# Island Pedicle Flap Provides Volume, Spares Tissue

BY DOUG BRUNK

PORTLAND, ORE. — Its ability to provide volume and spare tissue makes the island pedicle flap a valuable technique for deep facial defects.

"When you can just about close a defect primarily and have concerns that doing so might cause unnecessary contour deformity or free margin retraction, an island pedicle flap taken from the standing cutaneous cone will rescue the repair and provide excellent cosmesis with minimal tissue loss," Dr. Roberta Sengelmann said at the annual meeting of the Pacific Dermatologic Association.

Also known as the B-to-Y flap or the kite flap, the island pedicle flap "has a rich vascular supply which comes from the underlying subcutaneous and muscular pedicle," said Dr. Sengelmann, a cosmetic dermatologic surgeon who practices in Santa Barbara, Calif., and St. Louis. "It is a terrifically viable flap and has surprisingly good mobility."

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DR. SENGELMANN

She uses it for deep defects, in areas where cosmetic junction lines and relaxed skin tension lines can camouflage the flap's kite-shaped design, to advance hair-bearing skin in cases when like skin is needed where there is a limited tissue reservoir within the cosmetic subunit.

She described the technique at the meeting. First, design the flap so that the primary and secondary flap movement will not cause anatomic distortion. Designs may be pentagonal, curved, or tapered. "These designs are used to preserve adjacent anatomical structures so as to avoid tissue distortion, but you maximize gain of the soft tissues that you have available," Dr. Sengelmann explained. "You take advantage of tissue laxity and relaxed skin tension lines."

Movement of the island pedicle flap is usually linear, "but you can rotate it [30-90 degrees], flip it [90-180 degrees], or tunnel it," she said.

Incise the flap vertically to the full thickness of the skin, free the advancing edge a few millimeters to prevent tethering down of the leading edge, and free a distal third or so of the flap to prevent limitation of movement.

Next, use a vertical spreading technique to undermine the flap. "The goal here is to maintain the vascular and muscular pedicle and provide enough stretch to allow adequate movement," she said. Advance the flap into place and secure the leading edge with the key suture. Undermine the defect wound margins in the mid-fat, close the secondary defect, achieve hemostasis, and approximate the flap slightly below the plane of the surrounding skin while providing perfect wound edge coaptation and eversion.

"Flaps should not be oversized," she cautioned. "When the flap is oversized, it tends to buckle up during the wound-healing process and can leave a 'pincushion-like' deformity."

To achieve optimal results, "be sure that the secondary defect can be easily closed side-to-side without distortion of anatomic structures," she added.

Other clinical pearls she shared were to "slightly undersize the flap, keeping in mind the area you are moving it to and being sure that you have enough primary movement to close the defect without compromising contour at that site."

Dr. Sengelmann acknowledged certain limitations of the island pedicle flap, including "trapdooring" and the potential for poor outcomes in areas with inadequate subdermal tissue and/or poor mobility, such as radiated, burned, or scarred skin; the nasal dorsum; and helical rim.

Even so, she concluded that the tissue-sparing aspect of this flap is "unsurpassed." There is a learning curve to "getting it right," but once the execution is mastered it provides an exceptional option for reconstruction of facial cutaneous defects.

Dr. Sengelmann disclosed no relevant conflicts of interest. ■