

Basic Orthopedics

First of all: Orthopedics is *not* first aid and is *not* for armatures to practice. Broken bones and dislocated joints require professional medical attention. Attempting to reset bones or reduce dislocations can result in further damage to nerves and blood vessels. In some cases these can lead to permanent crippling and even the loss of the limb. **Only in extreme survival situation where medical attention will be delayed indefinitely would it be justified to attempt these procedures.** In most “normal” situations where the victim will be gotten to professional help within a few hours or days the fracture or dislocation should be splinted in the position in which it is found. Only if there is no pulse or feeling below the injury is the use of gentle traction may be justified to restore circulation before splinting.

Fractures

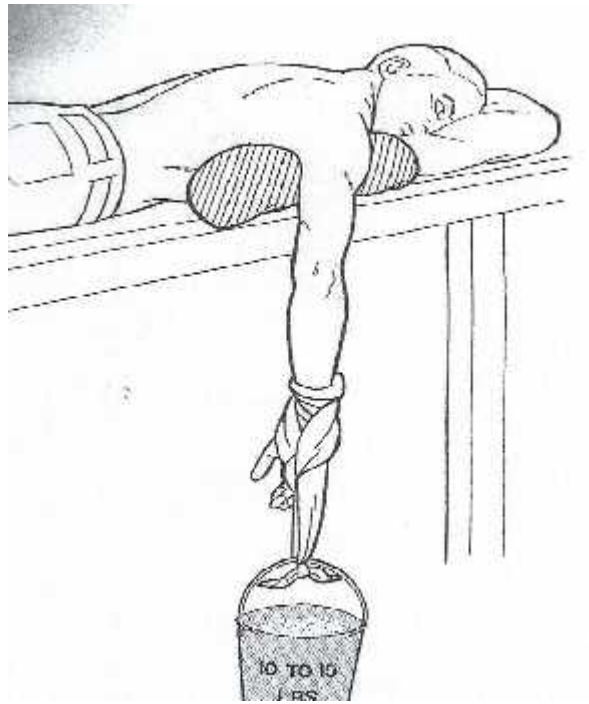
Splinting is intended to temporarily immobilize a broken limb to avoid further injury. Splinting is not a substitute for a cast. Minor fractures may heal properly with rest and immobilization, but severe and displaced fractures will almost certainly heal as deformity and disabilities without surgical attention prior to casting. If you have no alternative apply traction to the limb to achieve length and position matching the opposite (uninjured) limb. Check to assure that there is circulation, sensation and ability to move fingers or toes prior to permanent casting. A cast can be anything that firmly maintains the limb's normal position without inhibiting circulation. Unlike a splint, a cast needs to be reasonably comfortable and functional for many weeks without loosening or disintegrating. It is also important that fingers and toes be exposed to monitor circulation and sensation throughout the healing process.

Under survival conditions it is highly unlikely that cast liners, plaster and other casting materials will be available. Newspaper, Cardboard, plastic and other materials can be carefully crafted for the purpose if necessary. Ready-made soft casts for arms, ankles and wrists can be purchased and may be a good investment. Soft casts may not be adequate to hold severely displaced fractures. In general healing of a fracture can take from 6-10 weeks depending on the age of the victim and the severity of the fracture. As with splinting, the pulse, sensation and movement below the cast should be checked frequently.

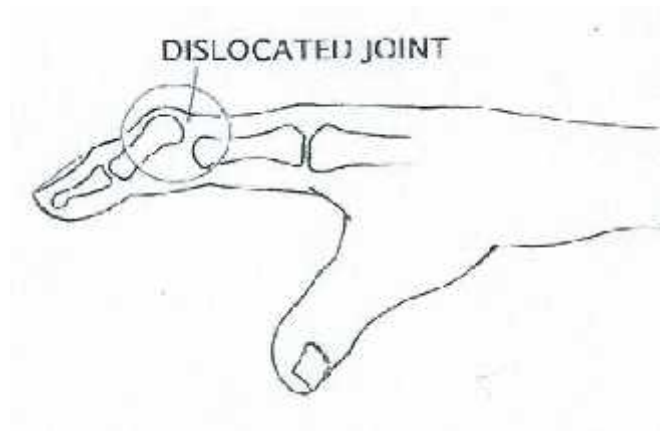
Dislocations

Dislocations occur when a joint is severely stretched and the end of one bone disconnects with the adjoining one. The deformity resulting at the joint is usually very obvious. The most common dislocations are at the shoulder and fingers. Reduction of a dislocation should always be done by a professional. As with fractures, reduction of a dislocation can compromise blood vessels and nerves. Applying traction to a dislocated finger can usually bring it back into place without complication. **Reduction of a dislocated thumb can be achieved in this way but has more potential for complications and should be avoided unless there is no alternative.** Reduction of a dislocated shoulder can be achieved through the hanging of a ten to fifteen pound weight on the arm while the victim is lying face down on an elevated surface as shown below. Once the dislocation has been reduced check for

circulation, sensation and function. The joint should be immobilized for several days to allow damaged connective tissues to heal.



Reduction of a dislocated shoulder with weight.



Typical dislocated finger. Traction on the finger should resort in the joint sliding back into place. It then should be splinted to facilitate safe recovery