Two-Stage Nasolabial Flaps for Facial Reconstruction: Revisiting the Three Week Rule for Pedicle Division

Jeremy B White, MD1; Steven D Macht, MD, DDS2
The George Washington University Division of Otolaryngology and Plastic Surgery

INTRODUCTION

The nasolabial flap is one of the most versatile local skin flaps that is used in the reconstruction of surgical defects of the face. The ease of flap design is largely due to its random blood supply based on small subcutaneous and subdermal vessels, rather than the angular or facial arteries via muscle perforators.1 This vascular supply pattern allows for a large amount of detaching in non-smoking patients, or those who have stopped smoking for at least four weeks.2 In comparison with the lower parts of the body, the skin of the head and neck has a superior capillary density in the papillary and reticular dermis that allows for the design of long flaps without vascular compromise.3 The nasolabial flap is particularly useful since it can be used in both one and two staged procedures while maintaining an opportunity to hide the incision in the natural nasolabial fold. An unfortunate disadvantage of a two-staged approach is that, due to dictum in training, many surgeons divide the pedicle at 18-21 days. This is often leaves the patient with the inconveniences of wound checks, a lingering period of tissue exposure with potential infection, and an embarrassing bandage for a prolonged period of time. The following is a review of twenty two-stage nasolabial flaps that had pedicle division significantly earlier than the traditional three week period.

METHODS AND MATERIALS

Medical records of patients who had immediate reconstruction with two-stage nasolabial flaps following Mohs surgery between 1999 and 2007. Data regarding patient age, pertinent medical history, pathologic diagnosis, surgical defect size, time of pedicle division, and postoperative complications were noted. The typical postoperative course for these patients included a dressing change on the first postoperative day followed by removal of half of the sutures on postoperative day four. The pedicle was clamped on postoperative day six and, if the distal edge of the flap did not blanch significantly, the pedicle was divided. The flap was immediately trimmed and the proximal edge was sutured in place, while the distal sutures were removed. Wound checks were subsequently conducted two days, one week, and 3 months after flap inset.

RESULTS

Sixteen two-stage nasolabial flap nasal reconstructions were performed in thirteen patients (Table 1). The average patient age was 62 years-old, ranging from 38 to 82 years-old, with an approximately equal male to female ratio. The most common dermatologic pathology was basal cell carcinoma. The nasal ala was involved in 50% of cases, while the tip and dorsum were involved in 38% and 19% of surgical defects, respectively. Three patients were active smokers. The average defect area was 1.2 cm², ranging from 0.12 to 4 cm². Pedicle division occurred at any point between four and sixteen days, with a mean time to division of 7.3 days.

CONCLUSIONS

The presented experience indicates that it is safe and effective to divide a staged nasolabial flap pedicle well before three weeks after the initial surgery. In the case of patients who are active smokers or who have bleeding disorders, however, the surgeon must consider delaying pedicle division to at least one week to decrease the risk of complications. By shortening the time to the second stage, patients may be able to minimize many of the inconveniences and infectious complications of prolonged soft tissue exposure.

### REFERENCES