

APPLICATION OF THE HALO

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Introduction

Controlled positioning of the upper thoracic spine, cervical spine and the head has been inadequate with the use of plaster alone. Vertical alignment and more effective immobilization can be obtained with a traction apparatus between the head and body cast such as Crutchfield tongs (1) or Hoen wires (2) which we used on two cases, but separate positioning of the head and cervical or thoracic spine is not possible. This latter control is particularly important in combined cervical and bulbar palsies and high cervical fracture dislocations, and can be obtained by use of the halo traction apparatus. A detailed description of the halo has been previously given (3).

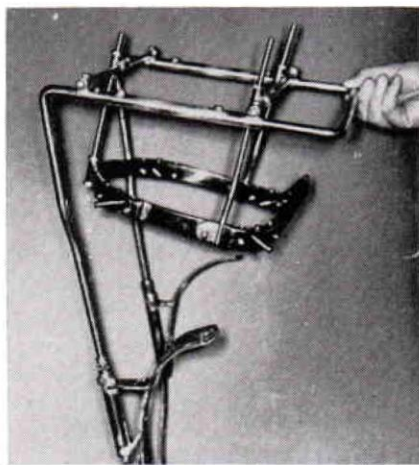


Figure 1

Modification of Dr. F. A. Bloom's apparatus for facio-maxillary traction (4) has given us this essential head control. In order to meet strength requirements the three-quarters reinforced aluminum ring was changed to a complete circle of stainless steel. His method of fastening the apparatus to the head with four broad-shouldered screws has been preserved. Because of its attachment to a cast, the additional weight is not a factor.

The halo consists of the following parts: (See Fig. I and II)

1. Head ring
2. Mounting brackets
3. Overhead support
4. Suspension assembly
5. Halo Skull Pin

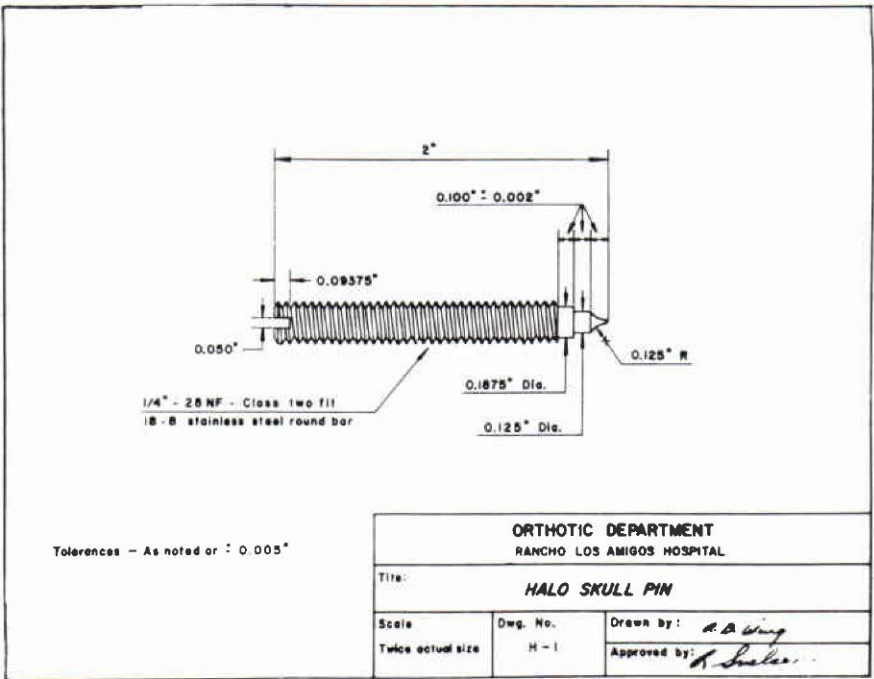
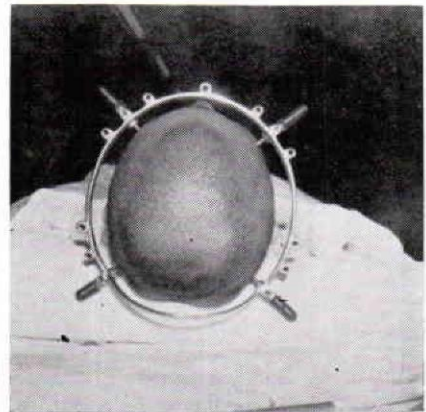


Figure II. Halo Skull Pin.

Figure IV.



The halo ring is applied to the patient's head by the physician. Caution should be taken to allow from $\frac{5}{8}$ " to 1" clearance between the halo ring and the patient's head (Fig. IV).

