PERIPHERAL NERVE BLOCK FOLLOW UP AND INITIAL MANAGEMENT OF POSTOPERATIVE UNEXPECTED/PERSISTENT NEUROLOGICAL DYSFUNCTION

**Review within 48h of PNB**

Is neurological dysfunction suspected?

- **YES**
  - Review history and examination of any pre-existing neurological symptoms
  - Are pre-op and post-op deficits consistent?
    - **YES**
      - Document deficit was pre-existing
    - **NO**
      - NEW ONSET neurological deficits
        - paraesthesia (numbness/tingling), weakness, unexplained excessive pain
        - Effect of the block lasting LONGER than expected (>48h after single injection)
      - Inform responsible Surgical and Anaesthesia team
      - Review medical, anaesthetic and surgical records
      - Assess all functions of nerve, observe skin for colour changes, swelling and check pulses
      - Consider loosening bandages, splitting Plaster of Paris splints and gentle repositioning of the limb
      - Is motor function affected and/or symptoms progressive and/or the deficit painful?
        - **YES**
          - URGENT LESION
        - **NO**
          - NON-URGENT LESION
            - Is the distribution consistent with PNB performed?
              - **YES**
                - Likely block related lesion
                  - Consider: Compression of nerve (eg: haematoma)
              - **NO**
                - Likely surgery related lesion
                  - Consider: Compartment syndrome, nerve trauma or compression from suture/bone fragments/haematoma
                  - Likely block related lesion
                    - Positional pressure related nerve injury, damage to the nerve at the surgical site or by prolonged/excessive tourniquet

            - Is the distribution consistent with PNB performed?
              - **YES**
                - Reassure patient
                  - Protect the limb — Consider sling or splint and advise care for numb areas to prevent pressure sore
                  - **Consider early involvement of Chronic Pain Team if appropriate** (especially if allodynia +/- hyperalgesia present to exclude/treat CRPS)
                  - **Review in 2-4 weeks** — If persisting deficit: Consider neurophysiology studies and image test (Nerve conduction studies, electromyography, MRI)
                  - **Refer for local neurology consultation or nerve injury specialist**
              - **NO**
                - Likely surgery related lesion
                  - Consider:

- **NO**
  - Is pain well controlled?
    - **YES**
      - Continue with multimodal analgesia
    - **NO**
      - Review analgesia plan
      - Consider multimodal analgesia
  - If neuropathic pain is present or pain is limited to the distribution of a particular nerve
    - Refer to APS
    - Consider starting neuropathic medication

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This is a simplified algorithm intended to help with risk stratification and early recognition of patient requiring urgent attention but cannot eliminate adverse outcomes and should not replace clinical judgement.

PNB: Peripheral nerve block  APS: Acute pain service  CRPS: Complex regional pain syndrome

NB: Differential diagnosis should include Post-surgical Inflammatory Neuropathy