ORTHOPEDICS & SPORTS MEDICINE
BayCare Clinic

DR. BRIAN KLIKA & DR. ANDREW KIRKPATRICK
DIGITAL NERVE REPAIR & COMMON DIGITAL NERVE
POST-OP THERAPY PROTOCOL

All information below is for isolated digital nerve repair unless stated otherwise

Phase 1 – Early Protective Phase (0-3 weeks)

Goals for Phase 1	Precautions for Phase 1
• Immobilize and protect surgical repair • Manage pain and edema • Initiate gentle digit ROM, depending on the nerve repaired, while protecting the repair	• The patient should keep the hand within their visual field with all activity, until protective sensation returns

Other Considerations

- Therapists will want to know if the repair is under notable tension, which may indicate a need to slightly flex the digit

Orthosis

- **3-5 days**: for an **isolated digital nerve repair**, near the PIPJ and under notable tension, a dorsal blocking orthosis is fitting in 15° of PIP joint flexion. For repairs at the DIPJ level, it is rare to add a DBO.
- With nerve repairs under little tension, no orthosis is indicated
- **3-5 days**: for a **common digital nerve repair**, near the MPJ level, a hand based dorsal blocking orthosis is fitting in 25° of MP joint flexion with both the involved and an adjacent digit

Wound Care

- **3-5 days**: post-op dressing is removed. A dry, sterile dressing is applied.
- **10-14 days**: sutures are removed

Edema Management

- **3-5 days**: edema control is initiated with fingersocks or 1” Coban

Scar Management

- **10-14 days**: once the wound is completely healed, scar mobilization techniques may be initiated. This may include gentle scar massage with lotion, along with applying a scar pad or silicone scar liner for night wear.
- **10-14 days**: manual desensitization exercises may be initiated. These exercises may be performed 3-4 times a day for 5 minutes.

ROM

- **3-5 days**: for a **common digital nerve repair**, within the dorsal blocking orthosis, the distal strap is removed and active and passive flexion of the digit, along with active extension exercises may be initiated 3-4 times a day, 15-25 gentle active and passive flexion exercises, along with active extension.
- **3-5 days**: for an **isolated digital nerve repair**, within the dorsal blocking orthosis, the distal strap is removed and active and passive flexion of the digit, along with active extension exercise may be initiated 3-4 times a day,±15 repetitions.
- For nerve repairs not placed in a DBO, full arc AROM of the digit is permitted.

Modalities

- **10-14 days**: fluidotherapy may be initiated to diminish hypersensitivity

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Phase 2 – Intermediate Phase (4-9 weeks)

Goals for Phase 2
- Continue to protect surgical repair while achieving full arc ROM of digits
- Continue scar and edema control

Other Considerations
- Patient education is critical in the presence of digital nerve repairs, particularly for the boarder digits. Re-injury along the insensate area is at increased risk.

Orthosis
- **4 weeks**: for an **isolated digital nerve repair**, dorsal blocking orthosis is discontinued, when fabricated and fitted to the digit
- **4 weeks**: for a **common digital nerve repair**, distal blocking orthosis is discontinued, except when performing tasks with a tight, sustained grip or performing tasks whereby the hand at the MPJ level is passively extended. Buddy straps may be added to limit use of hand.
- **6 weeks**: for an **isolated digital nerve repair**, in the presence of a joint contracture, an extension orthosis may be initiated (e.g. custom fabricated extension finger orthosis or a prefabricated orthosis such as a safety pin splint/orthosis or LMB). The orthosis is worn ±3 times a day for 20 minutes to resolve any mild joint contracture.

ROM
- **4 weeks**: full arc AROM is permitted, with emphasis on gradually increasing full extension. The goal is to gently mobilize the adhesions distally.

Manual Therapy
- Continue phase 1 scar and edema management

Strengthening
- **6 weeks**: hand strengthening may be initiated with putty and a hand exerciser
- Typically, hand strength is not compromised, which negates the need for specific strengthening

Modalities
- Fluidotherapy for heat, ROM, and desensitization
- Paraffin may be used for deep heat prior to ROM
- Moist heat

Education
- Patient must understand the importance of keeping the digit in the visual field with all activity to avoid injury
- Advise the patient to be careful using tools and equipment whereby repetition and friction along the side of the digit could create a blister and wound unknowingly

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Phase 3 – Advanced Phase (10+ weeks)

Goals for Phase 3	Precautions for Phase 3
• Restore full active and passive ROM • Regain strength • Return to full functional use of the hand • Return to work activities	• Avoid any exercises or movement pattern that generates preoperative symptoms

Other Considerations

- The quality of the outcome from digital nerve repairs is primarily affected by age

Strengthening

- **10-12 weeks**: gradual, progressive endurance building strengthening (≤ 5 pounds) may be initiated to the entire upper extremity. Initially, emphasis is placed on low load, higher repetitions. Ensure pain, numbness, tingling, or compromised vascular status is not elicited.
- **4-6 months**: patient may return to impact sports, pushups and activities with compression and distraction of the shoulder with surgeon approval

Manual Therapy

- **12 weeks post-op at the earliest**: sensory re-education may be initiated when signs of sensory return are noted

Work Conditioning

- After 12 weeks, a comprehensive work conditioning program for patients with work duties that require repetitive gripping, pinching or heavy manual labor may be appropriate

Criteria for Return-to-Work, Function, and Sport

- After week 12, no restrictions and the patient may return to heavy work/contact sports