

Case-Based Learning Module: SPINAL CORD INJURY PREVENTIVE HEALTH, SECONDARY HEALTH CONDITIONS & PRIMARY CARE FLOWSHEET

INTRODUCTION

There is evidence to suggest that persons with SCI receive suboptimal preventative care and have many unmet health care needs.⁴⁷⁻⁴⁹ The challenges associated with accessing optimal primary care for those with SCI are well documented including environmental barriers (inaccessible medical buildings, inadequate space, lack of specialized medical equipment),⁵⁰ and limited academic preparation and lack of knowledge of SCI healthcare issues by primary care providers.⁵⁰⁻⁵⁴ Persons with SCI often have secondary complications that may be not only be detrimental to their health and well-being but also put strain on the healthcare system, (pressure ulcers,⁵⁵ autonomic dysflexia,⁵⁶ respiratory illness,⁵⁷ spasticity,⁵⁸ neurogenic bowel,⁵⁹ and bladder dysfunction,⁶⁰). Emerging evidence also demonstrates that persons with SCI are at increased risk of co-morbid health conditions such as obesity, diabetes and cardiovascular disease.^{57,61-63} Secondary complications are known to be the primary reason for re-hospitalization after initial rehabilitation, particularly in the first year following SCI⁶⁴ with half of all Emergency Department visits being for potentially preventable (e.g., bladder issues, pneumonia) or low acuity (e.g., pain and complications related to genitourinary devices) conditions that could be managed in primary care.⁶⁵ Given the negative health outcomes and high health service utilization, there is a need to improve primary care for persons with SCI.

This section will address preventive health and prevention of common secondary conditions in individuals with spinal cord injury (SCI). Also included is a primary care flowsheet/checklist addressing secondary conditions.

PREVENTATIVE HEALTH

IMMUNIZATION⁴⁶

Influenza:

- Annually

Pneumococcal:

- For those with lesions at T12 or above, one dose of Pneum-P-23 should be given
 - Some experts also suggest a dose of Pneu-C-13 vaccine, if given should be given before Pneu-P-23 followed by Pneu-P-23 vaccine 8 weeks later, if Pneu-P-23 given first then Pneu-C-13 should be given one year later
 - Adults at highest risk of IPD (eg. chronic kidney disease, chronic liver disease, splenic dysfunction, sickle cell disease, immunodeficiencies) should also receive 1 booster dose of Pneu-P-23 vaccine

Pertussis:

- Administer one dose of Tdap vaccine if the person has not previously received it in adulthood (18 years of age and older)

CARDIOMETABOLIC

In persons with SCI there is evidence indicating an earlier onset and/or prevalence of various chronic diseases (including CVD, type II diabetes, and osteoporosis). Adrenergic dysfunction (related to level of lesion), physical inactivity, and poor diet are thought to be key indicators for the elevated cardiovascular disease risk.⁶⁶ There are not guidelines to indicate testing should be different than the general population at this time.

Blood Pressure:

- Consider annually

Weight:

- Consider annually (limited by accessibility)

Diabetes (reference Canadian Diabetes Guidelines):

- Screen **every 3 years** in individuals ≥ 40 years of age
- Screen **every 3 years** in individuals at high risk according to the CANRISK calculator
- Screen **earlier and/or more frequently** in people at very high risk using the CANRISK calculator

Cholesterol (reference Canadian cardiovascular lipid guidelines 2016):

- Men ≥ 40 , women ≥ 40 (or post-menopausal) (any age in those high risk)

Exercise:

- Has been shown to decrease the progression of CVD and other co-morbidities in persons with SCI⁶⁶
- Enquire about physical activity and consider directing individuals to www.sciactioncanada.ca⁶⁷

BREAST CANCER SCREENING

Screening for breast cancer in an individual with SCI should be the same as the general population and should follow the Canadian Task Force for Preventive Health guidelines²³ or local jurisdiction guidelines (i.e. provincial). Issues women with SCI may encounter when obtaining a mammogram include inability of a technician to properly position mammography equipment that will allow them to remain in a wheelchair,²⁵ as well as inaccessible entry-ways, hallways and bathrooms.²⁶

Canadian Task Force for Preventive Health Breast Cancer Screening Guidelines²³

- For women aged 40–49 we recommend not routinely screening with mammography.

