

FACIAL PARALYSIS SUPPORTED WITH AUTOGENOUS FASCIA LATA*

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PARALYSIS OF THE SEVENTH nerve presents one of the most difficult problems, and procedures in plastic surgery for such patients are considered when there is thought to be no chance of nerve recovery or of nerve operation. It also may be useful to support the face during a waiting period in the process of nerve recovery or of neuro-surgical work.

It is best to realize from the start that a rather crude substitution is about all that can be done. The finely kinetic actions of the muscles of the face, supplied by the seventh nerve, such as the gentle approximation of the eyelid to the globe—awake or asleep—and the delicate movements of emotional expression, hardly can be expected to be normally restored by the substitution of a few points of suspension with fascial loops or muscle flaps. And so—as in much of plastic surgery where missing parts have to be supplied—a substitution has to be made.

Most patients have been so distraught with their plight, but are so cooperative and appreciative that it is necessary to strive for the procedure which will produce the most effective substitution.

The use of fresh autogenous strips of fascia lata, continues to be one of the basic methods of support, although there are several other procedures for supporting the face with various degrees of efficacy being obtainable. These strips are anchored in the temporal (fifth nerve) muscle and fascia and looped down through the face in two or more levels. The bulk of the face is elevated to an overcorrected position and the loops are anchored securely. The utilization of the temporal muscle and its fascia and strips of fascia lata has been reported elsewhere,¹⁻³ and at this time additional findings and points worthy of emphasis are recorded.

Time for operation, is important and paradoxically it is before much sagging of the face has occurred. It is usually not done in early childhood, but it probably could be done then. One boy we saw with double congenital paralysis seemed an ideal type to try to help, but so far the parents haven't agreed. This is such a striking deformity that almost any improvement would be acceptable. We have done patients after 40 years of paralysis, but these are apt to be the most difficult because of the long standing soft tissue sag and redundancy. In these patients, the mouth and lip and nasal level can be elevated, but the excess tissue falls over like a tent or an awning. Heavy thick or edematous faces are not helped greatly by this procedure, that is if the face can't be pulled into a satisfactory position before operation, then the fascial strips can't be relied on to do it either.

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Excision of excess skin, can be done, preferably before or after the fascial transplant operation. Wide undermining and tension is necessary, and it is usually thought best not to add this to the transplantation as there is the necessity of firm healing over the fascial loops in the temporal region. Suturing of the fascial loops is possibly best done with fine wire, though cotton or silk may suffice.

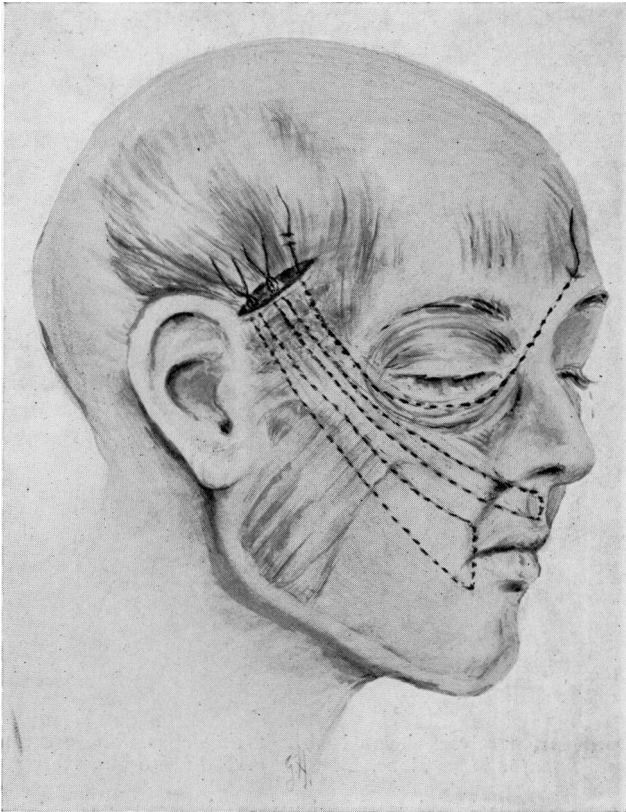


FIG. 1.—Shows course of fascial loops through face to upper lip, angle of mouth, and lower lip. These are anchored in the temporal muscle and fascia. The loop through the lower lid is anchored in the opposite frontalis region and in the temporal fascia, not in the temporal muscle.

