Chapter 47
Metacarpal Fractures

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What are the acceptable parameters for nonoperative management of finger metacarpal shaft fractures?	No rotational deformity. No more than 2–5 mm of shortening. Maximum of 10–20° of angulation at the index and long fingers, 30° of angulation at the ring finger, and 40° of angulation at the small finger
Why does shaft angulation acceptability differ between fingers?	There is greater carpometacarpal (CMC) joint range of motion at the small and ring fingers compared to the middle and index fingers
What are indications for surgical management of finger metacarpal fractures?	Open fractures, intra-articular fractures, rotational malalignment, displacement as listed above, multiple metacarpal fractures, border digit fractures

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How should hands with metacarpal fractures be immobilized?	In intrinsic plus position to tighten the collateral ligaments of the metacarpophalangeal (MCP) joint via the cam effect of the metacarpal head; thus, preventing MCP stiffness
What are surgical options of metacarpal shaft fractures?	Closed reduction and percutaneous pinning, open reduction and internal fixation (ORIF) with a plate, ORIF with lag screws (minimum of two), tension band wiring, cerclage/interosseous wiring, external fixation, open intramedullary fixation
What are the acceptable parameters for nonoperative management of finger metacarpal neck fractures?	No rotational deformity. No more than 2–5 mm of shortening. Maximum of 10–15° of angulation at the index and long fingers, 30–40° of angulation at the ring finger, and 50–60° of angulation at the small finger
Name and describe the reduction technique for metacarpal neck fractures.	The Jahss Technique: Flex the MCP joint to 90° and apply dorsally directed force to the metacarpal head via the proximal phalanx while stabilizing the metacarpal shaft