- (Weak recommendation; moderate quality evidence)
- For women aged 50–69 years we recommend routinely screening with mammography every 2 to 3 years.
(Weak recommendation; moderate quality evidence)
- For women aged 70–74 we recommend routinely screening with mammography every 2 to 3 years.
(Weak recommendation; low quality evidence)

CERVICAL CANCER SCREENING

Screening for cervical cancer in an individual with SCI should be the same as the general population and should follow the Canadian Task Force for Preventive Health guidelines²⁴ or local jurisdiction guidelines (i.e. provincial). Issues that women with SCI may encounter during Papanicolaou test include difficulty positioning themselves on the table,²⁵ and the possibility of an episode of AD.²⁷ In order to decrease the possibility of AD, preventive strategies include emptying the bowel and bladder, coating the speculum with anesthetic jelly, or administering nifedipine thirty minutes prior to the procedure.²⁸⁻³⁰ It should be noted that women with SCI were screened for cervical cancer at rate similar to those without SCI, with the exception of women with SCI that have lower income.³¹

Canadian Task Force for Preventive Health Cervical Cancer Screening Guidelines²⁴

- For women aged < 20 we recommend not routinely screening for cervical cancer
(Strong recommendation; high quality evidence)
- For women aged 20 to 24 we recommend not routinely screening for cervical cancer.
(Weak recommendation; moderate quality evidence)
- For women aged 25 to 29 we recommend routine screening for cervical cancer every 3 years.
(Weak recommendation; moderate quality evidence)
- For women aged 30 to 69 we recommend routine screening for cervical cancer every 3 years.
(Strong recommendation; high quality evidence)
- For women aged ≥ 70 who have been adequately screened (i.e., 3 successive negative Paptests in the last 10 years), we recommend that routine screening may cease. For women aged 70 or over who have not been adequately screened we recommend continued screening until 3 negative test results have been obtained.
(Weak recommendation; low quality evidence)

COLORECTAL CANCER SCREENING

Colorectal cancer screening in an individual with SCI should be the same as the general population^{32,33}, and should follow the Canadian Task Force for Preventive Health guidelines⁴⁴ or local jurisdiction guidelines (i.e. provincial). It is important for primary care providers to review bowel management with patients with SCI at least annually.

- FOBT can be used but false positives may occur if complications such as hemorrhoids are

present. A high rectal specimen may prevent false positives.³⁴

- Colonoscopy may be considered, however, planning is necessary to ensure the facility is accessible and that appropriate preparation can be done. This can be facilitated by a detailed referral to the specialist performing the colonoscopy.
 - An extended colonic preparation period, and cross-disciplinary care may be required³⁵
 - Standard bowel preparation should occur over an extended period of time³⁵
 - Patients who have an injury at or above T6 are at risk of peri-procedural autonomic dysreflexia³⁵

Canadian Task Force for Preventive Health Colorectal Cancer Screening Guidelines⁴⁴

- We recommend screening adults aged 60 to 74 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years.
(Strong recommendation; moderate quality evidence)
- We recommend screening adults aged 50 to 59 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years.
(Weak recommendation; moderate quality evidence)
- We recommend not screening adults aged 75 years and over for CRC.
(Weak recommendation; low quality evidence)
- We recommend not using colonoscopy as a screening test for CRC.
(Weak recommendation; low quality evidence)

PROSTATE CANCER SCREENING

Due to the potential harms of screening, including over-diagnosis and over-treatment, many jurisdictions do not support an organized, population-based screening program for prostate cancer.⁶⁸

Current screening guidelines for prostate cancer indicate that physicians could discuss the pros and cons of Prostate Specific Antigen (PSA) with patients of average-risk aged 55-69 years.³⁶ “The decision to undergo PSA testing should be shared between the patient and his physician based on information balancing the test’s advantages and disadvantages”.³⁷ Potential negative outcomes include the possibility of false-positive results, risks of biopsy and the potential for prostate cancer diagnosis leading to unnecessary treatments.³⁸ Several studies found that the PSA between men with SCI and non-SCI aged matched controls did not have any significant differences.³⁹⁻⁴² Digital rectal exam is not recommended.

