

WORLDPLAST Volume 2/Number 1998

Jaime Planas, M.D., Jorge Planas, M.D

Abstract

Split-thickness cutaneous grafts are always followed by a period of retraction, which once established is very difficult and often impossible to overcome. Application of counteracting forces before this has taken place avoids the retraction, but in many instances the surgeon is unable to apply such forces

Severe ectropion of eyelids

An ectropion of the upper eyelid which has been operated on unsuccessfully several times or is due to a severe burn or to an infected wound is a bad candidate for correction. Local flaps, which may be good in lower lid too heavy and hinder the function of the upper lid...

Key words: Cutaneous grafts, eyelids, ectropion.

Planas, J: Prevention of contracture of cutaneous grafts. Wordplast, 2:163, 1998.

Received, March 21, 1996.

Accepted for publication, October 15, 1996.

Address correspondence to Dr. Planas,
Clínica Planas
Pere de Montcada, 16
08834 Barcelona,
Spain

... In the face this situation is frequently met in the eyelids and in the perioral region. When no opposing forces are available, these may be created by burying a rigid frame around the borders of the wound (Figs. 1).



FIG. 1-A Frame made with a Kirschner wire



FIG. 1-B The wire should be completely covered with the soft tissues.



FIG. 2-A A 22 years-old female with ectropion of the upper lid due to car accident



FIG. 2-B Correction with wire frame and full thickness graft taken from the opposite lid, performed on September 6, 1974



FIG. 2-C Result two years later (October 18, 1976). Full function of the lid.



FIG. 2-D X-rays showing the wire





FIG. 3-A 21 years-old female with sever ectropion of the upper lid due to car accident.

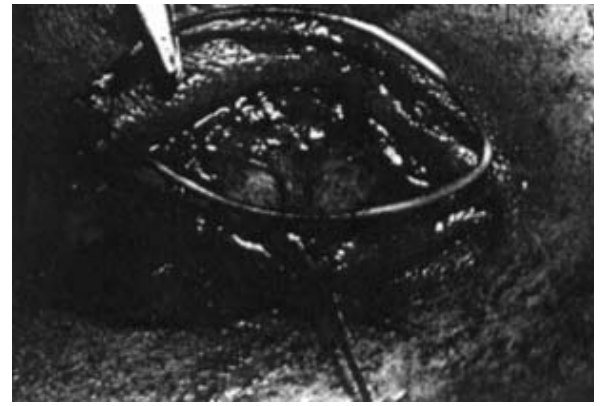


FIG. 3-B Application of a wire frame and split thickness graft on April 30, 1986.



FIG. 3-D C and D. Result two years later (April 11, 1988).

Scar retraction of the perioral region.

Burns of the face produce in many instances limitation of the aperture of the mouth due to the retraction of commissures. Local flaps in these zones are of little value because the neighboring tissues are hard and stiff and do not conform to the new location. Fig. 4 shows one case treated by the method described.

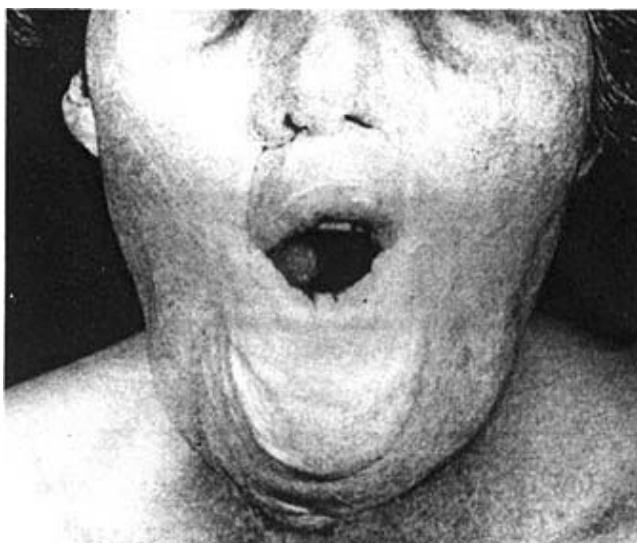


FIG. 4-A Severe retraction of the grafts of perioral region. The correction was demanded by the dentist who were opened, two wire frames were built, and t would not perform any treatment on her teeth.

