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PERIPHERAL NERVE SURGERY & JOINT PRESERVATION PROTOCOL

Ulnar Nerve Decompression & Anterior Transposition

Clinical Rationale & Pathophysiology: Surgical decompression of the ulnar nerve at the cubital tunnel with in-situ release or subcutaneous anterior transposition. Restores neural blood flow, relieves mechanical entrapment, and mobilizes the nerve into a low-pressure anterior pathway while strictly avoiding tension on transposed tissues.

CRITICAL PRECAUTIONS & IMMOBILIZATION RULES

- Soft dressing or removable posterior splint for 7-10 days. Hinged brace is NOT required for simple in-situ release.
- If subcutaneous transposition performed: avoid forced terminal elbow flexion past 90° for 3 weeks to protect fascial sling.
- NO FORCED PASSIVE STRETCHING of the ulnar nerve; emphasize gentle neural glides and sliders only.
- No heavy gripping, power tool vibration, or resting directly on the medial elbow scar for 6 weeks.

Phase I: Protection, Edema Control & Early Neural Gliding (Weeks 0 - 2)

Rehabilitation Goals & Milestones	Therapeutic Interventions & Exercise Progression
<ul style="list-style-type: none">• Protect operative incision and subcutaneous sling• Minimize cubital tunnel edema and perineural fibrosis• Initiate early gentle active neural excursions• Prevent hand and finger stiffness	<ul style="list-style-type: none">• Soft protective dressing or removable splint worn for comfort• Immediate active finger, thumb, and wrist range of motion exercises• Gentle ulnar nerve sliders (coordinating wrist extension with elbow flexion)• Cryotherapy and hand elevation to diminish distal post-operative swelling• Education on avoiding prolonged static elbow flexion and direct pressure

Phase II: Active Motion & Scar Desensitization (Weeks 2 - 6)

Rehabilitation Goals & Milestones	Therapeutic Interventions & Exercise Progression
<ul style="list-style-type: none">• Attain full unassisted active elbow flexion and extension• Restore complete forearm pronation and supination• Prevent perineural tethering and desensitize surgical scar• Resume light activities of daily living	<ul style="list-style-type: none">• Splint discontinued; active unassisted range of motion in all planes• Progressive ulnar nerve tensioners and gliding drills as comfort permits• Incision scar massage with vitamin E / silicone sheets after suture removal• Light functional tasks (eating, typing, light driving once cleared)• Gentle wrist flexor stretching avoiding prolonged terminal hold

Phase III: Progressive Strengthening & Intrinsic Re-Education (Weeks 6 - 12)

Rehabilitation Goals & Milestones	Therapeutic Interventions & Exercise Progression
<ul style="list-style-type: none">• Restore grip and key/tip pinch strength to baseline• Re-educate ulnar-innervated intrinsic hand muscles (interosseous and lumbricals)• Eliminate residual weakness or motor fatigue	<ul style="list-style-type: none">• Therapy putty exercises for finger abduction, adduction, and lumbrical grip• Progressive wrist and forearm resistance exercises (bands and light weights)• Upper body resistance training avoiding direct pressure on medial condyle• Ergonomic workstation setup and keyboard posture modifications

Phase IV: Functional Vocational & Athletic Return (Months 3+)

Rehabilitation Goals & Milestones	Therapeutic Interventions & Exercise Progression
<ul style="list-style-type: none">• Full restoration of muscular endurance and fine motor dexterity• Resolution of intermittent numbness/tingling with sustained Padded• Unrestricted discharge to manual labor, racquet sports, and driving	<ul style="list-style-type: none">• Highly-demand manual work simulation and heavy power tool loading• Padded protective elbow sleeve for contact athletics or prolonged desk work• Long-term neuro-ergonomic protection and recurrence prevention guidelines

Clinical Communications & Triage: Division of Orthopaedic Surgery, UHN Toronto Western Hospital · Inquiries: office@drcvortho.ca