Prosthetic rehabilitation of large sinonasal-orbital and palatal defects

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Figure 1. Oncologic surgery has created a sinonasal-orbital defect (A) and an oroantral defect (B).

Figure 2. Photographs show the results of prosthetic reconstruction of the orbitomaxillary defect (A) and the oroantral defect (B); the latter was closed with a partial denture and a palatal splint.

A 40-year-old physically active man had been diagnosed with a small-cell neuroendocrine carcinoma of the right sinonasal-orbital cavity with intracranial extension. He underwent craniofacial resection, which resulted in extensive surgical defects (figure 1). In view of the high risk of recurrence, he was rehabilitated prosthetically to permit surveillance of the cavity (figure 2). He remained without evidence of disease 18 months postoperatively.

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The oncologic resection of sinonasal tumors often leaves patients with large orbital, midface, and palatal defects. Rehabilitation of these defects should be considered mandatory, and efforts should be directed toward restoring both form and function.

Palatal defects can hinder intelligible speech and competent swallowing. While palatal defects are not visible externally, the cosmetic disturbance of an orbital defect can be socially inhibiting.

Much debate has centered on the choice between surgical and prosthetic reconstruction. The reliability of free tissue transfer has expanded the capabilities of surgical reconstruction to include not only small soft-tissue defects, but large composite defects, as well. Yet despite these advances, few surgical reconstructive efforts are as reliable as prosthetic reconstruction for separating the oral and nasal cavity and cosmetically restoring midface and orbital defects. Prosthetic devices allow for regular inspection of surgical defects to monitor for early recurrences. They also provide reliable functional results, and they are stable. In the past, young patients have avoided large prosthetic devices because many were unstable. But the widespread use of osseointegrated implants has allowed for excellent prosthetic immobilization and retention during physical activity, thus making them more acceptable to the younger population.