Royal National Orthopaedic Hospital NHS Trust

General Health Promotion

The following health promotion and maintenance recommendations are specific to people with spinal cord injury. It is recommended to follow the healthcare promotion checklist form as these ensure that patient with SCI is receiving the correct care.

- Key principles are reducing the risk of complications associated with living and ageing with SCI, maintaining a good quality of life, minimise the risk of medical complications that may affect persons well-being and ability to function within their chosen society.
- Some examinations may be more difficult and necessitate special equipment in this patient population (e.g. smear test, mammogram). When referring to other health services, ensure the centres have the appropriate equipment to care for someone with spinal cord injury
- There should be a collaborative approach amongst healthcare professionals within both specialist centre, general hospital and community settings.

Physicians checklist

A quick physician checklist (summary of below).

Adapted from Ontario Neurotrauma Foundation. Health Promotion Checklist. Caring for Persons with Spinal Cord Injury - e-learning resource for family physicians website.

VTE risk

Acute management:

- Newly injured patients will require 3 months of VTE prophylaxis from their date on injury EXCEPT in ambulant patients this may be less than 3 months, or patients with additional risk factors for VTE this may be longer than 3 months. The spinal injury centre can be consulted for advice on this.

Long-term management:

- Patients with established SCI do not require long-term prophylaxis unless there is a history of thromboembolic disease.
- Thromboembolic prophylaxis is commenced in patients with established SCI if immobilised with bed rest, admitted for medical illness or surgery (as per hospital policy) and stopped when patient medically well.

Urinary tract

ASK

- **Review bladder management program**

Ask about incontinence/leakage, pelvic pain, increased spasticity, and history of UTIs.

Most patients with spinal cord injury will have a neurogenic bladder requiring either, an indwelling catheter (suprapubic or urethral), or intermittent catheterisation (see Neurogenic Bladder >> Management and recommendations).

Bladder compliance decreases greater with age in patients with spinal cord injury, which may result in increased episodes of bladder spasms, leakage, and Autonomic Dysreflexia (AD). The resulting elevated lower urinary tract pressure can lead to hydronephrosis, upper tract deterioration, and renal insufficiency.

- **Check for history and impact of UTIs. Refer to urologist if >3/year or repeat episodes of Autonomic Dysreflexia (AD), increased leakage, catheter blockage, or haematuria**

Recurrent UTIs may lead to renal failure.

INVESTIGATE

- **Check creatinine and electrolytes yearly**

Serum creatinine may be lower than normal due to muscle atrophy therefore serial measurement is more useful in detecting change. An alternative is to check creatinine in a 24h urine sample for a more precise measure of renal function.

- **Ultrasound every 1-2 years**

Screen for hydronephrosis as often patients with spinal cord injury will not have symptoms.

- **Consider cystoscopy if patient has an indwelling catheter, increased leakage, or haematuria**

There is a greater incidence of squamous cell bladder carcinoma with indwelling catheter.

- **Consider PSA over age 50 (over age 40 if family history)**

Patients with spinal cord injury often do not have the typical symptoms of an enlarged prostate. PSA maybe falsely positive if patient performs self intermittent catheterisation or has/had an indwelling catheter. See Neurogenic Bladder.

- **DO NOT order routine urinalysis or culture and sensitivity**

Many patients will have regular abnormalities and bacterial colonisation.

FAQs by GPs on bladder management.

Gastrointestinal

ASK

- **Review bowel management program**

Most patients with spinal cord injury have either constipation or faecal incontinence and often have haemorrhoids and/or rectal bleeding. Ask about stool consistency, incontinence, mucous or blood in the stool, regularity, and response to stimulants/laxatives.

Alternating diarrhoea (overflow) and constipation can be a sign of higher faecal impaction.

- **Ask about non-specific abdominal complaints (e.g., abdominal bloating, nausea, increased spasticity)**

There is an increased prevalence of oesophagitis and gallstones in patients with spinal cord injury.

INVESTIGATE

- Consider colonoscopy for colon cancer screening over age 50 or earlier if positive family history (every 10 years if negative, more often if positive)

Because of frequent haemorrhoids and/or rectal bleeding FOB test is less reliable in this population.

FAQs by GPs on bladder management.

Respiratory

ASK

- **Ask about snoring, morning headaches, and daytime drowsiness**

Sleep apnea is present in up to 60% of patients with spinal cord injury.

- **Review history of pulmonary embolism and pneumonia**

Both are common complications in patients with spinal cord injury.

- **Smoking cessation**

INVESTIGATE

- **Spirometry or pulmonary function tests (PFT) or refer for overnight oximetry/sleep studies when indicated**

Downward trend in FVC may indicate sleep apnea.

40% of patients with spinal cord injury have bronchodilator response that helps clear mucus and prevent respiratory infections.

- **Pneumococcal vaccination (at time of injury then repeat at age 65)**
- **Yearly influenza vaccination**

More information on Respiratory Complications.

Cardiovascular

ASK

- **Review for episodes of Autonomic Dysreflexia (AD)**

Knowing triggers and how to manage may prevent complications. See Autonomic Dysreflexia (AD).

- **Ask about symptoms of TIA**

Patients with spinal cord injury have an increased risk of stroke.

- **Ask about smoking**

Patients with spinal cord injury are at higher risk for cardiovascular disease.

EXAMINE

- **Check lying BP and note baseline**

Peripheral pooling of blood when patient is sitting may mask hypertension.
Document typical BP. An individual with a spinal cord injury above T6 typically has a normal systolic Blood Pressure (BP) in the 90-110mmHg range. A BP of 20-40mmHg above baseline may be a sign of Autonomic Dysreflexia.

