Health
South Eastern Sydney
Local Health Network

Prince of Wales Hospital Spinal Injuries Unit

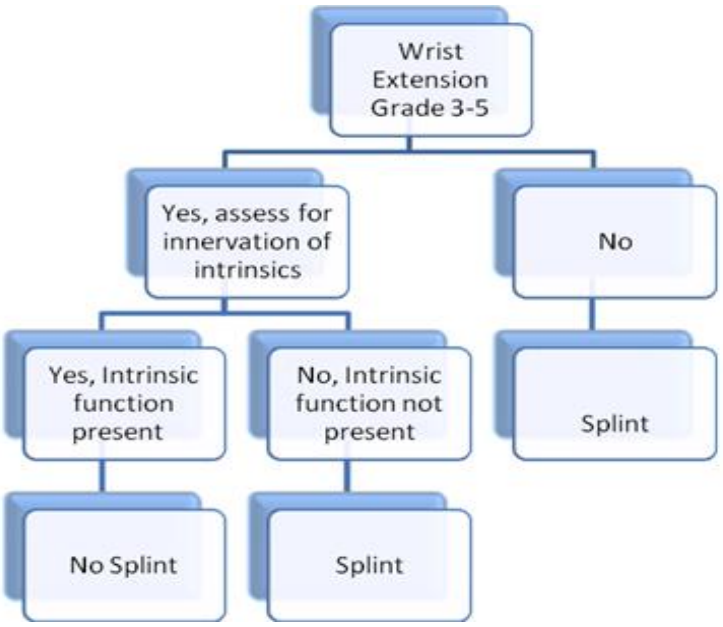
Clinical Pathway for the Management of the Tetraplegic Hand

1. SPLINTING MANAGEMENT

Acute spinal Management Initial Hands Assessment by ICU Physiotherapist to establish neurological impairment and need for **splinting** with referral to Hand Therapy.

Position of Safe Immobilisation (POSI)
Recommendations of POSI fabrication (wrist neutral; MCP 70°-90°; PIP and DIP extension; thumb in palmar abduction and opposition).

1.1 POSI Splinting Pathway



Key Performance Indicator
Thermoplastic POSI splint fabricated within 2 weeks of admission to ICU or Acute with documentation in patient's medical record.

