

Pyriform And Paranasal Alterations During Rhinoplasty

Ahmad N. Saad, MD; Sierra Hewett, BS; Steven R. Cohen, MD

Disclosure/Financial Support: None of the authors has a financial interest in any of the products or devices used in this project or mentioned in this manuscript.

Introduction: The pyriform anatomy is sometimes underestimated and overlooked during patient evaluation for rhinoplasty. Several methods have been described to address the pyriform area and alter its anatomy. Among these methods are placement of paranasal implants, injectable, fat or cartilage grafting, orthodontic management with or without orthognathic surgery. We propose an objective approach to evaluate and treat pyriform deformities in patients presenting for rhinoplasty.

Methods: We reviewed 753 rhinoplasty surgeries performed in a single institution over the last 12 years. We retrospectively evaluated the methods used to treat a wide spectrum of pyriform anatomic variations associated with nasal deformities. We propose a classification and a treatment algorithm to evaluate and address pyriform abnormalities.

Results: Class 1 is the abnormality encountered in patients with isolated pyriform deformity. This group of patients would benefit from augmentation with cartilage or fat graft, paranasal implants or injectable in mild cases. Class 2 abnormality is encountered in patients with pyriform deformity in association with other midface skeletal deformities (excluding dental/occlusal deformities). This group of patients would benefit from multiple cartilage grafts with or without fat grafting, multiple or custom designed implants. Class 3 refers to patients with pyriform deformity associated with dental abnormalities; This class is subdivided into type A which includes patients with normal occlusion but abnormal dental inclination. This type would benefit from pyriform augmentation in addition to orthodontic or limited orthognathic surgery. And type B which include patients who have malocclusion in addition to pyriform deficiency. This type would benefit primarily from orthognathic surgery with or without pyriform augmentation.

Conclusion: Evaluation of the pyriform anatomy is essential during comprehensive assessment of patients for rhinoplasty. Addressing pyriform deformity significantly improves outcomes and patient satisfaction after rhinoplasty surgery.