VARIABLE SCALE FOR MEASURING FROM RADIOPHGRAPHS IN SMITH-PETERSEN NAILING


The magnification of the radiographic image, though often of little consequence in nailing the fractured femoral neck, may lead to important errors in nailing the hip to promote arthrodesis. The use of a graduated measure that can be calibrated to the correct scale relieves the surgeon of mental arithmetic. Such a device is shown in Figure 1.

![Figure 1](image)

In this instrument a metric scale has been drawn on rubber strip. Turning the milled screw causes the rubber to be stretched; the instrument is correctly calibrated when the magnified image of a known length can be measured directly on the expanded scale.

It consists simply of a strip of stout tourniquet rubber, bearing centimetre and half-centimetre graduations and carried in a frame which can be extended telescopically by means of a milled screw-head. The rubber, being approximately uniform in composition, width and thickness, is almost equally extensible throughout its length. At operation, a guide is introduced in a horizontal plane to a known depth, and a radiograph is taken on a horizontal film. The scale is laid along the radiographic image of the guide and expanded until it correctly records the known length of the buried part. For instance, if the guide has been introduced for a distance of ten centimetres, the scale is extended until ten "expanded centimetres" on the scale correspond with the enlarged image on the film. In this way the scale is correctly calibrated for reading directly from the film in units equivalent to real centimetres in the body.

This instrument was made for me by the Genito-Urinary Manufacturing Company, Devonshire Street, London, W. 1, and was described in a paper written with Mr E. T. Bailey in 1939.

REFERENCES