Improvement in comfort of the eye is one of the main objectives. This is obtained by (1) the elevation of the tissues with the large loops in the face. Patients even may be able to close the eye from this element alone. (2) An external canthoplasty of 4-5 millimeters is usually productive of increased comfort and improved appearance. The extra sclera that nearly always shows up is hidden quite well by this procedure. The approximation of the lids is done along the tarsal border so that the lashes remain and there is not too much evidence of the partial closure, without close scrutiny. (3) A separate loop of fascia can be anchored in the temporal fascia on the outside, carried through

the lid, and fastened in the opposite frontalis muscle. This is a pretty fine adjustment to make in such a gross manner and it is not relied on if it is thought that the general elevation and the canthoplasty will suffice. The fascia is apt to form a little ridge as it goes across the side of the nose, but this is not too objectionable. (4) A flap of opposite frontalis fascia or muscle, or both, can be brought down and an attempt made to tighten the lid sag with it; or the flap may come from the temporal region. (5) The production of a Horner's syndrome is mentioned but has not been relied on by us. It would seem contraindicated if there was marked sagging of the brow. Closure of the eye is improved in most patients, and even though it is not complete in sleep, they nearly all have

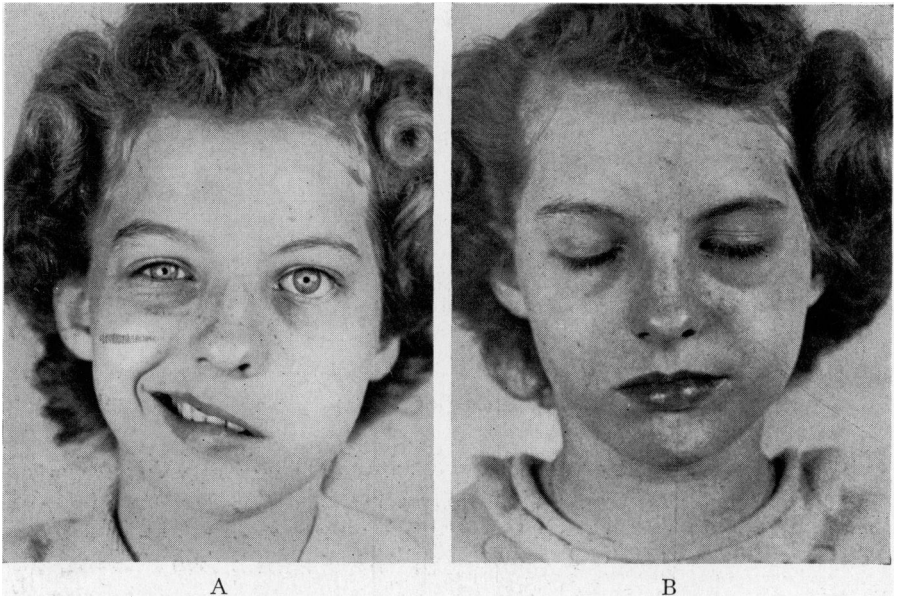


FIG. 2.—A. B. Complete paralysis elevated with fascial loops. The eye can practically close from the 2 major loops alone. B, C, D and F are 6 mo. after A and E.

good Bell's signs (of rotating the eyeball up on closure), so that the cornea is rarely exposed. Some patients are able to keep the eye fairly well closed even in sleep.

A nasolabial fold is important for balance of the face—absence of it, and droop of the upper lip is perhaps the most noticeable feature of seventh nerve paralysis, when the face is in repose on the opposite side. It is important to try to reproduce a semblance of this fold, and it comes in by adequate elevation of the angle of the mouth; at operation this area is so overcorrected that the face is distorted.

Movement of the paralyzed side is possible by pull of the temporal muscle, but not too much is desirable because of its being noted too much on eating. But this movement is advantageous, and with a little effort many patients can substitute it for a little emotional expression. A smile can be simulated by the above action, and along with a nasolabial fold, these probably give the patient



FIG. 2. C. D.—If not much activity or emotion is expressed on the sound side the symmetry is close to normal.

his most normal appearance. Improved eating is nearly always obtained by the supported cheek holding food better during mastication.

