Flexor Tendon Repairs Zones I-IV Delayed Mobilization Rehabilitation Guidelines

THIS PROTOCOL IS USED WHEN THERE HAS BEEN A DELAY IN STARTING THERAPY PAST 10 DAYS POST OP OR IF THE WORK OF FLEXION IS INCREASED BY SIGNIFICANT EDEMA AND SOFT TISSUE STIFFNESS UPON EARLIER ASSESSMENT

Phase 1 Precautions: Maintain postoperative splint for 3-5 days after surgery. No lifting, pushing, pulling or forceful gripping with the operative extremity.

Balance relative rest for recovery with appropriate amounts of general activity for health, avoiding fear-avoidance behaviors.

Phase 1: Starts after Surgery	Emphasis on	Orthosis	Exercise
3-5 days	Protection Keep the postoperative splint clean and dry Minimize swelling Prevent finger stiffness and loss of motion for the unaffected joints Avoid upper quadrant pain from holding arm in a guarded position	Postoperative splint: dorsal block wrist and hand A sling may be used when out in the community, removing at home to allow for elevation and therapeutic exercises	Elevation Movement of unaffected joints throughout the day Suggested Therapeutic Exercise • Active elbow flexion and extension • If not contraindicated by a non related shoulder dysfunction: active and active assisted shoulder range of motion through full available motion, glenohumeral ER with scapular retraction • Forward and backward shoulder circles moving the scapula on the thorax • Abdominal breaths/deep breathing Encourage staying active throughout the day as able, good sleep hygiene, good hydration and nutritional intake

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Phase 2 Precautions: Protect repair with orthosis.
No composite finger and wrist extension active or passive movements.
No active flexion of the fingers of the surgical hand.
Do not use the surgical hand for self care.
No lifting, pushing, pulling or forceful gripping with the surgical extremity.
No resistance strengthening until 8-10 weeks post op.

Phase 2	Emphasis on	Orthosis	Exercise
3-9 days - 4 weeks	Protection of the repair Initiate appropriate rehabilitation to restore PROM for the fingers Control edema Wound healing Prevent infection: keep wounds clean, dry and covered until sutures are removed Initiate scar management activities after suture removal Balance relative rest with appropriate amounts of therapeutic activity for recovery	Custom, static WHFO dorsal block: wrist in neutral to 20° extension, MCPs in 30-40° flexion, IPs in 0° extension WHFO full time including sleep and PROM removing for skin hygiene	Continue previous recommendations Prescribed exercises are to be performed every 1-2 waking hours <u>Passive range of motion</u> PROM (Modified Duran) to be done slowly, moving into stiffness/mild discomfort without causing pain repeating until PROM is loose and easy For the involved finger(s): Isolated DIP flexion/extension PROM (check precautions for Zone 1 injuries, which may limit DIP extension depending of surgeon preference) For the involved finger(s): Isolated PIP flexion/extension PROM For all fingers: composite flexion PROM <u>Active PIP extension/active intrinsic motion</u> Reverse blocking of the MCP for active PIP extension (hold MCP in flexion while actively extending the IP joints) encouraging full active PIP extension May make a soft insert to place in the orthosis at dorsum of the proximal

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			phalanx to place the MCP in greater flexion during this exercise Active finger ABD/ADD Hold position for 10 seconds repeating 10 times
Phase 3 Precautions: Protect repair with orthosis. No lifting, pushing, pulling or forceful gripping with the surgical extremity. No resistance strengthening until 8-10 weeks post op.			
Phase 3	**Emphasis on**	**Orthosis**	**Exercise**
4 weeks –6 weeks	**Protection of the repair** **Prescribe appropriate rehabilitation to promote tendon gliding without gapping or rupturing the repair** **Restore PROM for the fingers, if not already accomplished** **Address PIP flexion contractures** **Restore full AROM wrist and initiate extrinsic flexibility for the flexors** **Scar management**	**Continue custom, static WHFO dorsal block: wrist in neutral to 20° extension, MCPs in 30-40° flexion, IPs in 0° extension** **Orthosis full time including sleep removing for hygiene and hand therapy exercises**	**Continue previous exercises in phase 2** **Progressive AROM for the wrist with the goal to restore full motion with fingers relaxed initially, progressing to extrinsic flexibility through active movement** **Active tenodesis: wrist flexion with finger extension ←→ wrist extension to 45° with active flexion of the fingers through an easy, comfortable ROM, initiating the motion from the DIP joints, not allowing flexion to be predominantly MCP motion (limit active MCP motion to 30-40°)** **Continue attention to preventing PIP flexion contracture with reverse blocking exercises** **During treatment, use functional activities that facilitate active motion without resistance may be used: softly gathering a tissue through partial fisting motion, spinning a dowel** **Progressive AROM for the wrist with the goal to restore full motion**

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			Gradually progress concurrent MCP and IP extension **Use light dexterity activities during treatment without resistance to promote coordinated hand function** **Emphasis on intrinsic extension for PIP contractures, adding light manual PIP extension as needed**
Phase 4 Precautions: Progress daily use of the hand gradually. No resistance strengthening until 8-10 weeks post op.			
Phase 4	**Emphasis on**	**Orthosis**	**Exercise**
6-12 weeks	**Gradual load tolerance of the repair** **Restoring PROM** **Restoring tendon gliding for functional AROM** **Scar management** **Encourage gradual return to ADLs**	**Protective orthosis is discontinued** **May modify to a composite extension (wrist in 10-20° extension, MCPs and IPs in extension) night use if extrinsic flexibility is still lacking** **May use a relative flexion or extension orthosis to address active flexion lag and PIP contractures, respectively**	**May initiate joint blocking activities** **At week 8: may initiate and gradually increase resistance depending on soft tissue response** **Continue dexterity activities**

Note: These instructions are to serve as guidelines and are subject to physician discretion. Actual progress may be faster or slower depending on the individual. Return to work and sport/recreation per surgeon discretion.

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