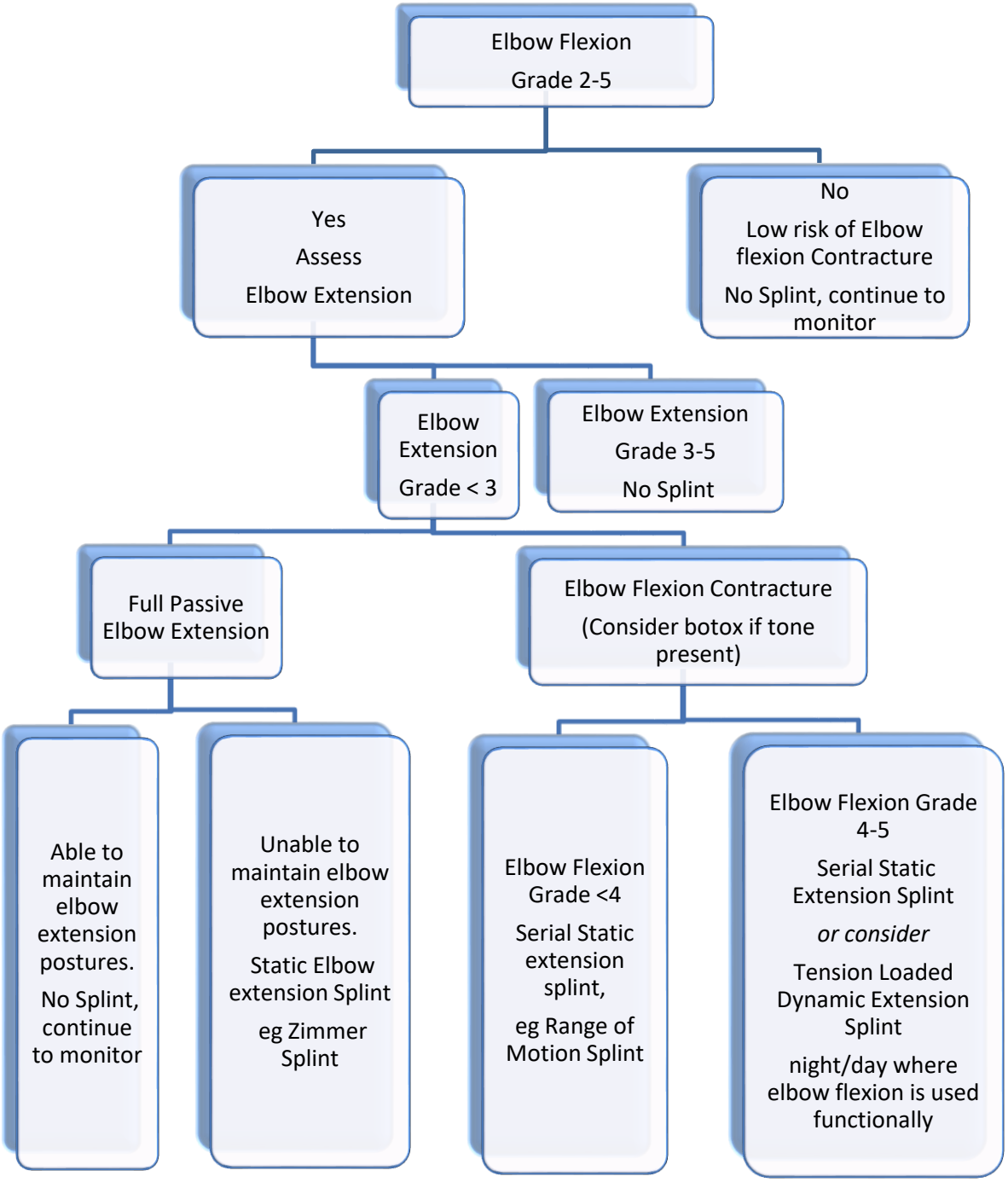
Clinical Indicator

$$\frac{\text{Number of patients admitted with a new episode of tetraplegia with a POSI splint fabricated within 2 weeks of admission}}{\text{Number of patients admitted with a new episode of tetraplegia}}$$

Goal 100%

Wearing Regimen
Collaboration between ICU PT/OT for prescription of overnight POSI splint wearing regimen.