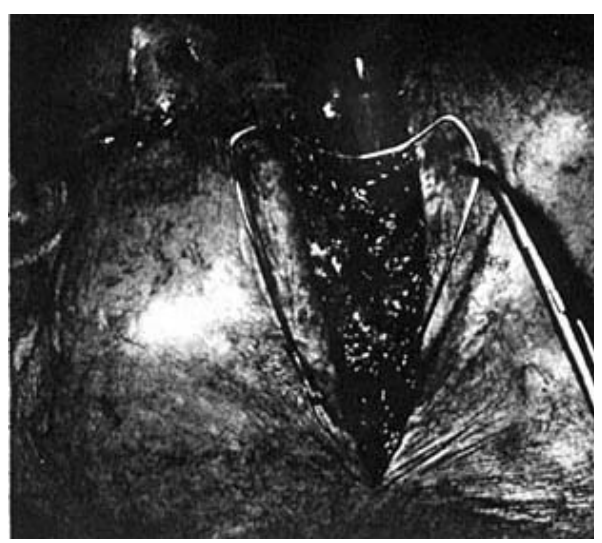


FIG. 4-B On February 8, 1988 both commissur were opened, two wire frames were built, and t wounds were covered with full thickness grafts taken from the submammary region.





FIG. 4-C Result after seven years (December 4, 1995).

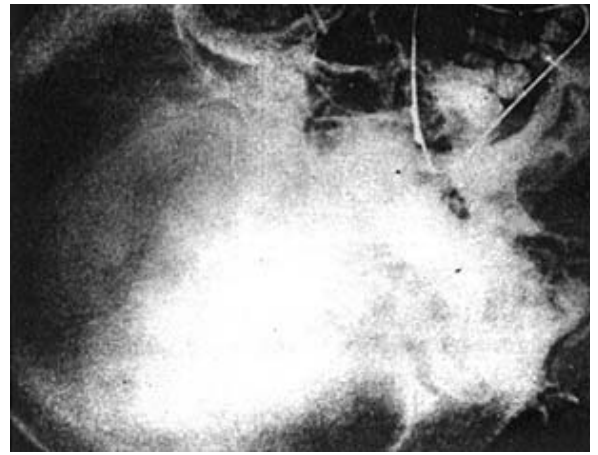


FIG. 4-D X-rays showing the wire.

Prevention of Contracture of Cutaneous Grafts

Ectropion of the lower lip with drooling saliva in burned faces, is also a difficult problem to manage. Fig. 5 shows a patient in this condition treated by same procedure.



FIG. 5-A Ectropion of the lower lip in a 25 years-old male after grafting the face.

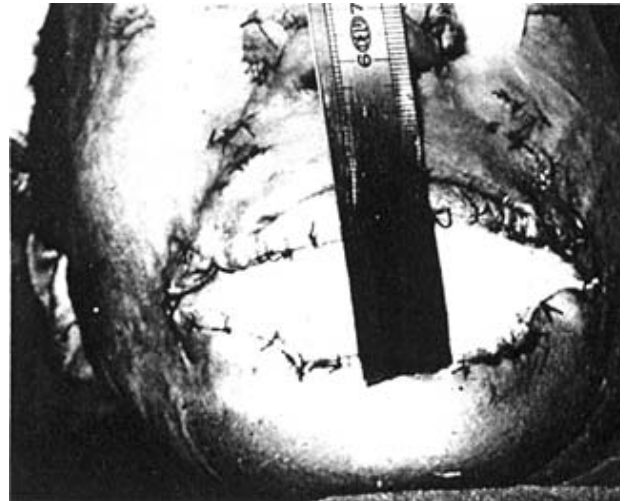


FIG. 5-B On April 24, 1970 the ectropion was corrected and the wound was maintained open with a wire frame. The wound was covered with a full thickness graft.





