

An Improved Method of Cast Removal

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EDITOR'S NOTE: William A. Tosberg, C.P.O., Chairman of the *Journal's* Editorial Committee, suggests that Dr. Delaney's article will be of interest to orthotists who must apply plaster of Paris casts for the construction of splints and braces. "I admit that the electric saw used for the removal of casts is terrifying to many patients, especially children," Mr. Tosberg writes, "and I have quite often found the Gigli saw superior."

Since time immemorial, plaster of Paris has been used to immobilize fracture sites. For obvious physiological and kinesiological reasons, usually the joint below and the joint above the fracture site is immobilized in plaster of Paris.

To begin with, plaster of Paris was applied directly from a mixture in a bucket. Over the last 20 years there has developed the impregnated bandage type of plaster of Paris, which is in common use. The usual extremity cast is applied in three stages. The first stage is the application of a stockinette which is a woven knit, sleeve-type cloth pulled over the arm or leg. Step 2 consists of the application of sheet wadding, which is a cotton-wool type wrapping placed over the bony prominences and sometimes over the entire area to be casted. The 3rd step consists of the application of the actual plaster-impregnated bandage.

At some time after the application of the cast, it must be removed. At the present time, the usual method of removal entails the use of an electrically powered circular saw which has a vibratory motion. Although it is publicized that this vibrating circular saw will not cut the skin, this is not true and anyone who has removed casts has experienced either cutting of the skin, or anxiety—ranging from minimal to severe—of the patient who is having the cast cut off. The current cast-cutting saw is a loud, noisy apparatus which scares the young and timid.

The new method is only a slight, but essential, change in the previously described application. Steps 1 and 2 are exactly the same as previously described. However, an extra procedure is done between steps 2 and 3 and this simply is the imbedding or placing of a Gigli saw over the cotton-wool and under the plaster. The Gigli saw comes in lengths of 12, 20 and 25 inches and longer if desired. The average price is about 50¢ per saw. Essentially, a Gigli saw is a wire with a cutting edge—that is, it is flexible, it is small, and it has two loops, one at each end. These loops are allowed to protrude from the proximal and distal ends of the cast. When the time comes for removal of the cast, one uses the handles which are standard and have been in manufacture for over 50 years. These are applied to the saw blade and with a back and forth action, the cast is cut through in either one or two places with no injury to the skin, no electrical apparatus and no loud noise and/or heat which previously was needed to remove a cast.

It is believed that this methodology is a great improvement over the standard procedure for removal of casts especially in those who are young and/or timid. The cost is about 50¢ per cast, per saw. See illustrations 1 and 2.

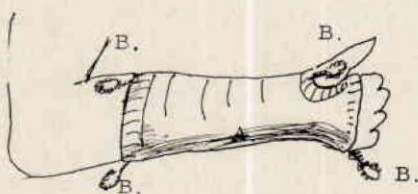


FIGURE 1. Metacarpal Cast
A. Cast
B. Two Gigli Saws

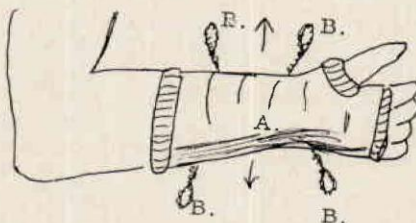


FIGURE 2. Metacarpal Cast Removal
A. Cast
B. Two Gigli Saws

BIBLIOGRAPHY

1. *Fractures in Children*, by Walter P. Blount. Published by Williams & Wilkins Company, 1955.
2. *Arm Fractures and Joint Injuries*, by Watson-Jones. Published by Williams & Wilkins Company, 1943.
3. *Some Observations of Fractures of Long Bones in Children*, by Aitken, A. P., Burkman, F., and Sullivan, J. E. Published by the American Journal of Surgery, 1951, Vol. 736.
4. *Operative Orthopedics*, by W. C. Campbell. Second edition, Vol. 2. Published by C. V. Mosby Company.

Books Received

Lumbar Disc Lesions: Pathogenesis and Treatment of Low Back Pain and Sciatica, by J. R. Armstrong, M.D. Third edition, Baltimore, The Williams and Wilkins Company, 1965, 307 pages, illustrations. \$13.50.

This excellent British text first appeared in 1952 and has been revised considerably. Orthotists will be particularly interested in the discussions of the conservative treatment of lumbar disc lesions.

Prosthetics, by Carl Dame Clarke, Ph.D. 336 pages, illustrations, published by the Standard Arts Press, Butler, Maryland, U.S.A., 1965. \$10.00.

This book covers external prostheses, primarily from a cosmetic viewpoint. Restoration of regions such as the nose, the ear, the chin, the cheek, is described, as well as prostheses for the breasts and extremities.

Problems of Amputation, by Jean Sommelet, J. M. Paquin, and Guy Fajal. No. 5-6, *Atlas d'Appareillage Prothetique et Orthopedique*, Nancy, France. 1964. 150 pages, illustrated.

This publication is written in French, English, German, Spanish and Italian, with all five texts appearing concurrently on facing pages. Captions for the numerous illustrations also are in all five languages.

Osteomyoplastic Amputation, Levels of Amputation, and the Human Frame and Amputation are discussed in relation to the work of the prosthetist in designing and fitting artificial limbs. Sixty-five large scale line drawings augment and explain the text.

This is a useful book for the prosthetist who wishes to enlarge his working knowledge of anatomy and the relation of the stump to the prosthesis.