A violent force that impacts the proximal phalanx against the metacarpal head may split the phalanx. If this happens and the base of the proximal phalanx is fractured into two major fragments that are displaced, one must perform an open reduction and internal fixation to restore the congruity of the articular surface. The metaphysis is reconstructed with one or more 1.5 or 2.0 mm minicortical lag screws. The reconstructed metaphysis is then secured to the diaphysis by plate fixation. Although open fractures are not discussed until Chapter 39, the case illustrated in Figures 23-1 A–M provides an excellent opportunity to demonstrate how a displaced intraarticular split fracture of the base of the proximal phalanx is managed as part of the overall reconstruction of a seriously injured hand.

Figs. 23-1 A and B  A 70-year-old patient sustained an injury to his right hand by a cornpicking machine 3 days before these photographs were taken.

Fig. 23-1 C  There were open fractures of the proximal phalanges of the right index and middle fingers, both with bone loss. Note the bicondylar fracture at the base of the proximal phalanx of the middle finger (arrow).
Figs. 23-1 D–F Following an initial debridement, the bicondylar split in the proximal metaphysis of the proximal phalanx of the middle finger was reconstructed with two 1.5 mm screws. A 2.0 mm tubular plate was applied to protect these screws and to hold the length and rotatory alignment of the proximal phalanx in a reduced position. The defect in the proximal phalanx of the middle finger was also grafted with cancellous iliac bone. A 2.0 mm L-shaped plate was applied to restore length and the proper rotatory alignment to the proximal phalanx of the index finger. The defect in this fracture was also grafted with pure cancellous bone from the ilium.

Fig. 23-1 G A meshed split-thickness skin graft was applied.

Fig. 23-1 H Six months later, the bone grafts had united and incorporated, and the proximal phalangeal fractures of both the index and the middle fingers were healed.