Canadian Task Force for Preventive Health Prostate Cancer Screening Guidelines⁴⁵

- For men aged less than 55 years, we recommend not screening for prostate cancer with the prostate-specific antigen test.
(Strong recommendation; low quality evidence)
- For men aged 55–69 years, we recommend not screening for prostate cancer with the prostate-specific antigen test.
(Weak recommendation; moderate quality evidence)
- For men 70 years of age and older, we recommend not screening for prostate cancer with the

prostate-specific antigen test.
(Strong recommendation; low quality evidence)

SCI SECONDARY HEALTH CONDITIONS

AUTONOMIC DYSREFLEXIA

Autonomic dysreflexia (AD) is a serious, and potentially life threatening condition affecting those with lesions at T6 or above (has been reported with lesions as low as T10).¹ AD can be prevented by controlling noxious stimuli below the level of the lesion. Prevention measures include, but are not limited to; regularly scheduled bladder and bowel voiding, pressure techniques, and referral to a health professional for foot care to avoid ingrown nails or other issues. Adjustment of the patient's treatment plan may be necessary to avoid future episodes of AD.¹ Education may also be required to help the patient minimize risks and recognize symptoms in the future. See Common Causes of Autonomic Dysreflexia for other areas of prevention.

Prevention of Autonomic Dysreflexia

1. Education of patient and providers
2. Supplies at home: BP cuff; catheter supplies; short acting antihypertensives
3. Warnings in patient chart
4. AD wallet card

For more information, see **Autonomic Dysreflexia CBLM**

Signs & Symptoms and Common Causes of Autonomic Dysreflexia:^{2,3}

SIGNS & SYMPTOMS:

COMMON CAUSES OF AD:

<i>SIGNS AND SYMPTOMS OF AUTONOMIC DYSREFLEXIA IN PATIENTS WITH SPINAL CORD INJURIES</i>		<i>COMMON CAUSES OF AUTONOMIC DYSREFLEXIA</i>	
<i>May involve all or some of the following:</i>			
<ul style="list-style-type: none">▪ BP elevated by 20-40 mmHg above resting BP*▪ Pounding headache▪ Bradycardia (relative to patient's resting heart rate)▪ Flushing of the face▪ Profuse sweating above the level of the lesion▪ Skin pallor, cold and piloerection below the level of the lesion▪ Blurred vision▪ Shortness of breath▪ Anxiety▪ Nasocongestion		<ul style="list-style-type: none">▪ Bladder<ul style="list-style-type: none">DistentionUrinary tract infectionCatheterizationCatheter tube kinkingBladder or kidney stones	
		<ul style="list-style-type: none">▪ Bowel<ul style="list-style-type: none">ConstipationHemorrhoidsFissuresManual disimpaction	
		<ul style="list-style-type: none">▪ Skin<ul style="list-style-type: none">Pressure areasTight clothing/stockings/strapsIngrown toenailBlisters	
		<ul style="list-style-type: none">▪ Other<ul style="list-style-type: none">Sexual stimulationScrotal compressionChildbirth	

Figure 1: Signs & Symptoms and Common Causes of AD

BLADDER

Goals of Care

1. Prevent retention (avoid distension)
2. Maintain continence
3. Avoid UTIs and overtreating asymptomatic bacteruria

There are no studies examining the optimal frequency of monitoring neurogenic bladder long-term in patients with SCI. Currently, the following can be considered based on **expert opinion and should be tailored to each individual** ⁴⁻⁷:

