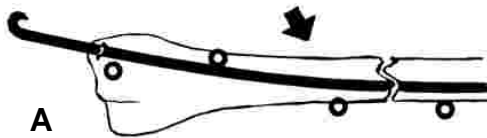
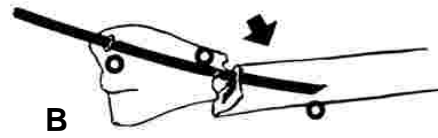


28 OBLIQUE FRACTURES IN SHORT FRAGMENTS



A

In a long fragment, this happens



B

In a short fragment, this happens



C

Distraction



D

Compression

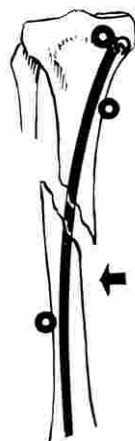
The Distal Radius

Diagram showing the influence of the length of the proximal fragment and the direction of the fracture line upon the dynamics of fixation.

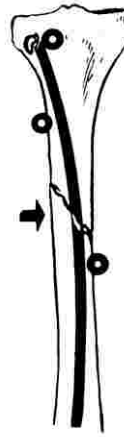
The circles indicate the points of pressure exerted by the pin within the bone. The arrow indicates the main dynamic force exerted by the point of the pin as it travels within the bone.



WRONG



RIGHT



The Upper Tibia

In the case shown, stable fixation was produced by the passage of the pin inserted through the lateral condyle because of the direction of the oblique fracture line.

Had the pin been inserted through the medial condyle, distraction of the fracture would have been expected.

OBLIQUE FRACTURES IN SHORT FRAGMENTS

V = Victory
Compression



X = No Good
Distraction

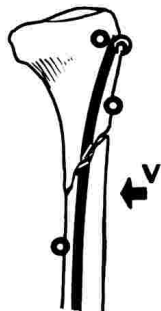
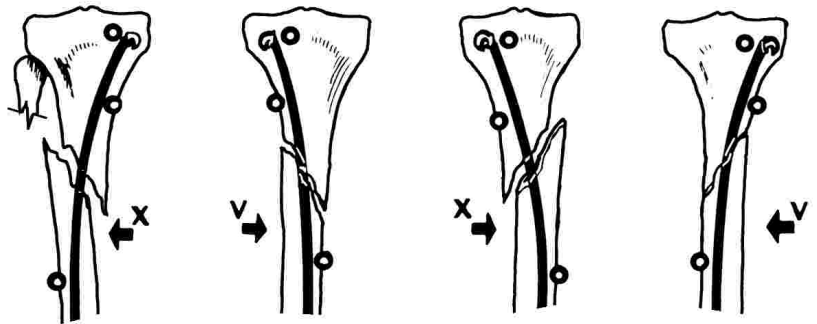


In an oblique fracture of a short fragment, the axis of the pin should be in the same general direction as the fracture line.

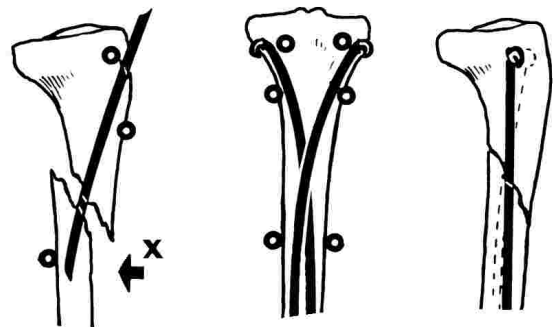
When the intramedullary pin crosses an oblique fracture line in a short fragment, it will produce distraction if the axis of the pin is roughly perpendicular to the axis of the fracture line. In other words, the respective axes cross to make an "X".

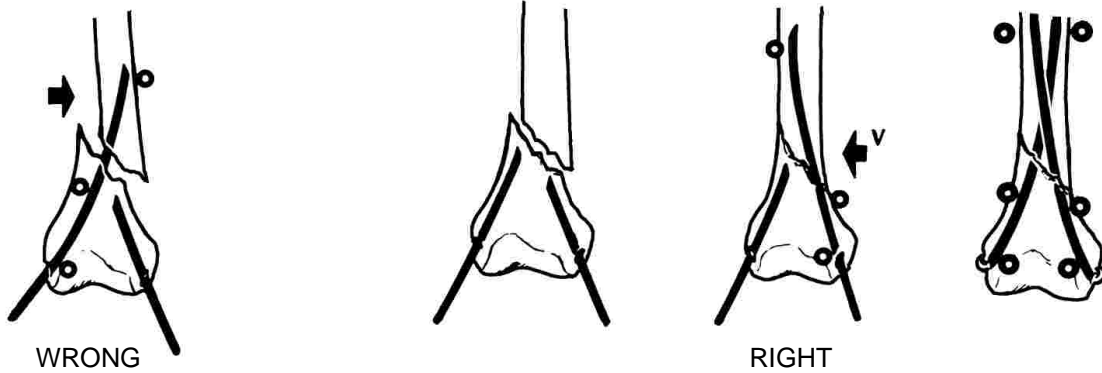
When the direction of the pin is such that its axis is in the same general direction of that of the fracture line, it will produce compression. The respective axes do not make an "X" but resemble a "V". This, at least, makes a rule easy to remember.

Diagram of the upper tibia in the antero-posterior view. Showing the dynamic forces exerted upon the fragments by the single pin are dependent upon the direction with which the pin is inserted.



Oblique fracture upper tibia, lateral view. In the fracture on the right, satisfactory fixation requires the use of two pins, one from each condyle.

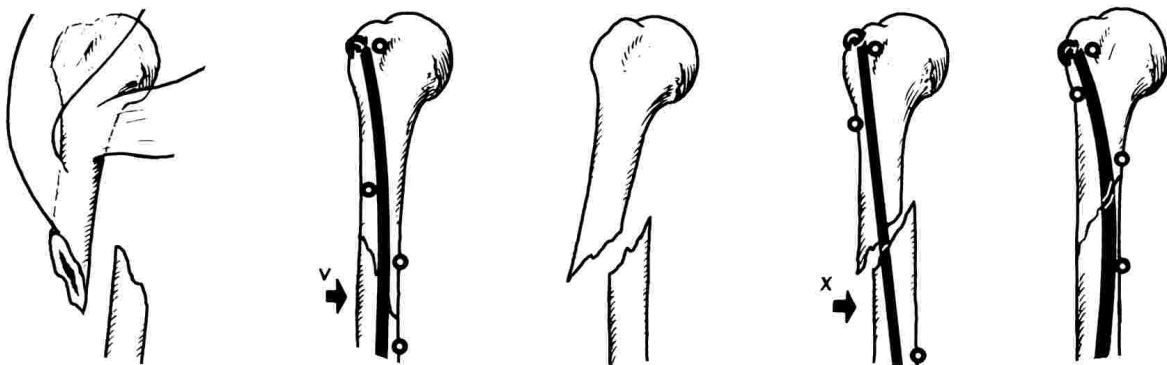




The Lower Femur

In other areas, we do not have this wide choice of procedures. Here the pins must enter the sides of the condyles. The most effective pin

should precede its fellow into the shaft and care should be taken in stress relieving the head so that the compression factor is not lost.



The Upper Humerus

Good healing here is dependent upon precise handling. In the fracture at the right, use a curved one-fourth inch pin if the medullary canal is large

enough to accept it. Note the difference in direction of the fracture lines.