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A COMPRESSION INSTRUMENT FOR USE IN HIP JOINT ARTHRODESIS WITH NAILING

By

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In the method initiated by *Watson-Jones* and *Lindström* for hip joint arthrodesis with partial intra- plus extra-articular arthrodesis with simultaneous nailing, it is important that the nail should secure a good position. As a result the patient can be treated post-operatively without fixation in plaster and the leg can bear weight 6 weeks afterwards. The nail should be steeply inserted and after it has passed centrally through the collum and caput, it should proceed into the posterior region of the pelvis. Those who have performed this type of arthrodesis have certainly noticed the complications which may arise. These complications are as follows:

1) The nail may be incorrectly positioned, too far forward or behind, or, more frequently, it is directed too far medially. This may occur even if guides are used, for the nail must pass for a good way through bone and then the ability of the guide to direct the nail is not sufficient. This is especially so if the bone is sclerotic.

2) As the nail goes a different path from the guide, a crack may occur in the guide and this forms an obstacle both to bringing the guide out and to inserting the nail further, if it is considered that the guide should be left in position.

3) A diastasis may form between caput and acetabulum, especially if the acetabulum is sclerotic. The more one hits the head of the nail, the larger the diastasis becomes.

All these circumstances are, for obvious reasons, an obstacle to a favourable surgical intervention.

The surgeon must attempt to take out the nail. The extractors usually found on the market are not suitable, for the nail is very steeply positioned and the extractors with which the nail is knocked out are almost always too slender. Both these extractors can moreover

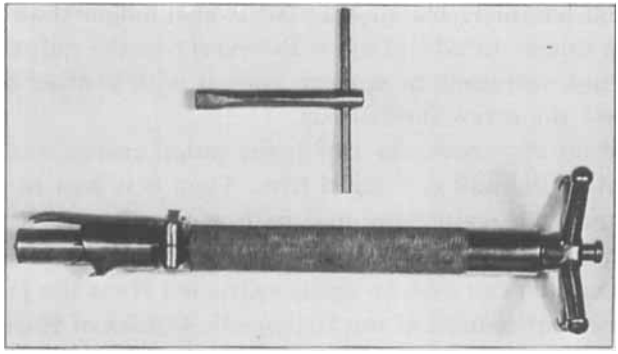

Fig. 1.

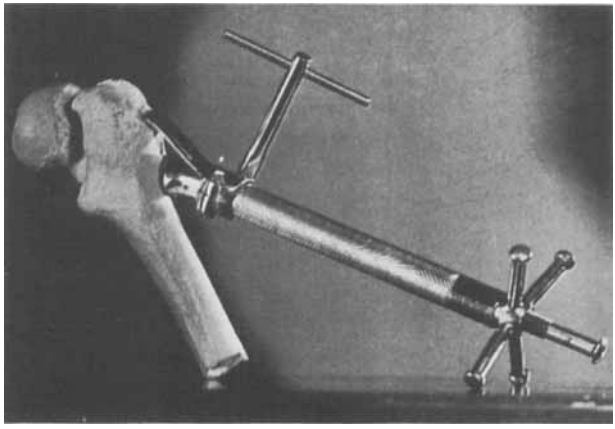

Fig. 2.

bring about injuries to the skeleton, especially to the femur at the lower end of the nail. In addition, when attempting to knock out the nail it is easy to cause positional changes which can lengthen and complicate the operation.

In order to overcome this difficulty I constructed in collaboration with a technician at the Orthopedic Clinic in Harnosand a nail extractor which also functions as a compression instrument (see Fig. 1). It is so constructed that the instrument's application against the lateral corticalis surface can be angled exactly according to the position of the nail. The application surface has small notches which do not harm the bone (Fig. 2). It functions as a compression instrument in those cases in which diastasis has arisen through counter coup effect. In turn the diastasis is screwed together and hard blows are struck with

a heavy metal hammer. The instrument is also longer than normal extractors and this is an advantage with respect to the nature of the incision. It is not necessary to concern oneself with contact between the soft parts and the screw mechanism.

The situation may occur in which the guide cracks and cannot be extracted, while the nail is wedged firm. Then it is best to clip off the guide and knock it against the nail with a narrow punch so that the extraction instrument can be applied. When the nail has been later removed, the guide can also be easily extracted from the bone.

This instrument is used at the Orthopedic Clinics of Harnosand and Malmo for nailing arthrodesis. We consider that the operation is much simplified by this.

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