- Review bladder management annually:
 - Method, continence, satisfaction, UTIs, hematuria
- Laboratory tests annually:
 - Creatinine/eGFR
 - electrolytes
- Urodynamics after injury and every one⁸ to two years thereafter
- Ultrasound of kidneys/bladder annually
 - to assess for the presence of hydronephrosis, hydroureter, stones, bladder issues^{9,10}
- Consider cystoscopy 10-15 years post-injury or if there are any changes in bladder routine, symptoms that cannot be controlled or a question of diagnosis for those with indwelling catheters due to the potential increased rate of bladder cancer (20 times increased risk)^{9,11}
- If a patient has >3 UTIs/year or hematuria, a referral to a urologist should be made, and initiation of further investigations could be considered (e.g., KUB US)

Bladder Cancer

Bladder cancer is the third leading cause of death in the spinal cord injured population,¹² and mortality from bladder cancer is 6.7 times higher.¹³ Presenting symptoms of bladder cancer in individuals with SCI are similar to those without SCI, including hematuria, bladder mass and hydronephrosis, but may also present with unique symptoms such as bladder stones, recurrent UTI or new incontinence.¹⁴ Despite the increased risk for bladder cancer and higher rate of mortality, **screening in the SCI population is not warranted** as urinalysis has been proven ineffective due to the high rates of microhematuria caused by chronic bacteriuria and catheterization,¹⁴ and ineffectiveness of cystoscopy^{15,16} & cytology.¹⁶

BONE HEALTH

Bone Mineral Density Screening

Patients with spinal cord injury (SCI) are at a greater risk of low bone mineral density (BMD) and subsequent fragility fractures compared to their non-SCI counterparts. This change is most prominent in bones below the level of injury, and is termed **sublesional osteoporosis (SLOP)**.²¹ Although there are no clear guidelines regarding the frequency of screening BMD for patient with SCI, experts generally recommend completing the first BMD while in rehabilitation, and repeating every 1-2 years thereafter.

Sublesional Osteoporosis can be defined on the basis of DXA results:

<u>Age</u>	<u>Definition</u>
Men ≥ 60 yo, and post-menopausal women	Hip or knee region T score ≤ -2.5
Men < 59 yo or pre-menopausal women	Hip or knee region Z score ≤ -2.0 plus ≥ 3 or more fracture risk factors
Men or women age 16-90	Prior fragility fracture and no other identifiable cause for osteoporosis other than SCI

Table 1: DXA results for SLOP¹⁷

Clinical Pearl: Do NOT assume that a decrease in bone mass in a patient with SCI is due to SLOP; up to one third of SCI patients have an additional secondary cause of osteoporosis.⁴³

Clinical Pearl: BMD of lumbar spine, hip and knee (distal femur, proximal tibia). The KNEE region BMD is the best predictor for knee fracture,^{8,9} a common site for fragility fractures among patients with SCI,¹⁸⁻²⁰ however, BMD of the knee cannot be completed by most centres.

Clinicians should combine the SCI-specific risk factors with the scores from BMD to stratify risk of fractures. Patients who fall into moderate to high fracture risk categories will require therapy and risk factor Modifications.⁶⁹

Yes	Risk Factors
<input type="checkbox"/>	Age at Injury < 16 years
<input type="checkbox"/>	Alcohol Intake > 5 servings/day
<input type="checkbox"/>	BMI < 19
<input type="checkbox"/>	Duration of SCI ≥ 10 years
<input type="checkbox"/>	Female
<input type="checkbox"/>	Motor Complete (AIS A-B)
<input type="checkbox"/>	Paraplegia
<input type="checkbox"/>	Prior fragility fracture
<input type="checkbox"/>	Family history of fracture
<input type="checkbox"/>	Anticonvulsant use
<input type="checkbox"/>	Heparin use
<input type="checkbox"/>	Opioid analgesia use

