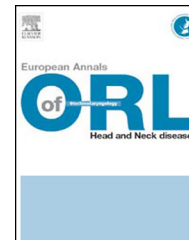




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ORIGINAL ARTICLE

# Saddle nose: Classification and therapeutic management



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## KEYWORDS

Saddle;  
Nose;  
Classification;  
Treatment

## Summary

**Introduction:** The understanding and treatment of saddle nose have always been a surgical challenge. The authors propose a three-stage classification of this deformity as well as a treatment strategy adapted to each case.

**Materials and methods:** A retrospective study was carried out on 25 patients with saddle nose. After defining the three stages of saddle nose: minimal, moderate and major, the authors describe the treatment protocol adopted for each stage.

**Results:** This series comprised 3 cases of minimal saddle nose, 17 cases of moderate saddle nose and 5 cases of major saddle nose. Minimal saddle nose was treated by extracorporeal rhinoplasty, an inverted U-shaped conchal graft was used to treat moderate saddle nose, and costal cartilage was used to reconstruct major saddle nose. Surgical approaches varied according to the technique adopted. Surgical revision was never required.

**Conclusion:** Saddle nose is a classical condition in facial reconstructive surgery. The proposed treatment strategy is based on detailed analysis of the clinical signs, resulting in a graduated solution adapted to each clinical case according to the severity of the deformity.

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## Introduction

The therapeutic management of saddle nose has always been a surgical challenge. This deformity corresponds to loss of projection of the cartilaginous and/or bony structure of the dorsum of the nose, which has aesthetic as well as functional repercussions. The causes of saddle nose have changed over the years: infectious and toxic causes have become less frequent, while trauma and primary or

secondary reduction rhinoplasties now represent the main causes of these deformities.

The purpose of this study is to propose a precise classification of the various stages of saddle nose and the therapeutic management adapted to each situation.

## Material and methods

### Patients

This retrospective study was based on 25 cases operated between January 2004 and January 2011 in the department of otorhinolaryngology and head and neck surgery of

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Édouard-Herriot hospital in Lyon. Demographic data were collected: the patients' age and gender and the cause of saddle nose in each case. A precise morphological analysis was performed in each patient to define the stage of saddle nose and to propose the most appropriate management. The surgical technique and surgical approach and the need for surgical revision were therefore recorded for each case. The minimum follow-up for each patient was one year.

### Classification

Before describing the treatment protocol, it is important to define the various stages of saddle nose as well as their anatomical characteristics. We have used a 3-stage classification.

#### Stage 1: minimal saddle nose

Minimal saddle nose corresponds to a depression above the supratip of the nose due to loss of septal support associated with slight retraction of the base of the columella, while tip projection and rotation are not affected (Fig. 1).

#### Stage 2: moderate saddle nose

Moderate saddle nose corresponds to more marked recession of the dorsum, but not exceeding 5 mm. It induces loss of septal support that can affect its anatomical relations with the triangular cartilages, the tip or even the columella. The nose has a flattened appearance on all views. Decreased projection and/or cephalic rotation of the tip may be observed at this stage and will need to be taken into account (Fig. 2).

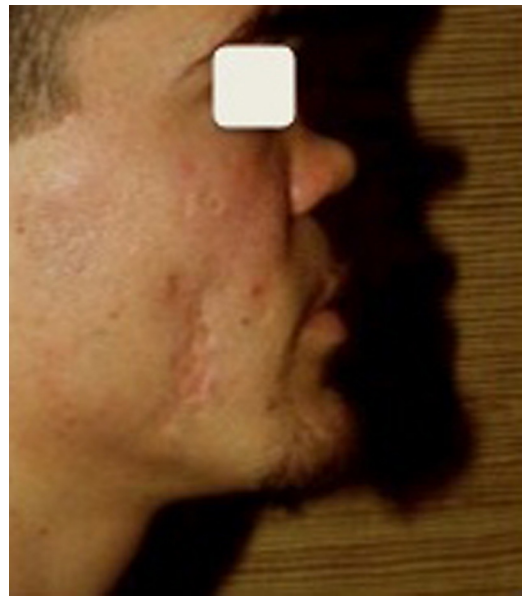


Figure 3 Lateral view of a patient with major saddle nose.

#### Stage 3: major saddle nose

Major saddle nose corresponds to a marked lack of bony and cartilaginous support. The bony arch of the middle third of the nose is amputated inducing major retraction of the nasal mucosa, while loss of the height of the cartilaginous septum is responsible for columellar retrusion. Tip projection is decreased and the nostrils are broader, giving a short nose

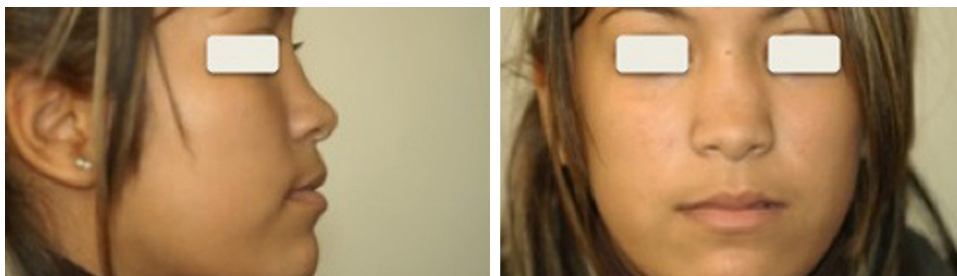


Figure 1 Frontal and lateral views of a patient with minimal saddle nose.



Figure 2 Frontal and lateral views of a patient with moderate saddle nose.

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