INDICATIONS:

1. Release of digital finger flexion contractures where they cross joints, in order to restore hand function vital for ADLs, work and leisure.

CONSIDERATIONS:

1. Dupuytren’s Disease is caused by progressive fibroproliferation of the palmar fascial complex of the hand. Fascial bands form nodules and/or cords, which eventually lead to flexion contractures of the digits. The MCP and PIP joints are the most commonly affected, and the ring finger and small fingers are most commonly involved.

2. Dupuytren’s has a higher prevalence in people of Northern European descent, and in men over the age of 50.

3. Injections of nodules/cords with clostridial collagenase is currently being investigated, however, the most common treatment of advanced Dupuytren’s Disease is surgical transection of cords (fasciotomy) or excision of diseased fascial bands (fasciectomy).

4. Wound care and splinting are a significant portion of the early post-op management.

5. A high recurrence rate following palmar fasciectomy, ranging from 41%-54% at 5 years, is reported in the literature. 15% of these clients will require re-operation.

COMPLICATIONS:

1. Surgical treatment carries the risk of skin complications, including hematoma and skin necrosis.

2. Digital nerve injuries may occur.


4. Flare Reaction: Uncommonly, overly aggressive post-op dressing changes or therapist-directed therapy (ie. too much extension tension on the wound) can cause flare reactions (vasospasms = coldness, pain, pallor). This should be treated with rest, mild heat applications, and overall reduced activity. Consult the surgeon if this does not reside expeditiously.
**General Precautions:**

1. Keep wound dry and clean to prevent infection.
2. Take care in splint fabrication that the tension on the repair is not too intense to cause either a circulatory compromise or increased cellular proliferation of the fascia. Serially progressing the splint to full extension may be necessary.

**General Post-Operative Goals Weeks 1-6:**

1. Appropriate wound care to promote healing and prevent infection.
2. Splint fabrication and wear to maximize digital extension range.
3. Restoration of full PROM and AROM in the digits.
4. Edema control.

**Post-Operative Protocol:**

**Weeks 1-6 Post-Op:**

- **Wound Care:** chlorazine whirlpool baths, gentle debridement of dead tissue and light dressing applications with gauze, Telfa, Kling wrap every 2-3 days. No ointments on open areas are necessary as they can cause maceration and possibly lead to infection. Vitamin E moisturizing cream can be applied to healed skin to increase mobility/decrease discomfort. Following suture removal, it is normal to have some separation of the wound margins. Tell the client it is usual to have wound depths of about 5 mm deep with a pink flesh base. Wound strength is adequate to prevent opening further.
- **Fabricate volar resting forearm based splint (if multiple digits released) or hand based splint (if single digit) : add web space to splint if thumb is also released.**
- **Edema Control as needed (elevation, coban wrap, jobst pump, retrograde massage)**
- **Active and Passive ROM exercises are initiated at first visit (usually 5-7 days post-op). Exercices include active and passive flexion and extension of each of the involved digits at the MCP, PIP and DIP joints. Digital blocking for AROM is effective. Exercises can be performed 3-5x/day, 10-15 repetitions each).**
- **As healing progresses and sutures are removed (usually 10-14 days post-op), the splint can be adjusted into more digital extension.**
- **Once wounds have closed, digital extension on a stretch board may be initiated (10 min.), along with Ultrasound (continuous for 5 min.) along the scar, and scar massage/pump is initiated.**
- **Therapist performed joint mobilization and passive stretching should be performed throughout the first 6 weeks post-op.**
**General Post-Operative Goals Weeks 6-12:**

1. Maximize PROM and AROM.
2. Begin strengthening program when pain and swelling have subsided.
3. Restore full function of hand.

**Weeks 6-12 Post-Op:**

- Continue with ROM exercises, stretch board for flexion and extension lags, Ultrasound and scar massage/pump as needed.
- Continue with therapist applied stretching and mobilizations.
- Begin strengthening exercises once pain and swelling have decreased or subsided (usually between 6 and 8 weeks post-op). Include theraputty exercises, power-web, and hand grippers.
- May require serial casting, dynamic finger extension splints or gutter splint for night wear, to correct any extension lags.
- Use ROM and grip strength measurements to monitor progress and recognize any plateaus.
- Client should wear the night extension splint up to 6 months post-operatively to prevent recurrence.
- Each individual will have a varying degree of severity in contractures and scar tissue, some lay it on thick and fast and those having a second or third release of the same digits will require more aggressive and longer treatment times.

**References from the Literature:**


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