A tip on using the appropriate wire passer in orthopaedic surgery

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The authors present a technical tip on using the appropriate wire passer while passing cerclage wires around long bones in orthopaedic surgery.

Keywords: wire passer; cerclage wire.

INTRODUCTION

Orthopaedic surgeons frequently encounter situations where they have to pass cerclage wires around a long bone to provide mechanical stability to the bone against hoop stresses. Revision total hip replacement, periprosthetic fracture fixation and open reduction of long spiral displaced fractures of a long bone are a few examples where cerclage wires are frequently used.

TECHNICAL TIP

Two different types of wire passers are generally available. In the first type the hole at the distal end of the passer faces away (wire passer on the left in fig 1 and on the right in fig 2) from the handle of the passer. In the second type it faces towards the handle (wire passer on the right in fig 1 and on the left in fig 2). No matter whether the distal end is inserted either from above or below the bone, if the first type of passer is used it is usually extremely difficult for the surgeon or the assistant to insert the wire or cable through the distal hole as it faces away from the surface of the bone and is usually covered by the surrounding soft tissues. This necessitates further soft tissue dissection that may result in disruption of the blood supply to the bone. The experience may also be frustrating for the surgeon. We recommend the second type of wire passer to...
be used, in which the hole faces inside. When it is
passed subperiostially around the bone the hole
becomes very obvious as it is closest to the bone
and the wire can be passed easily. This minimizes
further soft tissue stripping and preserves the local
tissue biology. We used the first type of cerclage
wire passer and encountered difficulty in passing
the wire on numerous occasions. We routinely use
the second type of passer now and the procedure
has simplified and it has also reduced the total
operating time. Thus the use of appropriate instru-
mentation can simplify a difficult procedure.

Fig. 2. — View from the handle end