ULNAR NERVE TRANSPOSITION
POST-OPERATIVE PROTOCOL

Indications:
1. Cubital tunnel syndrome with a number of possible symptoms: numbness and tingling in the ulnar aspect of the hand, hypersensitivity, vasomotor changes in the hand, weakness and clumsiness, hypothenar and first dorsal interossei atrophy.
2. Failure of non-operative treatment including splinting, and nerve gliding program.
3. Client may only require a decompression during surgery without the transposition (refer to operative note).

Considerations:
1. Surgery consists of moving the ulnar nerve anteriorly, into a more protected area, which may be subcutaneous or submuscular.
2. Subcutaneous transposition places the nerve below the subcutaneous fat of the arm and forearm; submuscular transposition places the nerve in the interval between the two heads of flexor carpi ulnaris, beneath the flexor pronator origin.
3. Clients who have severe wasting of the hypothenar and first interossei muscles, or prolonged injury to the nerve over several years prior to surgery, will likely require more rehabilitation, and outcomes will vary in restoration of strength/relief of parasthesias.

General Precautions for the Client:
1. Client must be casted/then splinted with elbow at 90 degrees for 2/4 weeks post-op.
2. Avoid any heavy gripping, lifting, pushing, pulling with involved upper extremity.
3. Avoid sustained postures of elbow flexion when out of splint.
4. Restrict contraction of the flexor carpi ulnaris initially.

Post-operative Goals Weeks 1-8:
1. Protect and promote soft tissue healing of the relocated nerve.
2. Control edema, pain, and inflammation.
3. Restore full ROM by 4 weeks.
4. Gradual return to normal ADL’s by 6-8 weeks.
Post-Operative Protocol:

1-2 Weeks Post-Op:

- Client is initially placed in a half cast with the elbow at 90 degrees of flexion.
- Will likely present to therapy following cast and suture removal.
- On initial assessment, fabricate a thermoplastic posterior elbow resting splint, with the elbow between 45 and 90 degrees of flexion. Include the wrist in a neutral position. The splint should be worn continuously for 2 weeks post-op, except for self care and exercises. The splint can then be weaned over the next two weeks to night wear only.
- Begin AAROM for elbow flexion/extension 10-15 reps, 4x/day.
- Begin AAROM for pronation and supination with elbow at 90 degrees, 10-15 reps, 4x/day.
- Work on full AROM of wrist and fingers.
- Control edema: ice, elevation, retrograde massage, cryo cuff, tensor wrap/coban/tubilast sleeve as needed.
- Begin scar massage/mobilization once staples are removed.
- Begin ulnar nerve gliding program.

2-4 Weeks Post-Op:

- Continue to progress with the above exercises. Progress elbow ROM to full by four weeks, emphasizing full extension.
- Wean splint to night wear.
- Continue with edema control as needed.
- May use ultrasound over scar, as well as scar massage and any other desensitization techniques that may be required.

4-8 Weeks Post-Op:

- Continue to progress ROM as needed.
- Add flexor carpi ulnaris and triceps stretches.
- Continue ulnar nerve gliding program.
- Gradually resume normal ADL’s.
- Light fisting/gripping to tolerance.

General Post-operative Goals Weeks 8-12:

1. Begin to restore strength of hypothenar and first dorsal interossei muscles.
2. Restore full flexibility/mobility of the involved upper-extremity.
3. Return to work, modified if heavy labour occupation.
8-12 Weeks Post-Op:

- Continue with ROM exercises as necessary.
- Continue ultrasound, scar massage/desensitization as necessary.
- Continue with FCU and tricep stretches and ulnar nerve glides.
- Begin a light strengthening program: include theraputty, power web, and hand gripper exercises. Wrist curls for flexion/extension, supination and pronation (begin with 1-2lb. weights and progress as tolerated). May also do elbow and shoulder strengthening as required for return to work, etc.
- Return to work for light occupations.

References from the Literature: