

## A POINT IN THE TREATMENT OF LATERAL CURVATURE OF THE SPINE

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The orthopedist as well as the general practitioner should bring into use far more mechanics than is commonly used in the treatment of the lateral curvature of the spine. If the case, which is usually looked too lightly on by most of the laity, cannot be turned to the

The article in question advocates the wearing of splints that have been made over torsos so altered as to represent more or less correction. The molded splints extend from the pelvis *no higher up than the axillæ*. Inasmuch as the former paper has been published, it will be well to emphasize one point that has found favor with many orthopedists, namely, that any splint extend-

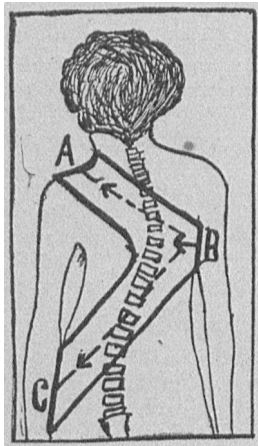


Fig. 1.—Diagram illustrating the need of counter-pressure at the neck as well as over the hip when much pressure is needed at the point of greatest curvature B.

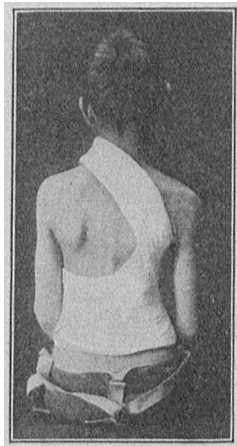


Fig. 2.—Original figure-of-eight cast used after forcible correction of scoliosis.

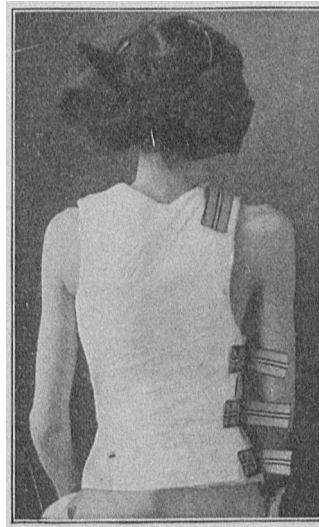


Fig. 4.—A cast made over a partially corrected torso and obtaining counter-pressure at neck as well as at hip.

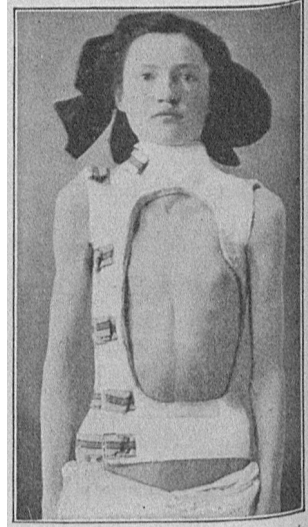


Fig. 5.—Anterior view of Figure 4, showing freedom of chest over areas of concavity.

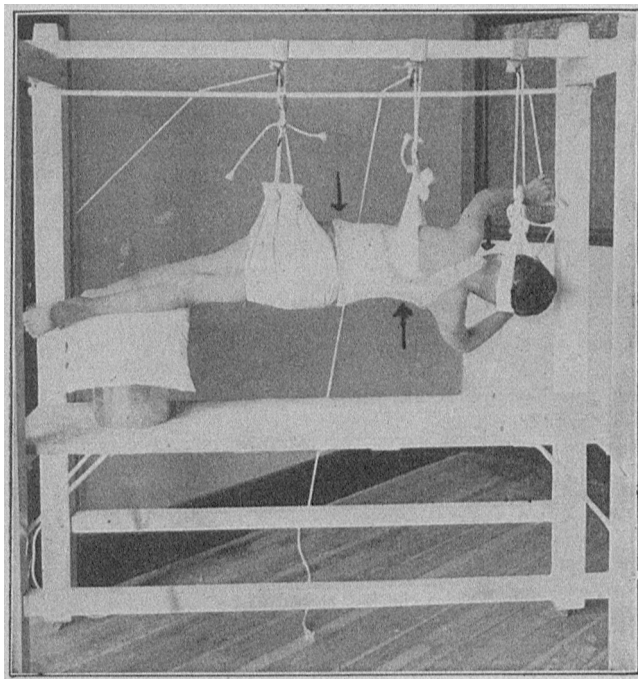


Fig. 3.—Appliance for lateral suspension and the application of retentive casts.

specialist, the man nearer home will have to treat the curvature, and this will require acquaintance with the best means of obtaining correction.

