

Chapter 51

Flexor Tendon Injuries



Andrew D. Sobel

Describe the flexor tendon “zones”	In the fingers
	Zone 1—distal to FDS insertion
	Zone 2 (“no man’s land”)—distal to distal palmar crease (A1 pulley), proximal to FDS insertion
	Zone 3—distal to carpal tunnel, proximal to distal palmar crease (A1 pulley)
	Zone 4—Within carpal tunnel
	Zone 5—Wrist and forearm proximal to carpal tunnel
	In the thumb
	Zone 1—Distal to interphalangeal joint (IP)
	Zone 2—Distal to A1 pulley, proximal to IP
	Zone 3—Thenar eminence
Zone 4-5—Same as fingers	

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A. D. Sobel, MD

Department of Orthopedics, Warren Alpert Medical School of Brown University, Providence, RI, USA

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Describe the flexor pulley system	<p>Five annular pulleys, three cruciate pulleys prevent tendon bowstringing and direct tendon gliding</p> <p>Odd numbered pulleys (A1, A3, A5) overlay joints (metacarpophalangeal, proximal IP, distal IP) and arise from volar plate of joints</p> <p>Thumb has A1, Av, oblique, A2 pulleys only</p>
Which pulleys are the most important to prevent flexor tendon bowstringing in the fingers? In the thumb?	<p>Fingers—A2 and A4</p> <p>Thumb—Oblique pulley</p>
What is the orientation of flexor digitorum profundus (FDP) and flexor digitorum superficialis (FDS) tendons in the palm and digit and what is the anatomic landmark where the orientation changes?	<p>Palm—FDP deep, FDS superficial</p> <p>Finger—FDP superficial, FDS deep</p> <p>FDS tendon splits at “campers chiasm” and dives deep to insert on middle phalanx around FDP which continues distal to insert on distal phalanx</p>
What are the specific functions of the FDP and FDS tendons?	<p>FDP—Flexion of distal IP joint</p> <p>FDS—Flexion of proximal IP joint</p>

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What is the predominate way that tendons receive nutrition?	Diffusion through synovial fluid created by the tendon's synovial sheath
When can flexor tendon lacerations be treated nonoperatively?	Laceration of <60% tendon width
What is the most important determinant of flexor tendon laceration suture repair strength?	Number of suture strands crossing repair site
Besides crossing sutures, what can be done to improve gliding and strength of a repaired tendon?	Simple, running epitendinous suture
How are chronic flexor tendon injuries typically treated?	Two-stage reconstruction Stage 1—Silicone rod placement Stage 2—Tendon graft interposition
