Facial flaps for facial skin lesions

This article covers basic surgical principles for the use of local flaps in facial skin reconstruction. Some surgical details of commonly used flaps are included, but detailed classification of facial flaps is not covered. Readers are referred to standard texts for more detail of individual flap design and use.

Local flaps play an important role in the reconstruction of facial skin defects. The majority of defects are created as a result of excision of skin tumours. The incidence of skin cancer is rising steadily (Holme et al, 2000), partly because of the ageing population and partly because there has been an absolute rise in incidence. Flaps can be used for the repair of traumatic defects but in routine practice this is much less frequently required.

There is, therefore, an increased requirement in most district general hospitals for surgeons who are skilled in these techniques. A whole range of different specialists – ear, nose and throat (ENT), maxillofacial, plastic and dermatological, for instance – carry out such surgery. The absence of plastic or even maxillofacial services in some district hospitals creates an ideal opportunity for ENT surgeons to liaise with their dermatology colleagues to provide a good quality service.

Many good books are available to support the surgeon who is learning these techniques such as those by Baker and Swanson (1995) or Jackson (2002).

Types of lesions

The commonest skin lesions are basal cell carcinomas, which account for about 75% of new cases, squamous cell carcinomas account for almost 25% and a relatively small number of malignant melanomas also occur (Holme et al, 2000). Surgery is an appropriate primary treatment for the majority of these lesions (Petit et al, 2000), although there are specific roles for radiotherapy, photodynamic therapy and Mohs micrographic surgery. This latter is particularly useful for recurrent cases of basal cell carcinoma or basal cell carcinoma arising in difficult cosmetic areas.

In practical terms the majority of the surgery can be performed as day-case procedures under local anaesthesia, even the larger local flaps.

Principles of reconstruction

There are a number of basic principles which need to be borne in mind when planning facial skin reconstruction following excision of tumours.

Facial cosmetic units

When planning reconstruction with a local flap it is desirable to avoid transferring tissue from one cosmetic unit of the face to another. In simple terms the cosmetic units are as follows:

1. Forehead
2. Nose
3. Cheeks
4. Lips.

For instance, transferring cheek skin onto the nose is likely to create a loss of definition of the naso-labial sulcus and therefore an obvious cosmetic deformity. In some instances it may be impossible to achieve reconstruction with skin from the appropriate cosmetic unit but this should be a rarity rather than normal practice (*Figure 1*).

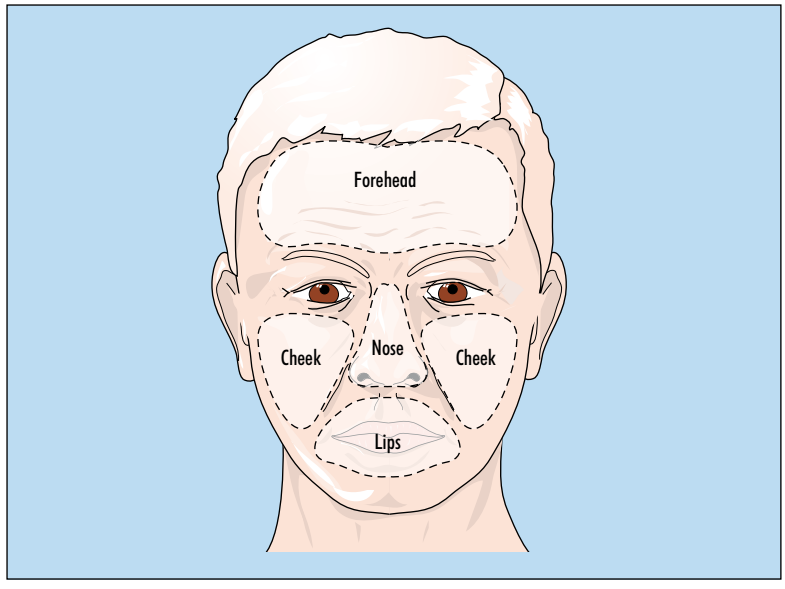
Relaxed skin tension lines

These are equivalent to skin creases, which appear on skin as a result of the direction of underlying muscle pull (*Figure 2*). Scars placed in these lines are much less visible and the cosmetic outcome can be greatly enhanced by following these lines if possible.

Repair

The following is a simple ladder of reconstructive options for repairing defects in skin. In many cases the use of a local facial flap is unnecessary and a more straight forward repair is appropriate. The list is as follows:

Figure 1. Facial cosmetic units.



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