In a recent paper<sup>1</sup> by two orthopedic surgeons, a form of treatment was suggested which has long been in use in Boston and which, while capable of great good, is not capable of the greatest good.

1. Lovett and Sever: The Treatment of Lateral Curvature of the Spine, THE JOURNAL A. M. A., Sept. 2, 1911, p. 786.

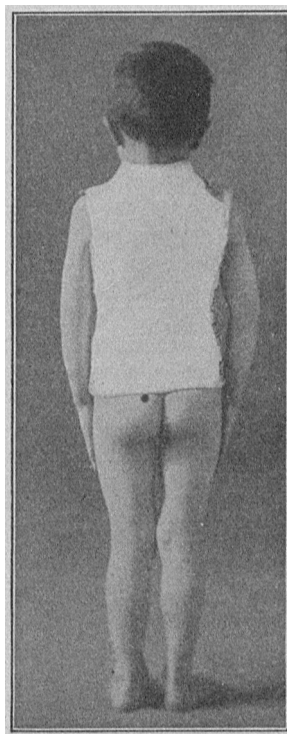
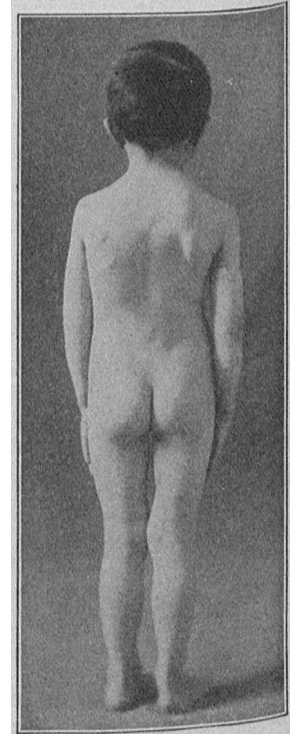


Fig. 6.—The last cast maintaining overcorrection.

Fig. 7.—Boy of 6, with lateral curvature overcorrected. Two years before the lad suffered a dorsal curve,  $1\frac{1}{2}$  inches, to the right of the median and with the usual rotation.



ing only to the axillæ and not gaining counter-pressure on the neck fails greatly in accomplishing its purpose of rectifying the ordinary spinal curves. As illustrated in Figure 1, when pressure is wanted on a given point B, it is a mere matter of mechanics to supply two points for counter-pressure at A and C. It might be possible in the lower lumbar curves to supply the points of

counter-pressure, one over the hips and the other over the higher ribs. As a matter of common experience, the more frequent curvatures present the great curve in the dorsal part of spine and in these the only two available points for counter-pull are over the pelvis below and over the compensatory cervical curve above.

It was a common practice five or ten years ago to hide the scoliosis case behind some plaster jacket that was applied with the patient in suspension. And we see this still done. It should not, however, be considered justifiable longer to torture these unfortunate children with jackets, plasters and braces unless we have a definite object ahead and are intent on accomplishing something.

In previous papers<sup>2</sup> I have attempted to prove that the object to be attained by the treatment of scoliosis is to set vigorous means working to force back the vertebræ and their related structures to the normal. It is now understood that the spine is more than a stack of vertebræ; it is a mass of bones bound together with stout ligaments and mighty muscles. Therefore, it cannot be handled like a pile of loose blocks, but rather its shaping demands practical mechanics that supply great power.

For several years I have made an effort to gain correction by means of lateral suspension and a figure-of-eight molded splint (Fig. 2), applied while the patient was suspended in an apparatus which was designed for the purpose (Fig. 3). This splint maintains a steady pressure on the desired point by counter-pressure on the pelvis and neck. By means of the method a scoliosis can actually be *overcorrected*, but, unfortunately, it can successfully be used only in children under 10 or 12.

