Carpal Tunnel Release
Steadman Hawkins Protocol

0-7days Post operative
Educate patient in P/AROM of fingers and elbow while still in bulky dressing and edema control (provide Edema Education Sheet).

5-7 days Bulky dressing removed and light compressive dressing applied as needed.
Progress treatment after sutures are removed.
AROM: Tendon gliding to digits and thumb
Nerve gliding exercises to digits and thumb
Wrist extension and flexion (Avoid extreme flexion to protect incision)
Radial/ulnar deviation, pronation/supination
Avoid forceful gripping and pinch
Desensitization/Resensitization: Provide Desensitization/Resensitization sheet
Ice pack
Educate: HEP 3-5 times a day, discuss job/ADL tasks that increase symptoms of CT, proper body mechanics, use of tools and avoidance of vibration
Do not shake when tingling occurs, instead continue passive forearm stretching
Begin to use hand for light ADL's without resistance.

Week 2 Scar massage: when sutures removed, gentle dry massage until wound closed, then add Vitamin E oil.
Gentle debridement as needed
Desensitization/Resensitization: Variety of progressive media applications
Continue week 1 activities (Paraffin PRN if joints tight and wound closed).
Use hand for light ADL's with little to no resistance.

Week 3 AROM progress with wrist flexion.
Progressive strengthening: hand gripper, pinch pins, putty.
Gentle Transverse Carpal Ligament stretch.
Education: Review of all ADL/Job tasks and ergonomic changes.
Use hand for ADL's with little to moderate resistance.

Week 4 Continue strengthening and ROM activities.
Use hand for ADL's with moderate to full resistance.

Carpal Tunnel Syndrome
Steadman Hawkins Protocol

Week 1 Baseline evaluation: sensation, ROM, pain, strength, ADL Independence and ergonomics.
Desensitization/ Resensitization: Variety of progressive media applications.
AROM: Tendon and Nerve gliding exercise, forearm stretch (flexion/extension)
Transverse Carpal Ligament Stretch (provide picture exercises of each).

Splint: Fabricate or off shelf wrist immobilization as needed.
Modalities: May do US, phonophoresis, and iontophoresis, continue ice.
Educate: anatomy, HEP, ice, splint wear and care, "do not shake" stretch forearm instead, avoid vibration, and discuss ergonomics/Activities of Daily Living (ADL's). adaptations.

Week 2 Continue above treatment activities, re-evaluate to assess progress.
Strengthening: forearm, hand helper, pinch pins (avoid aggravating symptoms)
Discuss ADL adaptations.

Week 3 Symptoms should be improving both objectively and subjectively.
Continue above treatment activities, re-evaluate to compare progress.
Strengthening can be increased for forearm and hand/fingers.
Discuss ADL adaptations.

Week 4 Re-evaluate and compare to baseline and patient satisfaction.
Pt. Should have made ADL adaptations at home and work.
May continue with HEP for many weeks/months, symptoms should be resolving (usually slowly).
If symptoms persist for more than 3-6 months, refer to physician for further determination of treatment options.

Wrist Fracture Protocol
Steadman Hawkins

Day 1 Post op: **(until cast or Fixator off)** ROM and edema control of unaffected joints (provide sheet).
1x visit and HEP or 1x/wk and HEP

Week 4-6 Baseline evaluation, P/AROM, Sensation, Strength, Edema, Pain and ADL's.
AROM.
Scar management if surgical or open wound.
Edema control (glove or coban may be necessary).
Desensitization/Resensitization with progressive media applications (towel, rice).
Use hand for ADL's involving little to no resistance.
May need to use Paraffin if very stiff.

Week 5+ AROM, AAROM, PROM digits, wrist, forearm.
Increase use of hand for ADL's adding resistance weekly

EXTENSOR TENDON REPAIR
ZONES 1&2 (DIP & PROX PHALANX)
(MALLET FINGER)
STEADMAN HAWKINS

<u>Immobilization</u>

Day 1-Day 42 : Immobilize 6-8 weeks using stax, secure with coban, 0° degrees extension or slight hyperextension of DIP or fabricate splint.
Educate patient:

- uninterrupted extension.
- Removal of splint while maintaining extension on table to check skin.
- ROM of unaffected joints.
- Normal ADL's with splint on.

Weekly Monitoring of skin and splint wear
Patient may not need to attend weekly if compliant.

Mobilization

Day 43: (1st week of mobilization)
If no extension lag: If lag: re-splint 2 wks
20-25 degrees of active flexion of DIP. delay AROM
10-20 reps every 2 hrs.
Continue splint between exercises.

Week 8 (2nd week of mobilization) If lag: re-splint and delay AROM
If no lag: 2 more weeks
35 degrees active flexion of DIP.
10-20 reps every 2 hrs.
Can make template to 35 degrees if patient overly ambitious.
Continue splint between exercises.

