Hand Therapy for Dupuytren’s Contracture:

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Nonoperative Treatments

- Physical Agents
- Stretching
- Splinting*
- Radiation

➢ Evidence based?

Value of Preoperative Therapy

- Record sensibility, ROM, functional limits
- Screen CT, patient expectations
- Education regarding PO course

Postoperative Management

➢ Need for Therapy?
  - Postoperative swelling
  - Wound healing
  - Scar formation
  - Restricted finger motion
  - Compromised function with activities of daily living (ADL)

Post-Op Rehabilitation

➢ Goals
  - Maintain the contracture correction (gains in extension)
  - Restore finger flexion
  - Promote wound healing
  - Scar management
  - Facilitate resolution of swelling
  - Address complications promptly

Postoperative Complications

- White finger
- Flap necrosis
- Flare
- Infection
- Tender, bulky surgical scar
Initial Therapy Assessment

- P/AROM
- Pain
- Edema
- Sensation
- Wound/graft assessment

Relevant Considerations

- Degree of contracture and duration (especially PIP)
- Full extension achieved in surgery?

Post-Op: Preferred Treatment

No Tension, Early Referral

- 24 hours PO
- Wound care
- Edema control
- Dorsal block splint
- Gentle motion day 3
- Written precautions

Rationale for No Tension Technique

- Mechanical stress on digital vessel and nerve may contribute to local hypoxia and inflammation
- Tissue anoxia may contribute to free radical release and adverse cellular response
- Hypertrophic scar will form in lines of tension

Post op Management Day 3-7

- Dorsal block splint
- Gentle composite flexion exercise
- Limited extension
- Soap and water, light dressing
- Edema control, coban

Postoperative Splinting

- After 3 weeks wean splint to night time wear
- Reapply if loss of digit extension is noted
- May need to continue night extension splinting for 6+ months as a retainer
Wound Management

Goals
- Prevent infection
- Remove dead tissue
- Absorb excess drainage
- Protect wound bed from trauma
- Minimize mechanical influences

Post-Op Exercises

Exercises
- Composite flexion/extension
- Blocked PIP, DIP flexion, & extension
- Differential tendon gliding (EDC)
- Finger abduction/adduction
- ORL stretch
- Wrist AROM
- Thumb AROM

“No pain no gain” (not!)

- Over aggressive exercise can incite an exaggerated and prolonged inflammatory response
- Recommended: Consistent active exercise within a comfort range

Post-Op Exercises

Exercise Frequency
- Hourly
- 3-4x daily
- 5-6x daily

- Frequency modified according to patient response and the presence of severe edema, large hematoma, incision splitting or signs of a flare reaction

Physical Agents

- Heat
- Cold
- Ultrasound
- Electrical stimulation

Rehabilitation - Edema Control

- Elevation
- Mild compression with dressings
- Compressive wraps/gloves
- AROM (elevated)
- Gentle massage
Scar Management

- **Problems**
  - Texture:
    - Thick?
    - Rigid?
    - Raised?
  - Sensitivity: hypersensitive vs. a-sensate
  - Adherence
  - Contracture limiting motion

- **Scar Management**
  - No tension to incision scar through the use of protective splint and exercise technique
  - Micropore paper tape on incision placed longitudinally in lines of tension  Reiffel 1994; Niessen 1998

Scar Management

- **Light massage**
  - Topical lotion/cream
- **Pressure**
  - Putty elastomer
- **Silicon gel sheets**

Scalp Management

- **Weeks 4-6**
  - D/C use of splint during day
  - Night splinting up to 6 months
  - Continue scar management
  - Light strengthening

Problems

- **Residual limitations in motion**
  - Continue exercises
  - Corrective splints, straps, serial casts
Return to functional activity

- Work activities
  - Depends on the nature of the work
  - Sedentary vs. manual labor

- Recreational
  - Golf
  - Other sports
    - Use of gloves and padded handles