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A RIGID PLASTIC CORSET FOR ARM AND LEG BRACES

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2. *Calcification in the Supraspinatus Tendon.* By the use of the abduction exercise splint, the patient with calcification in the supraspinatus tendon is able to be ambulatory immediately after operation and to carry out abduction exercises with little or no discomfort.

3. *Exercise for the "Frozen Shoulder".* The use of this splint will enable immediate active motion through a wide range and with a considerable degree of comfort.

4. *Lesions of the Musculotendinous Cuff.* By means of the active abduction splint, used postoperatively, the arm can be abducted as much as 90 degrees with no danger of disturbing the suture line of the repair of the musculotendinous cuff.

5. *Fractures.* Following impacted fractures or in fractures of the greater tuberosity where graded amounts of abduction are desirable, the splint may be used to encourage motion within a limited range, since by lengthening the abduction cord any degree of abduction desired can be obtained. Of course, the splint should never be used when there is any danger of disimpacting fragments or in shaft fractures where angulation would inevitably occur. It should be used only for patients who would otherwise be receiving relaxing and circumduction exercises.

6. *Nerve Lesions.* The author has used the abduction splint on several cases of axillary-nerve paralysis, following dislocations of the shoulder, with extremely gratifying results. On two occasions, the splint has been used in poliomyelitic patients with involvement of the abduction mechanism. By the use of the abduction splint with resistance, the power of a partially paralyzed deltoid has been increased so that active abduction was possible.

NOTE: The author is indebted to Carl Raminger of the Hospital for Special Surgery, New York, N. Y., for his cooperation in constructing the abduction exercise splint.

A RIGID PLASTIC CORSET FOR ARM AND LEG BRACES

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In certain patients with ununited fractures of long bones, delayed union of fractures, loss of bone substance, or old infections of bone, rigid fixation of the extremity is essential to prevent deformity, and ambulation is desirable. Casts and traction will provide the necessary rigidity, but these prevent ambulation. The common type of ischial weight-bearing brace permits ambulation, but it fails to provide the necessary rigidity in some instances. To solve this problem, a brace has been developed which incorporates the

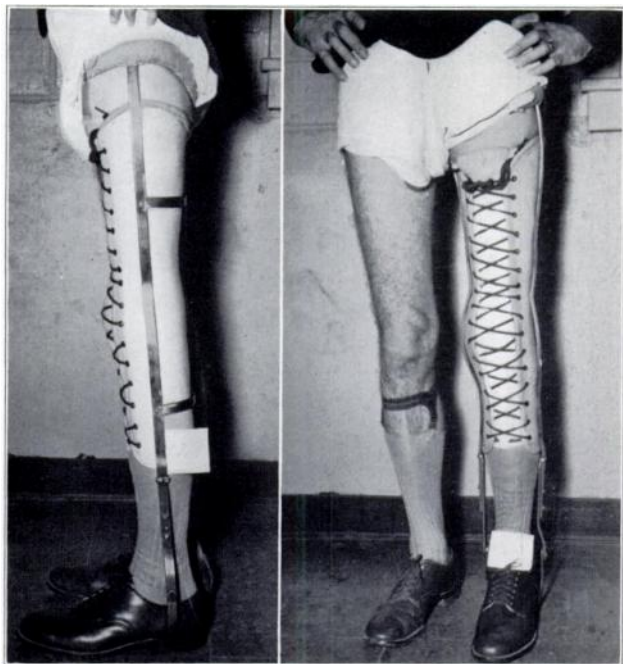


FIG. 1-A

FIG. 1-B

Fig. 1-A: Lateral view of corset, incorporated into an ischial weight-bearing brace.

Fig. 1-B: Anterior view of corset and brace.

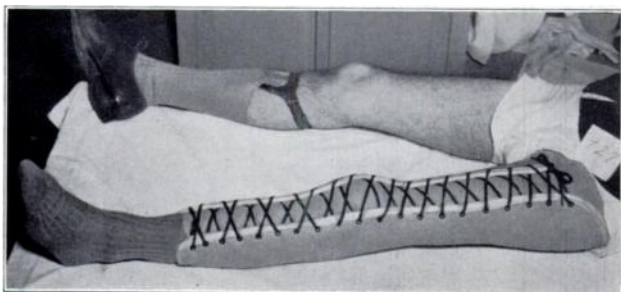


FIG. 2

Corset used as night splint.

The authors have used elastic in braces for both the lower and upper extremities. Moreover, it is used by the Army in making sockets for artificial limbs. It can also be used in shoulder caps for shoulder disarticulations, in inner soles for partial-foot amputations, in night splints (Fig. 2), and for many other orthopaedic appliances. It is light, strong, easily molded, and highly suitable, therefore, for making snug-fitting splints for the extremities.

NOTE: Acknowledgment for the technical details of this brace is made to Arthur D. Salmon, Chief Orthopaedic Mechanic, Brace Shop, Brooke General Hospital.

rigidity of a plaster cast into a brace and which at the same time enables many of these patients to become ambulatory (Figs. 1-A and 1-B).

A positive plaster mold of the extremity is made. This mold is then covered with horsehide, the edges of which meet anteriorly in a vertical line. The leather is fastened with tacks, and one coat of a cellulose cement, which is soluble in acetone, is applied and allowed to dry for twenty minutes. Then, a piece of celastic, the size of the horsehide cover, is dipped into acetone; when saturated, the celastic becomes completely limp and pliable. The leather is dampened with acetone and the piece of celastic is quickly molded to it, wrapped with an elastic bandage, and allowed to dry for four or five hours. Another piece of horsehide is then placed over the celastic with the cement. This is also allowed to dry for four or five hours. The edges are then trimmed and bound with horsehide. Eyelets are inserted along the anterior gap, approximately one and one-fourth inches apart, and one-half inch back from the edge. Laces are inserted, and the molded splint is complete. This splint may be easily incorporated into a brace (Figs. 1-A and 1-B).