Caring for Persons with **Spinal Cord Injury**

Health Promotion and Maintenance

The following health promotion and maintenance recommendations are specific to people with spinal cord injury. In addition to these, it is still recommended to follow the preventative care checklist forms developed by the College of Family Physicians of Canada for the general population.

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 reflex voiding, 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.

ORDER

- ☐ 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. See Neurogenic Bladder.

- ☐ DO NOT order routine urinalysis or culture and sensitivity

  Many patients will have regular abnormalities and bacterial colonisation.

Caring for Persons with **Spinal Cord Injury**

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 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.

ORDER

- ☐ 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 FOBT is less reliable in this population.

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

ORDER

- ☐ Spirometry or pulmonary function tests (PFT) yearly

  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)
- ☐ Consider overnight oximetry as an alternative to sleep study if sleep apnea suspected
- ☐ Yearly influenza vaccination

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

  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.

- ☐ Measure weight annually

  Weighing may need to be done in specialty centres on a special scale.

ORDER

- ☐ 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.

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.

- ☐ 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 fracture or heterotopic ossification or osteoarthritis, therefore an X-ray should be ordered to rule these out.

  SCIRE summarises recommendations for the management of heterotopic ossification (http://www.scireproject.com/rehabilitation-evidence/heterotopic-ossification/treatment-of-heterotopic-ossification) and spasticity (http://www.scireproject.com/rehabilitation-evidence/spasticity).

ORDER

- ☐ Consider bone mineral density every 1-2 years and within first year of injury

  Patients with spinal cord injury are at a higher risk for osteoporosis. Fractures typically develop in the long bones in this population. Bone density tests need to be ordered much earlier for patients with spinal cord injury.

ADVISE

- ☐ Recommend adequate calcium and vitamin D intake

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

  For more information on prevention and treatment interventions related to bone health see SCIRE (http://www.scireproject.com/rehabilitation-evidence/bone-health/clinical-guide).

Skin

ASK

- ☐ Ask about skin integrity and pressure ulcers

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

EXAMINE

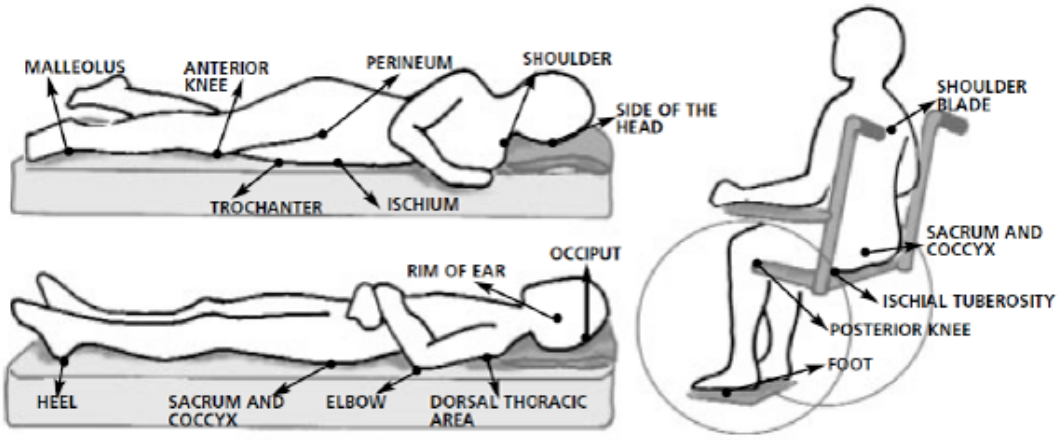
- ☐ Examine skin for signs of breakdown or pressure ulcers, especially feet and bony prominences

Caring for Persons with **Spinal Cord Injury**

Skin cont.

ADVISE

- ☐ Early recognition and treatment
- ☐ Daily skin checks, especially of Areas at Risk



- ☐ Regular repositioning and pressure redistribution

  Shift weight in wheelchair every 15 minutes and reposition in bed every 2 hours.

- ☐ 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).

Sexuality

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 (http://www.scireproject.com/rehabilitation-evidence/sexual-health/).

☐ Ask if fertility/reproduction required

For more information about sexual health and a comprehensive review of the literature visit SCIRE (http://www.scireproject.com/rehabilitation-evidence/sexual-health/).

Social

ASK

☐ Ask about source of income

Many patients with spinal cord injury may be eligible for disability credits/compensation.

For information on disability tax credits and how to complete Form T2201 Disability Tax Credit Certificate visit the Canada Revenue Agency (http://www.cra-arc.gc.ca/tx/ndvdls/sgmnts/dsblts/qlfd-prcts/menu-eng.html).

☐ Ask about caregiver situation

Depending on level of injury, patients may be completely independent or may require 24h nursing care. Ensure care is adequate.

☐ 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.

- Active Living Alliance (http://www.ala.ca)
- Canadian Paralympic Committee (http://www.paralympic.ca/)
- Canadian Wheelchair Sports Association (http://www.cwsa.ca)
- ParaSport Ontario (http://www.parasportontario.ca)
- SCI Action Canada (http://www.sciactioncanada.ca)

☐ Ask about living situation

Assistive living, living with partner, family, etc.