Table 2: Fracture Risk Factors^{21, 43}

Lifestyle

Patients should be counselled on lifestyle measures to help prevent decrease in bone mineral density, including^{18,21}:

- Decreased alcohol intake
- Decreased caffeine intake (< 3 servings/day)
- Smoking cessation
- Review any changes in mobility, e.g., safety of transfers, need for mobility aids
- Activity based training (involving active assisted exercise, resistance training, cycle ergometry, gait training, and load bearing for at least 2-3 hours/day at least 2 days per week for 6 months)²²
- Some individuals may be able to participate in weight bearing using wheelchair with sit-stand functionality or body weight supported treadmill

Calcium and Vitamin D

The majority of patients with SCI should have a **calcium intake of 1000 mg/day**, primarily through diet. If this target is not met through diet alone, patients can supplement with calcium at a dose of no more than 400-500 mg at a time. There are two exceptions to this:

- In patients who have recurrent calcium oxalate or citrate renal stones or significant renal impairment, target calcium intake to 500 – 666 mg/day and a low oxalate diet should be initiated.
- In males and females who have not reached peak bone mass at time of SCI, pregnant or breast feeding women, and elderly patients with inadequate dietary intake, a target of 1500 mg/day of calcium should be recommended.²¹

In terms of vitamin D intake, all patients with SCI should follow the Osteoporosis Canada guidelines which recommend a **vitamin D intake of 800 – 2000 IU/day** for all adults year round.

RESPIRATORY HEALTH

There are currently no widely accepted clinical practice guidelines for the long-term respiratory management of the patient with SCI. Individuals with higher level lesions are most at risk, but potentially any injury above L1 may affect respiratory health. Based on the best available information at this time, we recommend annual assessments of respiratory function for those considered at risk may include:

- **History:**
 - Respiratory complaints (SOB, secretion clearance, aspiration risk)
 - Respiratory infection history (frequency, ER/hospitalization, treatment)
 - Review of history of pulmonary embolism and pneumonia
- **Physical examination:**
 - Respiratory rate and pattern
 - Continuous pulse oximetry
 - Physical examination of the respiratory system, assessment of edema
- **Investigations:**
 - Annual spirometry or pulmonary functions tests
 - Polysomnography or nocturnal oximetry testing if indicated
- **Referrals:**
 - Referral to a respirologist for patients with a decrease in vital capacity (compared to their baseline) or an increased number of respiratory infections (two or more per year) and/or hospital admissions for respiratory problems
- **Counselling:**
 - Smoking cessation
 - Chest physiotherapy/exercises and daily respiratory muscle training in patients with injuries above T12
 - Physical activity is recommended to help improve respiratory function
- **Immunizations:**
 - Annual influenza vaccination
 - Pneumococcal vaccination⁴⁶
 - See above

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SCI Primary Care Toolkit Flowsheet

Visit		Type of Patient	
<input type="checkbox"/> Initial <input type="checkbox"/> Follow Up Follow Up #: _____		<input type="checkbox"/> CFFM <input type="checkbox"/> Community Referral <i>Reason for Referral</i> <input type="checkbox"/> General Assessment <input type="checkbox"/> Other: _____	
History			
<i>Site of Injury</i> <input type="checkbox"/> Cervical <input type="checkbox"/> Thoracic <input type="checkbox"/> Lumbar <input type="checkbox"/> Cauda Equina <input type="checkbox"/> Unknown Physiatrist: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Unknown Name of Specialist: _____		<i>Injury Type</i> <input type="checkbox"/> Paraplegic <input type="checkbox"/> Quadriplegic <input type="checkbox"/> Unknown Year of Injury: _____ Seen by Physiatrist in last 5 years: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Unknown Name of Specialist: _____	
Social History			
<i>Relationship Status:</i> <input type="checkbox"/> Married <input type="checkbox"/> Single <input type="checkbox"/> Common Law <input type="checkbox"/> Separated/Divorced <input type="checkbox"/> Other: _____		<i>Accommodations:</i> <input type="checkbox"/> Own Home <input type="checkbox"/> RH/LTC <input type="checkbox"/> Assisted Living	<i>Accommodation Accessibility:</i> <input type="checkbox"/> Yes <input type="checkbox"/> No
<i>Support Services:</i> <input type="checkbox"/> Attendant Services <input type="checkbox"/> Family Supports <input type="checkbox"/> Homecare <input type="checkbox"/> Other Agencies (eg. SCI Ontario) Other Information: _____			
Vitals			
BP: _____ HR: _____		Weight: _____ Wheelchair Weight: _____	
Orthostatic Vitals			
Lying BP: _____ Sitting BP: _____		Standing 1 min: _____ Standing 3 min: _____	
Preventative Health			
<i>Tetanus Up-to-Date (Every 10 years):</i> <input type="checkbox"/> Yes <input type="checkbox"/> No		<i>Influenza Up-to-Date (Yearly):</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	

