

Hand Therapy for Dupuytren's Contracture:



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Nonoperative Treatments

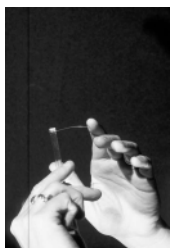
- Physical Agents
- Stretching
- Splinting*
- Radiation



➤ 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

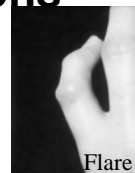
Postoperative Complications



White finger



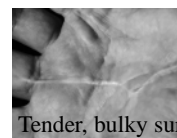
Flap necrosis



Flare



Infection



Tender, bulky surgical scar

Initial Therapy Assessment

- *P*/*A*/*R*/*O*/*M*
- *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

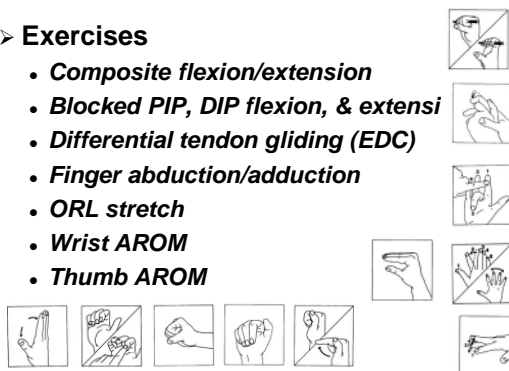
Goals

- 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



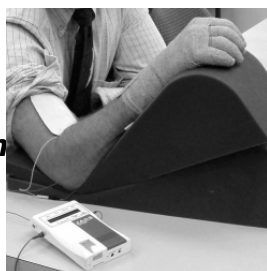
Post-Op Exercises

➤ 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**



Scar management



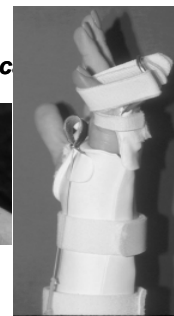
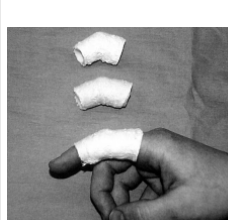
Post-Op Rehabilitation

- **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 c**



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*

