Royal National Orthopaedic Hospital NHS Trust

Acutely Unwell

Multisystem impairments from SCI lead to several complications including infection.

Those with SCI are at greater risk of hospital admission every year compared with general population.

On admission to hospital patients care needs, accessibility, equipment needs to be established. GPs should be aware of these needs in order to advise their colleagues if their patient requires admission to hospital.

Specifically, respiratory assessment and management, a care plan for autonomic dysreflexia, thromboembolic prophylaxis, skin assessment and pressure sore prevention, bladder and bowel care needs, neurological and musculoskeletal assessment, depression screening, discharge planning all needs to be addressed on admission.

Guiding principles

Awareness and training

Staff awareness and training

1 The possibility of the following complications should be considered in any patient with established spinal cord injury (SCI) admitted to hospital:

- respiratory problems – including respiratory failure and infection
- autonomic dysreflexia – in lesions at or above T6
- deep vein thrombosis (DVT) and pulmonary embolism
- pressure sores
- inadequate nutrition
- neurological deterioration
- bowel problems including constipation and incontinence
- bladder problems including urinary retention, infection and calculi
- musculoskeletal problems including pain, injury and contractures
- depression, anxiety and other mood disturbance.

2 Specific staff training

In particular, all nursing and medical staff should have specific training in the recognition of symptoms and management of:

- secondary musculoskeletal pain, injury and contracture including prevention and management of spasticity, baclofen withdrawal
- autonomic dysreflexia (AD)
- bladder management techniques including
  - clean intermittent catheterisation
- bowel management techniques
  - appropriate use of suppositories, enemas and laxatives
  - digital stimulation and manual evacuation
- Manual handling of Spinal Injured patients

Staff should be aware that some patients are dependent on manual evacuation for their bowel care. Failure to provide this may result in constipation and risk of serious complications, including bowel obstruction and autonomic dysreflexia.

- emotional disturbance.

Assessment

Assessment of patients with SCI

Initial assessment of all patients on admission should include the following:

- respiratory assessment: full history and examination including baseline:
  - pulse, respiratory rate, and temperature
  - oximetry
  - vital capacity (VC) and forced expiratory volume (FEV)1 (if possible)
- for perioperative patients, or other increased risk of chest pathology:
  - arterial blood gases and chest x-rays
- skin and pressure ulcer risk assessment:
  - with grading of any existing ulcers
- baseline calf and thigh measurements to allow early detection of DVT
- urinary assessment including:
  - review of voiding method and pattern
  - 24-hour voided volume chart
  - post-void residual volume (by catheter or bladder scan), if voiding on urge or by reflex
  - urinary microscopy and culture, if symptoms or signs of local or systemic infection
- assessment of bowel care needs:
  - plan of management developed within 24 hours of admission
- nutritional assessment including:
  - dietary intake
  - weight and biochemistry (albumin, haemoglobin, haematinics).
- full neurological assessment as soon as possible to identify patient's baseline, thereby ensuring early detection of any deterioration
- musculoskeletal assessment including spasticity assessment, assessment of joint range of movement and pain.
- psychiatric history including screening for depression. Use of at least two questions:
  'During the last month, have you often been bothered by feeling down, depressed or hopeless?'
  'During the last month, have you often been bothered by having little interest or pleasure in doing

things?'

Regular assessments thereafter should include the following:

daily assessment of:

- calf and thigh measurements to allow early detection of DVT
- skin and pressure areas

frequent assessment, as appropriate, of:

- respiratory function including:
  – symptom check and examination
  – pulse, respiratory rate, temperature
  – oximetry, VC and FEV1 (if unstable or at risk)
- bowel function, including:
  – stool consistency
  – frequency of bowel action and interventions
- neurological impairments, if there is concern that this is changing.

Management

Management of patients with SCI

All patients with SCI admitted to hospital should:
be discussed (following their consent) with their spinal cord injury centre for information and advice as indicated have a written care plan which includes:

- management of autonomic dysreflexia for patients at risk (T5–6 or above)
- respiratory management to prevent or treat chest complications, developed in conjunction with a
- chest or neurophysiotherapist. This may include:
  - clearing of airway secretions: assisted coughing, suctioning (be aware of the risk of bradycardia induced by suction)
  - re-expansion of the affected lung including deep breathing, positioning, IPPV, BiPAP, bronchoscopy with lavage and medications
- commencing thromboembolic prophylaxis if immobilised with bed rest or admitted for medical illness or
- surgery (as per hospital policy) including:
  – thromboembolism deterrent (TED) stockings unless contraindicated
  – low molecular weight heparin*
- preventative measures to avoid pressure sores or full pressure relief in the presence of existing ulcers
- adequate nutrition provided to meet individual needs including calories, protein, micronutrients and fluids.
- aggressive nutritional support if:
  – dietary intake is inadequate, or the individual is nutritionally compromised
- continuation of normal bowel management programme, unless there is reason to change, including
  – diet, use of laxatives and bowel stimulants
  – digital stimulation and manual evacuation as required
- continuation of normal bladder management programme, unless there is reason to change. If an indwelling urethral catheter has been necessary during the admission it should be removed as soon as

is possible and the patient's usual bladder care regimen re-established
- management of spasticity and avoidance of secondary musculoskeletal complications including: splinting, stretching and passive movement or regular standing programme, if appropriate.

All patients with SCI admitted to hospital should have appropriate discharge planning involving:

- the patient and their family
- relevant members of the multidisciplinary team
- direct contact with the community care team (eg GP, district nurse, community rehabilitation professionals) before discharge.

The following should be in place before discharge:

- all required arrangements for transport, care and equipment needs etc
- full reports from all professionals involved in their care
- appropriate transport arrangements made for any future outpatient or review appointments.

Checklist

Checklist	No	Yes	Date	Signature
Care plan for autonomic dysreflexia				
Respiratory assessment and management plan				
Thromboembolic prophylaxis: • **thromboembolic deterrent stockings** • **low molecular weight heparin**				
Skin assessment and pressure sore prevention strategy in place				
Nutritional assessment and management plan				
Bowel assessment and management plan				
Bladder assessment and management plan				
Neurological assessment				
Musculoskeletal assessment and management plan				
Depression screening questions and follow-up as required				
Discharge planning: • **care arrangements for discharge** • **GP and community nursing informed** • **discharge reports**				

Reproduced from Royal College of Physicians (2008). Chronic Spinal Cord Injury. Management of Patients in Acute Hospital Settings. www.rcplondon.ac.uk.

References

Royal College of Physicians (2008). Chronic Spinal Cord Injury. Management of Patients in Acute Hospital Settings. www.rcplondon.ac.uk.