<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown		
<i>Is the Injury Above L1?</i>	<i>If Injury Above L1 – Is Pneumococcal Up-to-Date? (Once in lifetime)</i>		
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
<input type="checkbox"/> No			
<input type="checkbox"/> N/A			
Screening (if any not up-to-date, consider ordering test)			
<i>Pap Up-to-Date:</i>	<i>Mammogram Up-to-Date:</i>		
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
<input type="checkbox"/> No	<input type="checkbox"/> No		
<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown		
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A		
<i>Colorectal Carcinoma:</i>	<i>Type of Colorectal Carcinoma Screening:</i>		
<input type="checkbox"/> Yes	<input type="checkbox"/> FOBT		
<input type="checkbox"/> No	<input type="checkbox"/> Colonoscopy		
<input type="checkbox"/> Unknown	<input type="checkbox"/> Sigmoidoscopy		
<input type="checkbox"/> N/A			
<i>Diabetes Screening (FBG, A1_G, FBS) Up-to-Date:</i>	<i>Cholesterol Screening Up-to-Date:</i>		
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
<input type="checkbox"/> No	<input type="checkbox"/> No		
<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown		
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A		
<i>Bone Mineral Density Up-to-Date:</i>	<i>History of Fractures:</i>	<i>How Many Fractures?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> 1	
<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> 2	
<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown	<input type="checkbox"/> 3 or more	
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	Body Part(s): _____	
<i>Vitamin D (1000-2000 IU/day):</i>	<i>Calcium (1200 mg/d primarily through diet):</i>		
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
<input type="checkbox"/> No	<input type="checkbox"/> No		
<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown		
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A		
Bladder			
<i>Management Method:</i>	<i>Fluids:</i>	<i>Hematuria:</i>	<i>Persistent Incontinence:</i>
<input type="checkbox"/> Voluntary	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> Self-Catheterization	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> Suprapubic Catheter	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<input type="checkbox"/> Foley Catheter			
<input type="checkbox"/> Condom Catheter			
<i>UTI's in the Past Year:</i>	<i>Renal/Bladder US Done in Last 12 Months:</i>		
<input type="checkbox"/> 0	<input type="checkbox"/> Yes		

<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 or more	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> N/A
Bladder Medications: _____	Bladder Comments: _____
_____	_____

Bowel

<i>Management Method?</i> <input type="checkbox"/> Voluntary <input type="checkbox"/> Manual Feces Removal <input type="checkbox"/> Digital Stimulation <input type="checkbox"/> Rectal Stimulation	<i>Routine Length?</i> <input type="checkbox"/> Less than 1 Hour <input type="checkbox"/> More than 1 Hour <input type="checkbox"/> N/A	<i>Frequency?</i> <input type="checkbox"/> Daily <input type="checkbox"/> Every 2 Days <input type="checkbox"/> More than 2 Days
<i>Presence of Blood in Stool?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<i>Persistent Incontinence?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<i>Adequate Fibre (15g/d)?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Bladder Medications: _____	Bladder Comments: _____	
_____	_____	

