

Rhinoplasty

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Rhinoplasty is plastic surgery of the nose done to correct external nasal deformities; it is performed at a minimum age of 15 years in females and 17 years in males.

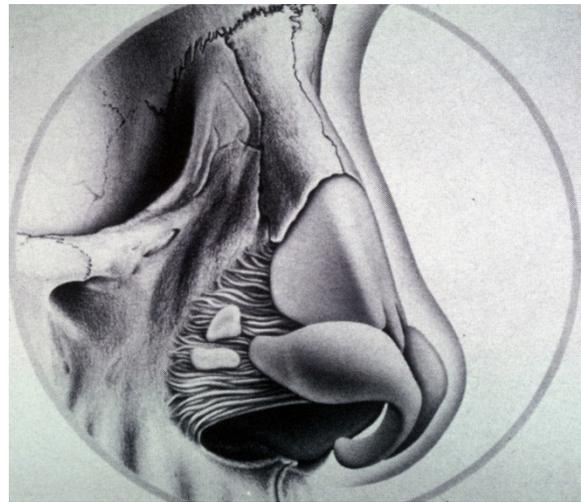
Anatomy of External Nose

The external nose is formed of a bony-cartilaginous skeleton covered by soft tissue

(A) The Bony-cartilaginous framework

1. Bony part of external nose:

It forms the upper third of the external nose and is composed of two nasal bones which are connected in the midline by the internasal suture. The nasal bones are attached superiorly to the frontal bone and laterally to the frontal process of the maxilla on each side.



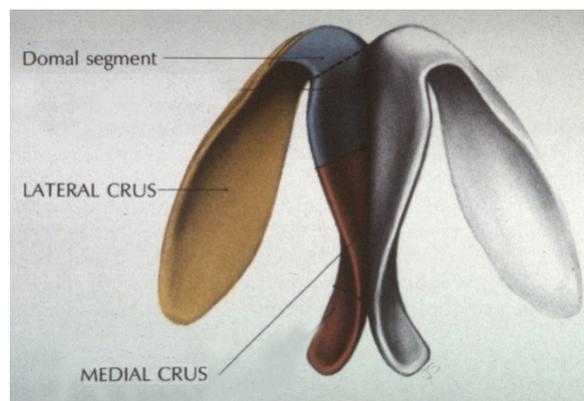
2. Cartilaginous part of external nose:

It forms the lower two-thirds of the external nose and is composed of a pair of upper lateral cartilages and a pair of lower lateral cartilages.

a) Upper lateral cartilage: It is triangular in shape and occupies the middle third of the external nose, it is attached superiorly to the nasal bones and frontal processes of the maxillae and inferiorly to the lower lateral cartilages. Both upper lateral cartilages fuse in the midline with the dorsal part of the septal cartilage.

b) Lower lateral cartilage: It is horse-shoe shaped and occupies the lower third of the external nose. Each lower lateral cartilage is composed of a medial crus and a lateral crus joined at an area called the dome of the lower lateral cartilage.

-The Medial crura lie medial to the nostrils and they will form together the cartilaginous



framework of the columella (soft tissue partition between both nostrils)

-The Lateral crura lie lateral to the nostrils and form the cartilaginous framework of the ala (lateral wall of the nostril)

-The dome is the point of union of medial and lateral crura and both domes together will form the cartilaginous framework of the nasal tip.

(B) The Soft Tissue of External Nose

The bony-cartilaginous framework of the external nose is covered by a layer of skin, subcutaneous tissue, and muscles. The nasal muscles include; the procerus, the levator labii superioris alaeque nasi, the nasalis, and the depressor septi nasi. They are all supplied by the facial nerve.

Nasal analysis for Rhinoplasty

Analysis to diagnose external nasal deformities is essentially done in frontal, lateral and basal views.

(A) Frontal view:

1. Central position of the nose: The nose should lie strictly in the midline of the face with no deviations.
2. Symmetry: One half of the nose should be the mirror image of the opposite half.
3. Nasal width: Including the width of the nasal dorsum, nasal tip, and nasal base.
4. Nostril show: The amount of nostrils seen from the frontal view when the head is in the neutral position (not extended or flexed)

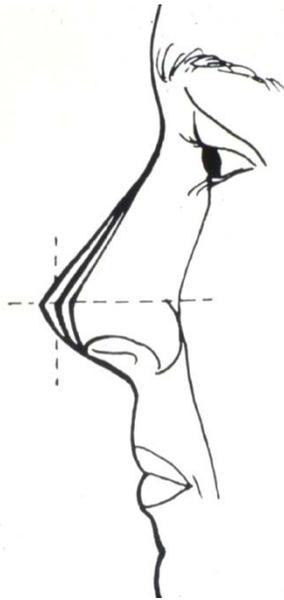
(B) Basal view:

1. Central position of columella: The columella has to be strictly in the midline.
2. Size and shape of the nostrils.
3. Equality and Symmetry of both nostrils

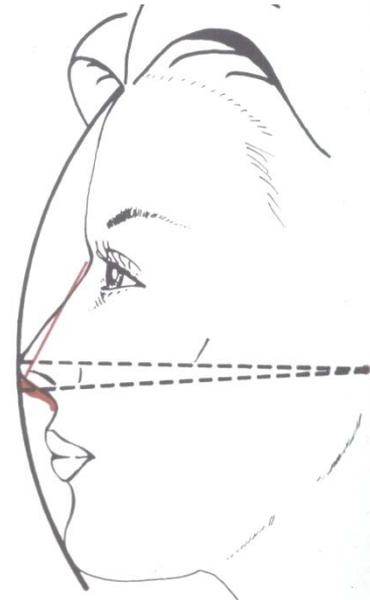
(C) Lateral (Profile) view:

1. Nasal length: Distance between root of the nose (nasion) and the nasal tip.
2. Level of nasal dorsum: Should be nearly a straight line, if it's high and convex it forms a dorsal hump and if it's low and concave it forms a dorsal saddle.

3. Nasofrontal Angle: Angle between the nose and forehead.
4. Nasolabial Angle: Angle between nose and upper lip, it is more obtuse in females.
5. Columellar show: Amount of columella that could be seen on profile view, it's normally from 2-4 mms.
6. Tip Projection: Distance that the nasal tip projects from the facial plane on profile view. It runs in the horizontal antero-posterior plane; when tip moves more anterior it gains projection and vice versa.



Tip Projection



Tip Rotation

7. Tip Rotation: Movement of the tip along the vertical plane; when tip moves upwards it gets superiorly rotated and when it moves downwards it gets inferiorly rotated. With superior rotation the nose gets shorter, the nasolabial angle gets more obtuse, and the amount of nostril show increases.

Types of Rhinoplasty

1. Closed Rhinoplasty: Performed totally through intranasal incisions.
2. Open Rhinoplasty: Provides a wider exposure of the bony-cartilaginous framework of the nose allowing better diagnosis and management of all deformities. However, it needs an external incision on the columella.