Employing much the same principle in another way for the older patients, we make a light mold of the patient standing up and slightly suspended. This is later filled with plaster giving us a torso, the exact replica of the patient. The torso thus made is lengthened in the waist and corrected much as described by Lovett and Sever.<sup>1</sup> On this torso is made a plaster or celluloid jacket that fits over the corrected shoulders and neck. The jacket is removed from the torso by lateral incision on the side opposite the great curve and after completion buckled together again, over the patient. Large areas on the side of the concavity can be removed from the jacket, to allow greater freedom where pressure is not needed and to lighten the jacket (Figs. 4 and 5).

As the jackets cease to exert pressure, more and more of the mass representing the curve and the rotation of the ribs is shaved off the torso and a corresponding amount of new plaster of Paris added to the opposite side, and on this further corrected torso new jackets are made.

Incidentally, emphasis cannot be laid too strongly on the necessity of correcting the underlying cause of the spinal curvature when it is possible to find it. For instance, in one out of three cases the patient suffers a lateral curvature from a shortened leg; how futile is an attempt to straighten the back without building up the shoe on the short leg? Yet, one sees the attempt made continually.

The day of simply plastering in scoliotic backs should be past and would soon be forgotten if the surgeon would recognize the positive benefits that can be attained from intelligent, forceful effort.

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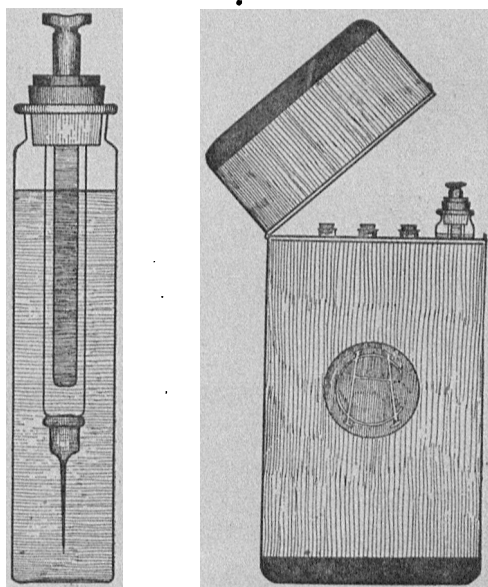
2. Rich, E. A.: The Treatment of Lateral and Posterior Curvatures of the Spine by Forceful Correction, Northwest Med., November, 1910.

## AN IMPROVED HYPODERMIC OUTFIT

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Every physician has his troubles with hypodermic injections. Among these are (1) the difficulty of quickly and conveniently obtaining sterile water for injection; (2) the difficulty of sterilizing the needle and syringe, outside the office or hospital; (3) the difficulty of keeping the syringe always water-tight and in good working order; (4) the bother of protecting the needles from rust and from obstruction; and (5) the loss of time involved in getting the instrument together and the solution prepared in emergency cases. To overcome these difficulties, I have evolved the device described below.

The apparatus consists of (1) a cylindrical vial about 4 inches long and  $\frac{3}{4}$  inch in diameter; (2) a perforated cork; (3) an all-glass syringe with ground-glass piston; (4) a platinum needle; and (5) about one ounce of sterile water. The platinum needle is attached to the



Hypodermic outfit and case.

syringe by a friction-joint, and the barrel of the syringe is inserted snugly through the perforated cork until the flange on the back end of the barrel rests against the cork. The vial is then nearly filled with the sterile water, and the cork (with the syringe passed through it) is inserted into the mouth of the vial (as shown).

The apparatus thus assembled will not leak, though the piston will rise nearly half an inch when the cork is pressed into the bottle. Atmospheric pressure holds the piston, and the whole apparatus may be dropped into a grip or stuck in the pocket without risk of leakage.

To give a hypodermic injection of morphin, for example, with this device one simply uncorks the bottle, draws the syringe full of the sterile solution, then draws the piston entirely out and drops the hypodermic tablet into the syringe full of water. The piston is reinserted and the instrument is ready for use. After the injection has been made the syringe is thrust into the bottle, the cork tightened, and the whole outfit dropped into the satchel or pocket. The platinum needle will not rust and will last indefinitely. The bottle may be replenished with sterile water from time to time, and may be held like a test-tube in a flame.

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