Training of the opposite normal side is very important, and the patient who can control the degree of his emotional expression in laughing and in conversation, even though he has to be a little glum, will help the surgical result materi-

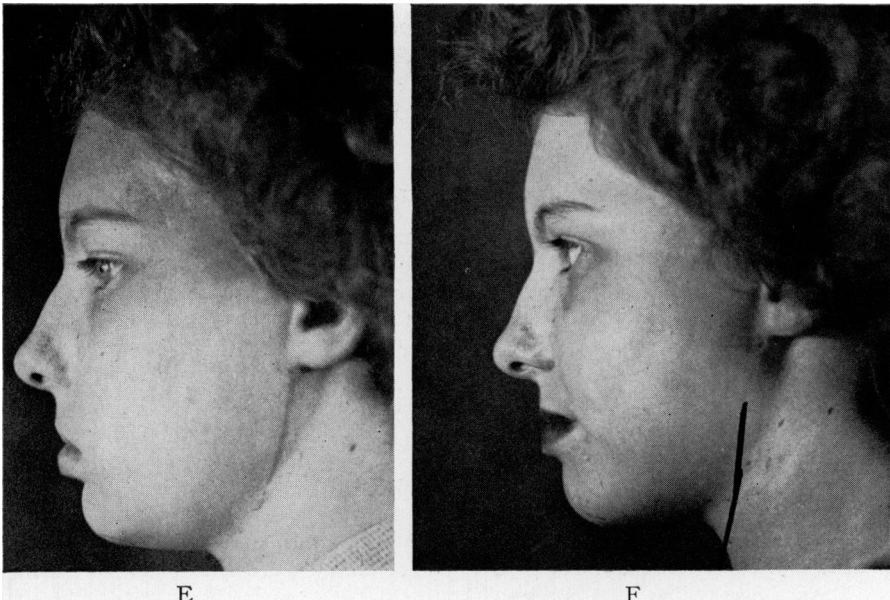


FIG. 2.—E. & F. Six months after fascial transplantation. The profile is improved by the elevation of the fascial loops.

ally. The training is usually easy and is carried out by the patient himself with the aid of mirror exercises.

Partial facial paralysis may be improved by adding fascial support, but nothing should be done to interfere with any "tone" of the facial muscles that might be getting in through any nerve channel. Even an unsuccessful nerve operation or anastomosis should not be taken down or interfered with if any "tone" at all is being supplied. The grimaces that may result from anastomosis and the mass movements that may occur following nerve suture, may possibly be improved by fascial support, and training.

The needles for threading the fascia through the face should be as simple as possible. Complicated Reverdin or locking types are cumbersome and unnecessary. The simple types shown here are rigid pieces of steel mounted on

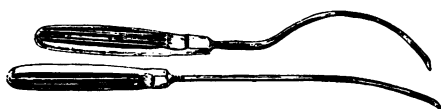


FIG. 3.—Simple needles, slotted at the point used for the long loops thru the face, and for the loop thru the eyelid.

handles with slotted eyes in the pointed ends. One is for the face loops and one to go around the eye—through the lid. These were made originally for one of us by Dr. Richard Douglas Saunders. The heavy

facia needle to carry the loops through the temporal muscle can be improved by enlarging the eye with a file. Pressure dressings using cotton mechanics waste are always relied on, and the face is supported with adhesive for two to three weeks.

The drooped eyebrow can be improved by elevation and excision of tissue up in the hair line, or a separate loop of fascia may be tried, anchored high enough.

Secondary Adjustments are done as necessary and include: adjustment of the loops, and excision of excess skin above in the hair region. Very rarely is any excision of skin done in the face, but in long-standing instances and where the face falls over the fascial strips like an awning, some adjustment may be necessary in the nasolabial region or close to the angle of the mouth.

Complications are mainly as listed in adjustments, but as in all plastic surgery—infection is the main complication. So much depends on the healing of these wounds and so slight an infection militates against a desired result that every effort should be taken to prevent contamination and infection.

Results are far from what we would like for these patients, but as illustrated by the following they may be worth while. Her eye can close; in repose she looks about normal; she has a slight smile; and by training to avoid over-action of the sound side, she gets by with many persons who see her, not realizing that her face is paralyzed.

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