

Construction of a neo-valve for nasal insufficiency

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The critical importance of the caudal segment of the upper lateral cartilage in nasal function has been well documented (Cottle et al., 1958; Kern, 1978). Irreversible destruction of this segment, whether done to scarring, undue rigidity, absence, or improper relationship to the nasal septum renders the patient a "nasal cripple". Restoration of the nasal valve which is affected by scar tissue, does not carry a high percentage of success rate. Because of the similarity in thickness, texture and pliability of the lateral crus of the lower lateral cartilage, this cartilage has been used to reconstruct the nasal valve.

TECHNIQUE

A slot incision is made in the vestibule and the entire outer surface of the lobular cartilage is skeletonized. The lateral crus is excised in total leaving only 1 millimeter of caudal margin. This slot incision is utilized to free the tissue space lateral to the mucous membrane of the internal nose corresponding to where the upper lateral should be.

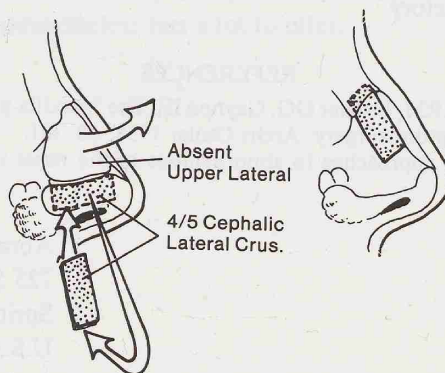


Figure 1. Construction of neo-valve.

The periosteum on the outer surface of the nasal bone is elevated for a distance of approximately 4 millimeters and a pocket thus created for the lodgement of the 90 degree transpositioned free graft lateral crus. The pocket could also be made by elevating the periosteum on the inner aspect of the nasal bone and either modality can be used depending on the patient's need.

The caudal margin of the transpositioned neo-valve is made to correspond to the position of the natural valve. In this manner, the neo-valve not only is restored, but has been made to duplicate as much as is possible, the normal anatomic and physiologic upper lateral cartilage (Figure 1).

EXPERIENCE

The number of clinical cases is at present limited, but the outcome has been most satisfactory.

A representative case is that of a 50 year old white male who, as a result of birth trauma, sustained deformities of both the jaws and the nose. The jaw deformity consisted of underdevelopment of the left mandible and replacement of the left upper lateral cartilage with scar tissue. Under local anesthesia, the upper four-fifths of the lateral crus was excised via a left slot incision. The tissue space lateral to the inner nose lining where the upper lateral cartilage would normally lie was freed using a Knapp scissors and a McKenty elevator was used to elevate the periosteum from the outer surface of the nasal bone. The scar tissue in the segment was excised and into this pocket was placed the excised lateral crus rotated 90 degrees. In this case, an additional inter-cartilagenous incision was made to facilitate scar excision. Both slot and dome incisions were closed meticulously. The post-operative result at several months both anatomically and physiologically were very satisfactory.

REFERENCES

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2. Kern EB. Surgical approaches to abnormalities of the nasal valve. *Rhinology* 1978; 16:165-89.

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