Many soft tissue reconstruction techniques pass tendons through bone tunnels, which can be challenging for several reasons: the tunnel diameter may be small; the tunnel path may be long and indirect; and the bone may be comparatively small or the overlying bone bridge may be fragile.

Reconstruction of the ulnar collateral ligament of the metacarpophalangeal joint of the thumb represents a common clinical scenario. It requires passing a tendon graft through a tunnel in the proximal phalanx under a thin bone bridge that is at risk for disruption.1,2 Anatomical reconstruction of the distal radioulnar joint presents another situation in which multiple passes of the tendon through bone tunnels at various tight angles occurs through a limited surgical exposure and overlying soft tissue constraints.3,4 Many commercial devices are available for passing tendon grafts (Figure 1), and each has distinct advantages and disadvantages (Table).

Surgical Technique

The authors use a novel technique that is simple, inexpensive, and effective. A 12- to 18-inch, 22- to 26-gauge flexible steel wire can replace commercially available tendon passers.
With the mid-point of the wire looped over a drill bit or held by a needle driver, the 2 free ends are placed into a wire driver (Figure 2A). The wire driver is carefully engaged, resulting in a uniformly tight spiral configuration, which facilitates simple tendon passage (Figure 2B). The graft or suture is placed in the loop and then pulled back through the bone tunnel.

This technique is effective in passing tendon graft through a curved tunnel under a relatively thin bony bridge, such as in the proximal phalanx when reconstructing the thumb ulnar collateral ligament (Figure 3). The device in this application must be sufficiently malleable for the leading edge to assume a tight arc while maintaining its curvature radius. This technique is effective in passing and retrieving tendon grafts without the need for direct observation, such as in the reconstruction of the distal radioulnar joint (Figures 4, 5).

The authors have used this technique in various surgical applications. The advantages of this device are that it is flexible enough to pass through curved bone tunnels and rigid enough to transport large grafts through long and straight tunnels. Other advantages include its availability, simplicity, and cost-effectiveness.

**REFERENCES**