Cardiovascular

<i>History of Heart Disease?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Do You smoke?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No Exercise: _____	<i>Do You Exercise?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No
Symptoms (within 1 year)		
<i>Chest Pain?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Palpitations?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>Shortness of Breath?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No
<i>Increased Ankle/Leg Swelling?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No		<i>Episodes of weakness, dizziness facial droop or slurred speech?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No

Autonomic Dysreflexia (AD)

A condition of unopposed sympathetic activity occurring in SCI with lesion at T6 or above; characterized by:
 - Increased BP, headache, anxiety, facial flushing, sweating above lesion; goose bumps below lesion, nasocongestion

<i>Is the Injury Above T6?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> N/A	<i>Does the Patient Have an Understanding of AD?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<i>Has the patient experienced AD?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<i>Frequency of AD?</i> <input type="checkbox"/> Rarely <input type="checkbox"/> Daily <input type="checkbox"/> Weekly

<input type="checkbox"/> N/A	<input type="checkbox"/> Monthly
<i>AD Wallet Card?</i>	<i>ER Visits Due to AD?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<i>AD Triggers?</i>	<i>Medication(s) for AD:</i>
<input type="checkbox"/> Bladder Issue	_____
<input type="checkbox"/> Bowel Issue	_____
<input type="checkbox"/> None	_____
<input type="checkbox"/> Other: _____	

Skin	
<i>Current Pressure Ulcer?</i>	<i>Previous Pressure Ulcer?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
Current Ulcer Location: _____	Previous Ulcer Location: _____
<i>Current Ulcer Being Treated?</i>	<i>Practice Pressure Relief? (Ideally every 15-30 min)</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<i>Skin Checks? (Recommended daily):</i>	<i>Nutrition Assessed? (Bloodwork or referral)</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> Made Today
Skin Care Comments: _____	<input type="checkbox"/> N/A

Mobility		
<i>Is the Patient Ambulatory?</i>	<i>Is the Patient Wheelchair Dependent?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<input type="checkbox"/> No	<input type="checkbox"/> No	
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	
<i>Transfer Method?</i>	<i>Wheelchair Type:</i>	<i>Age of Wheelchair:</i> _____
<input type="checkbox"/> Independent	<input type="checkbox"/> Manual	<i>Last Seating Assessment:</i> _____
<input type="checkbox"/> Pivot	<input type="checkbox"/> Power	
<input type="checkbox"/> Sliding Board		
<input type="checkbox"/> Mechanical Lift		
<i>Gait Aids?</i>	<i>Falls?</i>	<i>Any Wheelchair/Seating Concerns:</i> _____
<input type="checkbox"/> Walker	<input type="checkbox"/> Yes	_____
<input type="checkbox"/> Cane	<input type="checkbox"/> No	_____
<input type="checkbox"/> None		
<input type="checkbox"/> Other: _____		