Postural Hypotension - Some patients may require Ephedrine/Midodrine when mobilising into wheelchair or for standing (passive or active) if they suffer from postural (orthostatic) hypotension.

- **Measure weight annually**

Weighing may need to be done in specialty centres on a special scale.
order or do MUAC.

- **Consider yearly fasting glucose and lipid profile**

Inactivity in patients with high level spinal cord injury leads to insulin resistance and low HDL, which increases the risk of cardiovascular disease.

- **Perform QRISK2 scoring assessment**

However the risk is likely to be underestimated in spinal cord injury population.

More information on Cardiovascular health after SCI.

Neuromuscular

ASK

- **Ask about change in motor or sensory patterns**

Changes may be a sign of post-traumatic syringomyelia or nerve root or peripheral nerve entrapment.

- **Ask about pain or limited range of motion in upper body joints**

Patients with low-level spinal cord injury use their arms for wheelchairs and transfers and are therefore prone to overuse injuries, especially tendonitis of the shoulder and elbow.

Patients with spinal cord injury are also at risk for heterotopic ossification. Highest risk is initially post-injury. This may be found incidentally in radiological investigations. Unless the patient is symptomatic e.g swelling over joint or decreased range of motion this does not need to be further managed, if concerned refer to local spinal centre.

More information on Musculoskeletal problems after SCI.

- **Ask about spasticity**

Spasticity is very common in patients with spinal cord injury and can lead to decreasing function and complications if not managed properly.

Increased spasticity (associated with swelling or Autonomic Dysreflexia (AD)) may be a sign of an underlying complication including UTI, fracture)

More information on intrathecal baclofen and baclofen withdrawal.

ORDER

- **Consider bone mineral density if fracture risk high**

Patients with spinal cord injury are at a higher risk for osteoporosis. Fractures typically develop in the long bones in this population. Patients at risk of falling thus fracturing should have bone density tests. Bone density tests will otherwise be ordered by SCIC when felt appropriate.

ADVISE

- **Recommend adequate calcium and vitamin D intake**

Inactivity and inability to weight bear leads to earlier osteopenia and osteoporosis.

Recommended treatment of insufficient vitamin D (<75nmol/l) is oral cholecalciferol 1000 units daily.

Recommended treatment for deficient vitamin D (<25nmol/l) should be loading dose of intramuscular vitamin d 300,000units STAT dose followed by oral cholecalciferol 1000units daily.

For more information on prevention and treatment interventions related to bone health see SCIRE bone health.

- **Recommend treatment for osteoporosis following falls risk assessment**

Oral or IV Bisphosphonates can be used to treat osteoporosis in these patients however there is no clear guidance for this population; your local spinal centre will be able to advise if required.

Skin

ASK

- **Ask about skin integrity and pressure ulcers**

EXAMINE

- **Examine skin for signs of breakdown or pressure ulcers, especially feet and bony prominences**

Early detection and treatment of pressure ulcers can prevent significant morbidity and mortality. See Pressure Ulcers.

ADVISE

- **Early recognition and treatment**
- **Daily skin checks, especially of Areas at Risk**
- **Regular repositioning and pressure redistribution**

Shift weight in wheelchair every hour for 2 minutes and reposition in bed 4-8 hourly depending

- **Keep skin clean, dry, and supple**
- **Regular seating assessment**

Mental health

ASK

- **Ask about mood**

Screen for depression, suicide ideation, and substance abuse. Patients with spinal cord injury are at higher risk of adjustment disorder, depression, and post-traumatic stress disorder (PTSD).

Suggested screening questions for depression:

'During the last month, have you often been bothered by falling down, depressed or hopeless?'

'During the last month, have you been bothered by having little interest or pleasure in doing things?'

Manage low mood as you would for non-spinal cord injured population. There are no preferred antidepressant medications.

- **Ask about sleep**

Patient may have been discharged from hospital with a sleeping tablet, as they required this in the hospital setting due to noise etc. At home patients should trial weaning off this.

Patients complaining of sleep disturbance should be managed the same as non-SCI population. Consider other factors that could be contributing such as stress, anxiety, low mood, pain and spasticity. Consider zopiclone or benzodiazepine, caution as the patient may already be on a benzodiazepine for spasticity management. If spasticity is a factor contributing to poor sleep then a benzodiazepine may be preferred.

Sexual function

ASK

- **Ask if sexually active**

We often forget that many patients with spinal cord injury are sexually active. They may have questions about contraception, erectile dysfunction, pregnancy, etc. For more information about sexual health and a comprehensive review of the literature visit SCIRE reproductive health.

FAQs by GPs on sexual function after SCI.

- **Ask if fertility/reproduction required**

For more information about sexual health and a comprehensive review of the literature visit SCIRE.

More information on Male Fertility following Spinal Cord Injury (SCI).

Social

ASK

- **Ask about source of income**

Many patients with spinal cord injury may be eligible for disability benefits. For more information see the benefits and work website

- **Ask about caregiver situation**

Depending on the level of injury, patients may be completely independent or may require 24h nursing care. Ensure care is adequate. Local social services and continuing healthcare team may need be contacted.

FAQs for GPs on social care.

- **Ask about activity/recreation pursuits**

There are many activities available to patients with spinal cord injury that may enrich their lives. Patients might not be aware of all they can do. For more information see SIA website and Backup Trust Website

- **Ask about living situation**

Assistive living, living with partner, family, etc.

References

Ontario Neurotrauma Foundation. Health Promotion Checklist. Caring for Persons with Spinal Cord Injury - e-learning resource for family physicians.
eprimarycare.onf.org/rsc_files/HealthPromotionMaintenanceChecklist.pdf