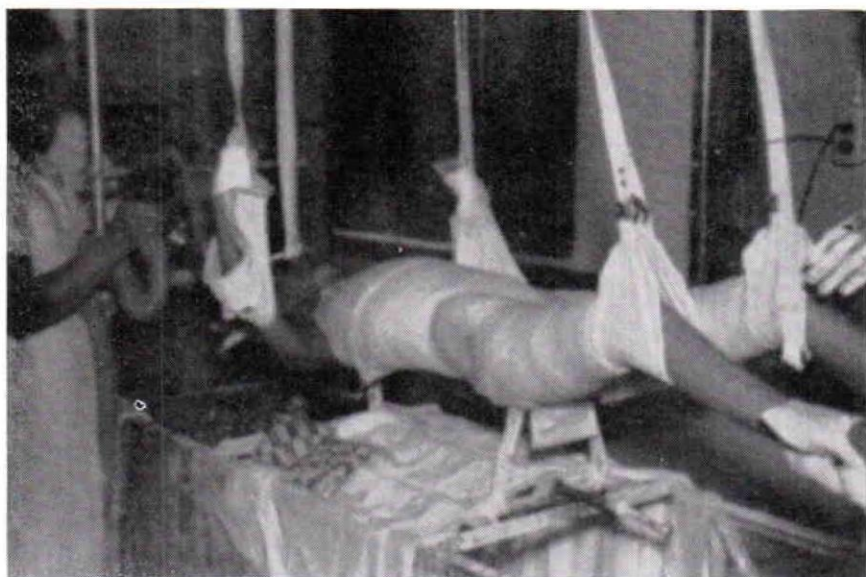


Fig. V

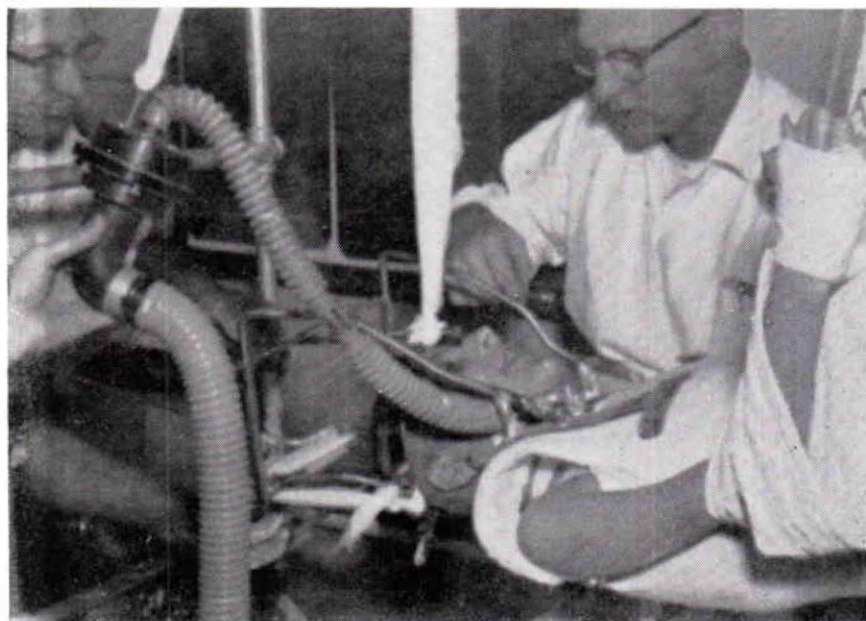
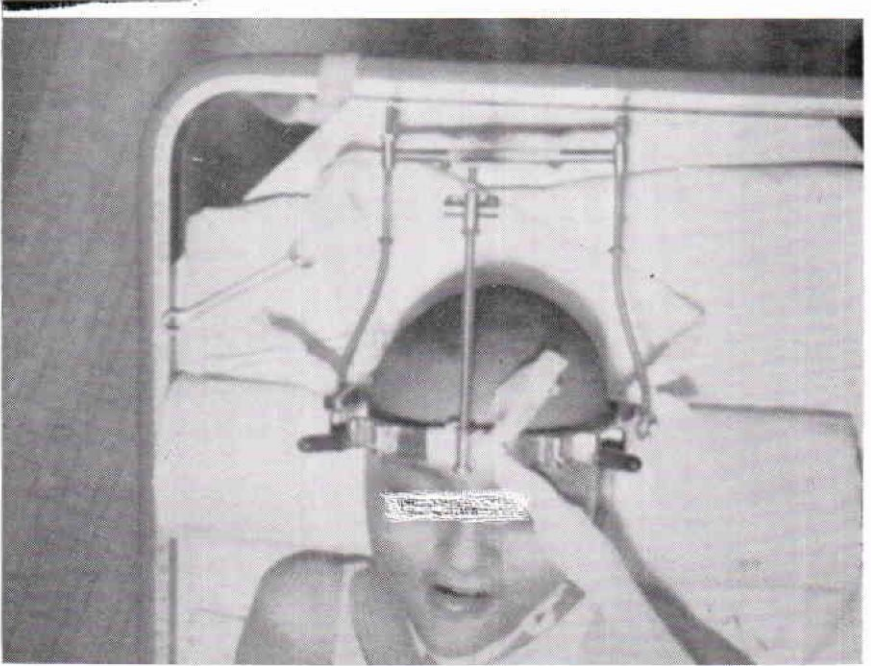


Fig. VI

The physician next applies the body jacket to the patient (Fig. V). It will be helpful if the orthotist can be present during the application of the cast to shape the mounting brackets to the cast (Fig. VI). The cast can be built up with plaster bandage in this area, which makes the final mounting easier. This is a respiratory patient who is receiving positive pressure through the tracheotomy during halo application.



The next operation is to attach the mounting brackets to the cast. This is done with 10-32 machine screws. Care should be taken to place the brackets parallel to each other. After the brackets are fixed to the cast and in proper alignment they are plastered over to give additional strength. Fasten suspension assembly to halo ring before the overhead support is shaped to insert into the mounting brackets (Fig. VII).

Many times, due to scoliosis, the head is not in line with the midline of the body, in such cases it is advisable to shape overhead supports so that all the medial-lateral adjustment is in the direction that you will be moving the head. (Fig. VIII)



