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4 Tibial and malleolar fractures
4.13 II Distal tibial fractures — Traction as initial provisional stabilization

Indication **All 43-A, 43-B, and 43-C type fracturs**

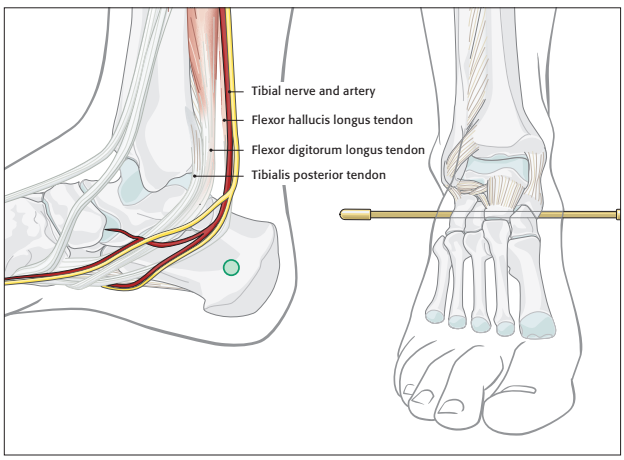
1 General considerations

Traction is an option for initial treatment of unstable, displaced distal tibial fractures, especially in fractures with Tscherne grade I and II closed soft-tissue damage. Remember that external fixation is more stable than traction. It also simplifies nursing care.

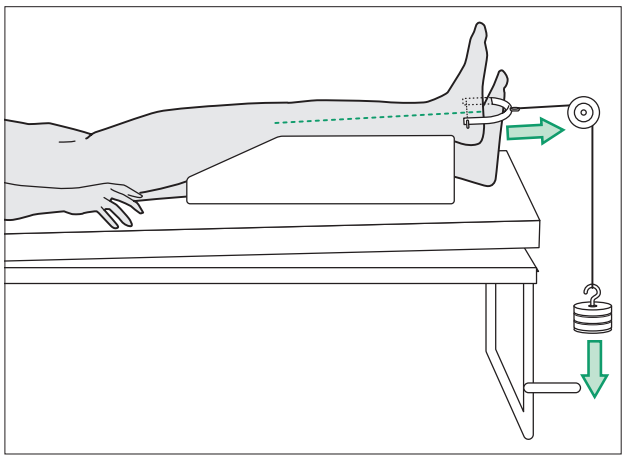
Traction is contraindicated for open fractures and those with acute or impending compartment syndrome. Note that swelling may increase with traction because stability is suboptimal.
Except where surgical treatment is not available, traction is inappropriate for definitive treatment of distal tibial fractures. This is because it requires prolonged bed rest and may not achieve an adequate reduction.

2 Application of traction

Insert a 4 mm Steinmann pin, centrally threaded if available, from medial to lateral through the calcaneal tuberosity. It is vital to avoid the posterior tibial neurovascular bundle behind the medial malleolus. A 2 mm K-wire may also be used, but it will require a tensioning clamp. If swelling permits, locate the posterior tibial pulse: if this is not palpable with certainty, examine the pulse of the uninjured leg and use its position as a guide to the probable path of the bundle at the injured side.



Subsequently, the fracture is aligned and reduction is maintained by applying 3-5 kg traction through an appropriate clamp on the pin or K-wire. Mild to moderate elevation of the injured limb helps control swelling. Adequate padding under the calf, to avoid heel pressure, is necessary to avoid skin breakdown. Traction should not be maintained longer than necessary, ie, until local soft-tissue situation permits definitive treatment.
Check frequently for skin pressure from supporting frame or pin/wire clamp.



3 Aftercare

Apply dressings as needed. Pin-site care is provided according to the surgeon's routine.

Note: Watch for pin-site infection. If infection occurs, and definitive internal fixation is not yet possible, pins have to be replaced using new insertion points in a safe distance to the infected pin track. Pin-track infections may compromise definitive surgical treatment.