1.2 Elbow Extension Splint Pathway



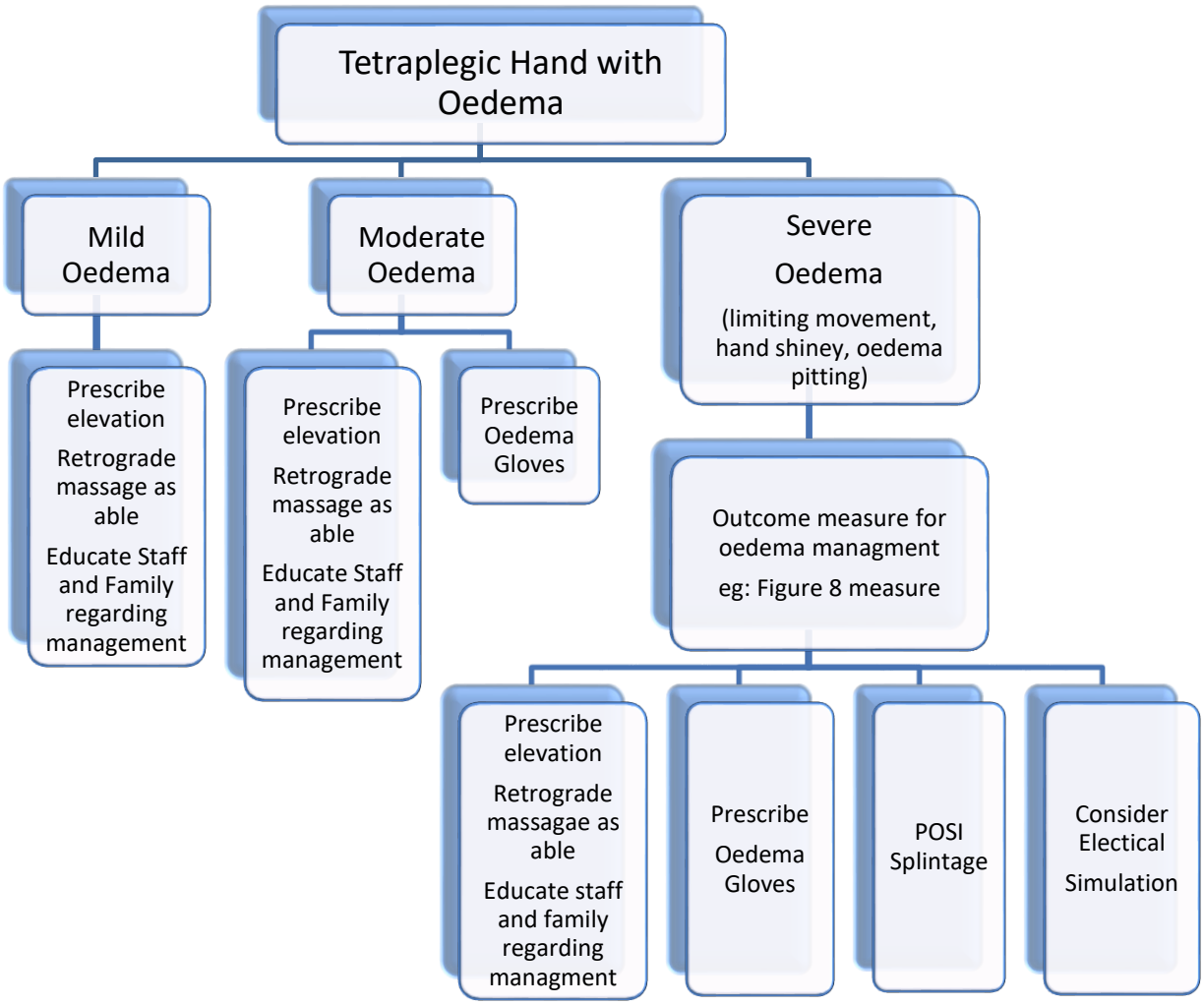
Wearing Regimen

The splint chosen is dependent on functional requirements. Prescription and wearing regimen is determined in collaboration between PT/OT.

2. OEDEMA MANGEMENT

Management of oedema is based on clinical judgement and observation.
Patients admitted to ICU with neurological impairment are to be referred by the ICU PT to OT for collaborative oedema management.
Key performance indicator: Assessment of oedema by OT within 48 hours of referral from ICU PT with documentation in the Patients medical record.

Oedema Management Pathway



3. Maintenance of Muscle Length and Joint Range

- Goal is for availability of functional PROM in UL's.
- Neurological assessment / review of joint range to be carried out by ICU PT.
- At risk areas identified and managed appropriately in collaboration with Hand Therapy / Spinal OT / Spinal PT / Medical team
- Establish if at risk of contractures and cause:
    - non neutrally mediated (i.e. positional) vs.
    - neurally mediated (ie. spasticity / tone).
- If neurally mediated early involvement of medical team for appropriate pharmaceutical intervention).
- Early functional task retraining and tenodesis ranging to be commenced by OT as indicated.
- Tenodesis ranging education and handout provided to family members (refer tenodesis ranging handout).

4. Functional Assessment / Rehabilitation

- Multi-disciplinary Team:
- Procure splints as indicated
- Fortnightly meeting to discuss hands management, progress and goals (attended by Spinal OT / Spinal PT / ICU PT / Hand Therapy)
- Further intervention as indicated in MDT meeting
- Documentation into patient's file via OT / Physio weekly summaries
- Referral to POW Botox clinic as appropriate

5. Long Term Management

- Referral to POW Botox clinic as appropriate
- Referral to hand surgery clinic / Tetraplegia Hand Clinic (RNSH)
- Post operative hand management to be arranged by consultants. POW therapy team to conduct rehabilitation if patient admitted back to POW

References:

Bryden, A, Kilgore, K, Lind, B, and Yu D (2004) Triceps Denervation as a Predictor of Elbow Flexion Contractures in C5 andC6 Tetraplegia. Arch Phys Med Rehabil Vo1ls 85, Nov 2004 p1880-1885