True Active Movement Flexor Tendon Protocol

Aarthi

Operative Technique Video Articles

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The Saint John Protocol

The wide awake approach to flexor tendon repairs has decreased our rupture rate by 7% by allowing us to identify and repair tendon gaps during the surgery before we close the skin.1 Eliminating any gap with full fist flexion and extension testing during the surgery gives us the confidence to move away from full fist place and hold to true active movement as advocated by Tang.2,3 If a patient gets a good 4 to 6 strand repair that does not gap when tested during surgery, we believe that full fist place and hold should be abandoned in favor of true active movement even when patients are sedated during surgery and do not get the benefits of wide awake flexor tendon repair.4,5 (See video, Supplemental Digital Content 1, which outlines the 5 reasons we have moved toward up to half a fist of true active protected finger flexion and away from full fist place and hold for zone 2 flexor tendon injuries. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A292.)

First 3 to 5 days after surgery. (See video, Supplemental Digital Content 2, which outlines The Saint John rehabilitation Protocol for the first 2 weeks after flexor tendon repair with 3 to 5 days of immobilization and elevation followed by passive warm ups and up to half a fist of early protected true active finger flexion. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A293.)

- Patients are taught during wide awake flexor tendon repair surgery to not move their fingers at all and to keep the hand elevated at all times in these early postoperative days to avoid bleeding in the wound. Internal bleeding causes clot, and clot becomes scar. Waiting 3 to 5 days before moving lets the swelling, work of flexion, and friction decrease to minimize the risk of rupture. Collagen formation does not start until day 3, so detrimental immediate movement is not necessary.

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Supplemental digital content is available for this article. Clickable URL citations appear in the text.
• True active flexion up to one third to half of a fist; initiating movement at the distal interphalangeal joint (active hook fist).
• No tension, painful or forceful movement. We encourage our patients to be off all pain medicine and follow pain guided hand therapy before starting true active movement.

Two to 4 weeks. (See video, Supplemental Digital Content 3, which outlines The Saint John rehabilitation Protocol in the 2 to 4 weeks after flexor tendon repair with progressive flexion, short Manchester splinting, and synergistic motion. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A294.)
• Dorsal block splint is shortened to Manchester short splint.
• Active synergistic exercise program in the Manchester short splint.
• Patients work toward half to full active fist position and up to 45 degrees of wrist extension.
• Continue full IP joint extension with MP in full flexion.
• Work toward achieving full fist position by 6 weeks.

Six weeks. (See video, Supplemental Digital Content 4, which outlines The Saint John rehabilitation Protocol for the remaining 4 to 8 weeks after flexor tendon repair. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A295.)
• Manchester short splint discontinued.
• Patients can start to use the hand for light activity.
• Start palm-based or digit extension splints at night if needed to correct IPJ flexion contractures. Relative motion flexion orthoses during daytime activity are also helpful.

Four to 8 weeks after flexor zone 2 tendon repair. See video, Supplemental Digital Content 4, which outlines The Saint John rehabilitation Protocol for the remaining 4 to 8 weeks after flexor tendon repair. This video is available in the “Related Videos” section of the Full-Text article on PRSGlobalOpen.com or available at http://links.lww.com/PRSGO/A295.
REFERENCES


