

SURGICAL TECHNIQUE

1 DRILL HOLE

The fractured bones are first reduced and held with a reduction clamp. The surgeon has the option of predrilling across the fracture site with a 2.5mm drill bit. This may be useful in very hard bone but is usually not necessary. A horizontal directed drill hole is created on the fragment opposite to the fragment where the pins are inserted (Figure 1). This is usually necessary to anchor the cable on the bone to which the bone fragment is being reduced. Ideally, this is clear from the path of the pins, located internal to the bone.



2 PIN DRIVER INTO CHUCK

The cable is passed through the pin driver and the driver is locked into the hex of the pin at the cable pin junction. The cable pin and driver combination is then loaded into a cannulated trauma drill. The threaded pin is drilled across the fracture site, directed slightly toward the anterior cortex, until the tip is slightly countersunk into the bone. This will prevent protrusion of the pin into the soft tissues. The pin driver is disconnected from the cable pin by simply pulling the driver off the cable. A second cable pin is inserted parallel to the first pin in a similar manner.



3 FIGURE EIGHT

Now, there are two cables exiting from the bone. Note that there is a leader attached to the ends of the cable. The leader allows the passage of the cable through the horizontal drill hole in the bone. The cables are passed in a figure eight or crisscross fashion over the top of the bone (anterior surface for patella and dorsal surface for olecranon). One of the cables is passed through the horizontal drill hole.



4 LOADING CRIMPER

An oval crimp is loaded into the tensioner crimper by directing the disposable crimp passer with the crimp directly into the jaws of the crimper. The jaws of the crimper are ratcheted for one click only after contact has been made with the crimp. The free ends of the cable are passed in opposite directions through the crimp. The cables are wrapped around the pulleys and are then passed into the spools, which are at the end of one of the handles of the crimper. *The hole in the spool must line up with the line on top of the spool to insert the cable.*



5 TENSIONING

The cables are pulled evenly to take the slack out. The spools are both self-locking and loosening when tension is applied to or released on the cable via the gear mechanism.



The tensioning is accomplished by turning the tensioning handle, which is keyed, into the hex of the tensioner crimper. Tensioning of a looped cable construct creates a compressive force between the two major fracture fragments and is reflected in the slotted screw indicator's movement along the scale on the crimper handle. The tension is adjusted depending upon the type of bone and the quality of bone. The bone and fracture site should be carefully observed to watch the effects of the tensioning on the bone.

6 CRIMP & REMOVE EXCESS CABLE

Now, the handles of the crimper are squeezed until the pawl releases and the handles automatically open. This is a safety mechanism ensuring that the crimp is fully crimped before the jaws open. If necessary, the crimper may be released from the jaws prior to crimping by actuating the pawl. Finally, the excess portion of the cables is cut flush with the crimp.



Note: The crimp should not be located over a bony prominence with only subcutaneous coverage. If possible, bury the crimp under muscle to achieve the least amount of irritation.