FIG. 5-C Result after eight years (February 1, 1979).

How to frame a graft. Surgical technique: The frame is made with a fine Kirschner's wire, which is conform to the shape of the wound created. The junction can be done by twisting the ends of the wire, but this is dangerous because the knot may easily perforate the skin. It is better and easier to joint them by using some sort of soldering material, which can be found in any dental supply. We have used the P.D. Universal Solder Sticks (Fig. 6).

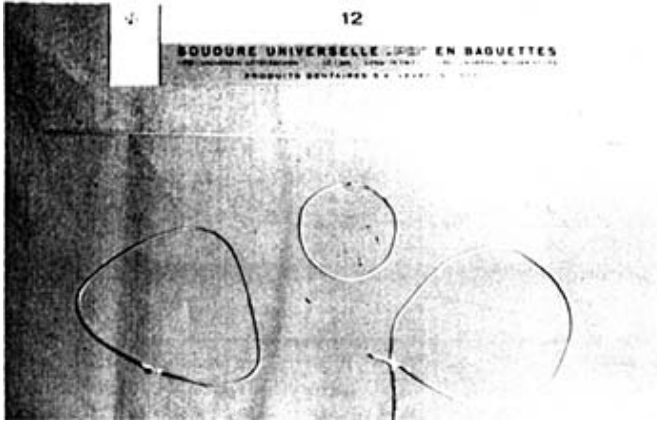


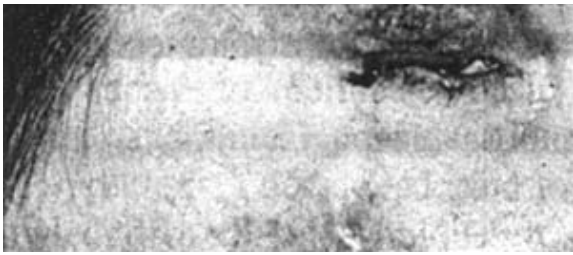
FIG. 6 Examples of frame.

Once the shape of the frame has been obtained, the point of crossing of the wire ends is put under the flame of a Bunsen burner until it is dull red. Then a soldering stick is approached to the flame and one or two drops of the material will melt in between the two wires. The frame is cooled in saline solution and the ends are cut. The frame is ready to be sutured around the wound. It is essential that the wire is completely covered by the border of the skin (Fig. 1). A skin graft of the desired thickness is then sutured in place. A tie-over dressing is usually applied.

The frame is maintained in place as long as possible. Two to three months according to the severity of the case are generally sufficient to obtain a good result. Due to the proximity of the wire to the skin, we have seen in a few cases a perforation with exposure of the wire (Fig. 7).

These are clean wounds, which can be maintained open for several weeks, and in any case have impeded us from arriving to the end of the proposed period of the treatment. In one case because the patient was living in a distant city, he came after 8 months with the wire half extruded, but this was not a problem for the final result. However the failure of the take of the graft will destroy the result. This happened to us in two cases in the neck. In another case a big frame was placed in the anterior aspect of the neck, and the borders of the skin slid over the frame reducing the size of the graft so as to make it useless for our purpose. To remove the wire, two small cuts in opposite parts of wire are made under local anesthesia, and it is removed in two pieces (Fig. 8).





IG. 7 A wire frame partially extruded



FIG. 8 Removing a frame

References

1. Morel.Fatio D, Lalardrie JP. Palliative surgical treatment of facial paralysis: the palpebral spring. *Plast Reconstr Surg.* 33:446, 1964.
2. Babcock WW. Ligatures and sutures of alloy steel wire. *JAMA.* 102:1756, 1934.
3. Planas J. The use of a buried wire frame to reduce contracture of grafts. *Plast Reconstr Surg* 74:798, 1984.