Week 9 If no lag:
45 degrees of active flexion.
Add prehension and coordination activities.
Desensitization may be necessary.
Continue splint between exercises.

Week 10-12 If no lag:
Continue increasing active flexion 10 degrees/week

Week 12 If no lag:
Full Active flexion of DIP allowed
D/C splint
Normal ADL's

If extensor lag, refer back to M.D.

EXTENSOR TENDON REPAIR
ZONE 3 & 4
STEADMAN HAWKINS

Day 1: Post operative or non-surgical repair:
Immobilize PIP to 0 degrees ext. 4-6 weeks, volar or circumferential splint.
AROM unaffected/unsplinted joints.
(if lateral band repair): DIP splinted at 0 degrees ext. 4-6 weeks
(if no lateral band repair): DIP left unsplinted

31/2-4 weeks If bone injury associated, consider with M.D. controlled passive motion of 25 degrees.

6 weeks Gentle active flexion of involved joints.
2 more weeks of splinting between exercises.
Light to moderately resisted ADL's.

8 weeks Normal ADL's

EXTENSOR TENDON REPAIR
ZONES 5,6 & 7
STEADMAN HAWKINS

Day 1 post op: Surgical dressing removed, wound examined and redressed.
Educate patient in edema control and wound care (provide edema sheet).
Splint wrist 40-45 degrees extension.
Support MP joints 0 degrees or slight hyper ext. IP joints free.
If injury to Ext. Indicis Proprius or Ext. Digiti Minimi, then splint only repaired tendons.
If injury to Communis, then consider Juncturae Tendinum:
If proximal to juncture, all fingers splinted in extension.
If distal to juncture, splint adjacent fingers in 30 degrees flexion.

3 weeks post op: Gently debride wound PRN.
Guarded AROM, AAROM of extension at MP with wrist extended then relax MP joints to 30-40 degrees flexion.
IP joints full AROM with wrist in extension.
Scar Management.
Desensitization/ Resensitization with progressive media applications (towel, rice).

4-5 weeks post op: Active claw position to prevent adhesion
Active intrinsic plus (hood)
Active wrist flexion gradually increasing with relaxed fingers

5-6 weeks post op: Active composite finger flexion, using graded dowels
Wrist neutral controlled splint
Closed fist ADL's with splint on

6-7 weeks Simultaneous finger and wrist flexion.
Begin gentle grip and pinch activities.
Can use functional electrical stimulation /dynamic splinting PRN.

ADL's without resistance.
Week 7 D/C splint.

10/12 weeks Normal ADL's.

EXTENSOR TENDON REPAIR
THUMB T1,T2, T3 & T4
STEADMAN HAWKINS

T1 "Mallet Thumb"

Non-Surgical Stax splint continuously for 8 weeks-remove splint only for skin checks while keeping IP joint in extension using table to place hand and slide off splint.
Remove splint after 8 weeks and perform AROM blocking of IP with MP in extension.

Surgical Stax splint 5-6 weeks-remove splint only for skin checks while keeping IP joint in extension, using table to place hand and slide off splint.

T2 "Mallet Thumb" Thumb post splint MP and IP joints at 0 degrees and radial ext of thumb.

4-5 weeks

Surgical or non-surgical AROM
3+ weeks continue splint between exercise sessions
Scar management if surgical

6-8 weeks Continue to progress AROM
Add blocking
ADL's without resistance

8 weeks ADL's normal

EXTENSOR TENDON REPAIR
T5
Steadman Hawkins

Post op Immobilize wrist in 40-45 degrees, MP joints in 0 degrees and thumb in a functional resting position of abduction.
Follow extensor tendon zone 5, 6 & 7 protocol identified below.

Extensor Tendon repair Zones 5, 6, 7:

Day 1 post op: Surgical dressing removed, wound examined and redressed.
Educate patient in edema control and wound care (provide edema sheet).

3 weeks post op: Gently debride wound PRN.
Guarded AROM, AAROM of extension at MP with wrist extension then relax MP joints to 30-40 degrees flexion.
IP joints full AROM with wrist in extension.
Scar Management.
Desensitization/ Resensitization with progressive media applications (towel, rice).

4-5 weeks post op: Active claw position to prevent adhesion
Active intrinsic plus (hood)
Active wrist flexion gradually increasing with relaxed thumb

5-6 weeks post op: Active composite thumb flexion, using graded dowels
Wrist neutral controlled splint thumb in functional resting position of abduction.
Closed fist ADL's with splint on

6-7 weeks Simultaneous finger and wrist flexion.
Begin gentle grip and pinch activities.
Can use functional electrical stimulation/dynamic splinting PRN.
ADL's without resistance.
Week 7 D/C splint.

10/12 weeks Normal ADL's.