day case surgery, with minimal postoperative restrictions creates so little inconvenience that simple manipulation is readily accepted by most patients. Open reduction of nasal fractures on the other hand is unacceptable to many patients (4); it is a more extensive operation associated with a longer stay in hospital, more time off work and greater postoperative restrictions. Cost of treatment is another important consideration. Time off work is a cost to the patient and a prolonged stay in hospital a burden to the National Health Service. The cost is much less for simple manipulation even if one takes into account the cost of the limited number of patients, who despite manipulation, require surgery at a later date. The large number of manipulations are easily catered for with present resources as the operation can be performed expeditiously and satisfactory results can be obtained by those without special expertise. It is doubtful whether open reduction could be catered for on such a large scale because it is technically a more difficult procedure requiring increased operating time and an experienced surgeon.

Those who advocate open reduction of nasal fractures suggest that the large number of septorhinoplasties being carried out to correct post-traumatic deformity indicates a high rate of unsatisfactory results following simple manipulation (4). However, as can be seen from our results the majority of these cases were untreated nasal injuries. In fact relatively few (9%) septorhinoplasties were carried out to correct residual nasal deformity following manipulation.

We suggest that simple manipulation, although not ideal, is an effective treatment for nasal fractures. It is acceptable to most patients, cost-effective and the work load can be coped with by existing resources. It would seem more prudent to perform open reconstructive surgery as an elective procedure for the limited number of patients who have significant residual nasal deformity or nasal obstruction after manipulation. Neglected trauma remains a most important cause of nasal deformity. Many of these deformities requiring difficult reconstructive procedures can be prevented by impressing on our general practitioner and casualty officer colleagues the need for early referral to the otolaryngologist of patients with nasal injuries. Familiarity must not breed neglect.

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Received 1 April 1987