British Orthopaedic Association

BAPRAS British Association of Plastic Reconstructive and Aesthetic Surgeons

BSSH The British Society for Surgery of the Hand

OTS

BOA STANDARD

Peripheral Nerve Injury

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Background and justification

All clinicians undertaking musculoskeletal care may be involved in the management of peripheral nerve injury, either as a complication of surgery or as the result of primary trauma. The consequences of a missed peripheral nerve injury carry considerable impact for the patient. Achieving the best result will require that first the injury is identified and then that the management is directed and delivered by the right clinician at the right time. Establishing pathways which lead to early identification and timely management of injured nerves is key to optimal patient outcome.

Inclusions:

All patients with musculoskeletal trauma and surgery where there is the potential for peripheral nerve injury.

Exclusion:

Birth injuries.

Standards for Practice

Identification of peripheral nerve injury

1. An examination to assess and document all the functions of a peripheral nerve:

    1.1. should be carried out and recorded:
        1.1.1. at the first opportunity after injury
        1.1.2. after any intervention to the limb such as injection, manipulation or application of cast
        1.1.3. pre-operatively, by the operating surgeon prior to any procedure where nerve injury is a recognised risk
        1.1.4. post-operatively, by the operating surgeon following any procedure where nerve injury is a recognised risk
        1.1.5. in accordance with any written management plan

    1.2. the examination should:
        1.2.1. be sufficiently general to elucidate unexpected nerve deficit
        1.2.2. be specific enough to identify deficit likely with the nature of the injury or procedure
        1.2.3. be expanded to greater detail if concern over nerve injury is raised
        1.2.4. be recorded in sufficient detail to allow confident comparison with preceding and subsequent examinations

2. Every unit receiving injured patients should maintain a policy in which training in and assessment of competence in the above examination standards is contained. This should be integrated with the wider regional trauma network referral processes.

Response to identification of peripheral nerve injury

3. There should be a clear and accessible pathway for suspected peripheral nerve injuries including a single point of contact to guide further management.

4. The single point of contact should provide a consistent route into a network approved pathway of management and must be accessible twenty-four hours a day.

5. When a nerve injury is associated with a dislocation, the joint should be reduced immediately. In an unstable fracture, reduction and provisional stabilisation should be carried out as soon as it is safe to do so.

6. Formal advice should be sought:
    6.1. Within twenty-four hours when a laceration or penetrating injury is associated with a neurological deficit.
    6.2. Immediately when a nerve is seen to be damaged during surgery.
    6.3. Prior to surgery when internal fixation of a fracture associated with a nerve injury is to be performed, as part of multidisciplinary care.
    6.4. Within twenty-four hours for any peripheral nerve injury if operative management of the associated fracture is not indicated.
    6.5. Immediately when a new nerve deficit is identified following surgery and appropriate measures such as loosening of bandages, splitting Plaster of Paris splints to the skin and gentle repositioning of the limb have proved ineffective.

7. When a nerve is exposed during fracture surgery, this should be clearly documented in the operation note including a description of the nerve's relationship to any internal fixation device.

8. When a damaged nerve is found at surgery and the single point of contact is unavailable, the operation should be completed and the nature of nerve injury clearly documented. The patient should then be discussed with the single point of contact at the first opportunity.

Audit

9. The local network should collate data on the number and nature of nerve injuries referred to the service. Delayed diagnosis or iatrogenic nerve injury should be the subject of documented local network review. Feedback and case discussion should be used to further build best practice in nerve injury management.