How I Do It

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Random-pattern skin flaps: part 3 - Z-plasty flaps

BY CHRISTOPHER THOMPSON AND MILES BANNISTER

In this third of four articles outlining, in some detail, the practical steps for some important local skin flaps, **Christopher Thompson** and **Miles Bannister** describe the Z-plasty; a very helpful and useful flap. Look out for the final installment in this series later this year.

Z-plasty flap

Useful for lesions where skin is strongly adherent to underlying structures including the vertex, occiput, periorbital region and forehead, as well as large midline neck defects. Considerable undermining of the surrounding skin is required to allow transposition of the two limbs, and large flaps used over the forehead or occiput usually require overnight head bandaging (Figures 1-4).



Figure 1. The bases of the triangular flaps align parallel to the apices of the defect, which is designed as an ovoid.



Figure 3. The flaps crossover one another with A moving to A1 and being sutured in place to close the primary defect initially. B moves to B1 to close the secondary defect.



Figure 2. Flap elevation to the base is essential in this design and undermining beyond the defect's apices is usually necessary.



Figure 4. Completed z-plasty. The base of flap A is approximately twice the width of flap B's.

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Figure 5. Limb lengths are approximately three times the size of the defect.

O-Z-plasty flap

Used in areas with smaller defects but limited skin elasticity e.g. central scalp or occiput. A circular defect is fashioned. Two flap limbs are designed at 180-degree angles to one another and are transposed toward one another and sutured together, rather than being overlapped. Though the flaps are robust, considerable undermining is required to achieve tension-free closure (Figures 5-8).



Figure 6. Unlike the z-plasty flap, the flap lobes converge rather than cross over.



Figure 7. The flap lobes and their apposing surfaces are undermined deeply to provide adequate closure.