Pain		
<p><i>Does the Patient Have Any Pain?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<p><i>Pain Intensity From 0-10:</i></p> <input type="checkbox"/> 0 <input type="checkbox"/> 6 <input type="checkbox"/> 1 <input type="checkbox"/> 7 <input type="checkbox"/> 2 <input type="checkbox"/> 8 <input type="checkbox"/> 3 <input type="checkbox"/> 9 <input type="checkbox"/> 4 <input type="checkbox"/> 10 <input type="checkbox"/> 5	<p><i>Type of Pain:</i></p> <input type="checkbox"/> Neuropathic <input type="checkbox"/> Neurogenic <input type="checkbox"/> Nociceptive <input type="checkbox"/> Complex
<p><i>Pain Affecting Function?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No		
<p><i>Pain Medications Currently Using:</i> _____</p> <p>_____</p> <p>_____</p>	<p><i>Pain Medications Previously Used:</i> _____</p> <p>_____</p> <p>_____</p>	
<p><i>Non-Pharmacological Treatments:</i> _____</p> <p>_____</p> <p>_____</p>	<p><i>Pain Comments:</i> _____</p> <p>_____</p> <p>_____</p>	
Spasticity		
<p><i>Does the Patient Have Any Spasticity?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<p><i>Is Spasticity Bothersome?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<p><i>Worsening in Past 12 Months?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p><i>Spasticity Comments:</i> _____</p> <p>_____</p>	<p><i>Spasticity Medications:</i> _____</p> <p>_____</p>	
Neurology/MSK		
<p><i>Neurological Change?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<p><i>Neurological/MSK Comments:</i> _____</p> <p>_____</p> <p>_____</p>	
Respiratory		
<p><i>Infections/Pneumonia in Past Year?</i></p> <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 or more (consider referral to Specialist for Pneumonia infections)	<p><i>Respiratory Comments:</i> _____</p> <p>_____</p> <p>_____</p>	
<p><i>Hospitalizations?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<p><i>Spirometry in Past 2 Years? (If Unknown, consider spirometry)</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> N/A	<p><i>Spirometry Result:</i> _____</p> <p>_____</p> <p>_____</p>
<p><i>Sleep Study?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No	<p><i>Sleep Study Result:</i> _____</p> <p>_____</p>	<p><i>Daytime Somnolence?</i></p> <input type="checkbox"/> Yes <input type="checkbox"/> No
		<p><i>If Yes to Daytime Somnolence:</i></p> <input type="checkbox"/> Sitting & Reading <input type="checkbox"/> Watching TV

<input type="checkbox"/> N/A _____	<input type="checkbox"/> N/A	<input type="checkbox"/> Sitting in Active Public Place
<i>Snoring?</i>	If Somnolence Present, Consider Sleep Study	
<input type="checkbox"/> Yes	<i>Witnessed Apneas?</i>	
<input type="checkbox"/> No	<input type="checkbox"/> Yes	
<input type="checkbox"/> N/A	<input type="checkbox"/> No	
	<input type="checkbox"/> N/A	

Sexual		
<i>Patient is Sexually Active/Sexual Acvitivity Desired?</i>	<i>Satisfied Sexually?</i>	<i>Erectile Dysfunction?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<i>Are There Any At Risk Sexual Practices?</i>	<i>Currently Being Treated for Sexual Function?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<input type="checkbox"/> No	<input type="checkbox"/> No	
<input type="checkbox"/> Not Asked	<input type="checkbox"/> Declined	
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	
<i>Fertility Desired?</i>	<i>Contraception?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<input type="checkbox"/> No	<input type="checkbox"/> No	
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	
<i>Comments:</i> _____		

Mental Health	
<i>History of Depression?</i>	<i>Depression Currently Being Treated?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<i>Depression Counselling:</i> _____	<i>Depression Medication:</i> _____
_____	_____
_____	_____
<i>History of Anxiety?</i>	<i>Anxiety Currently Being Treated?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<i>Anxiety Counselling:</i> _____	<i>Anxiety Medication:</i> _____
_____	_____
_____	_____
<i>Mental Health Comments:</i> _____	

Summary		
<i>Summary:</i> _____		

Plan		
<i>Immunizations:</i> _____		

<i>Tetanus Shot Given Today?</i>	<i>Influenza Shot Given Today?</i>	<i>Pneumovax Shot Given Today?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> Declined	<input type="checkbox"/> Declined	<input type="checkbox"/> Declined
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
	<input type="checkbox"/> Out of Season	
<i>Preventative Screening:</i> _____		

<i>Pap?</i>	<i>Mammo Scheduled/Req Given?</i>	<i>CRC Scheduled/Req Given?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> Declined	<input type="checkbox"/> Declined	<input type="checkbox"/> Declined
<input type="checkbox"/> Done Today	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<input type="checkbox"/> N/A		
<i>Diabetes Req Given?</i>	<i>Cholesterol Req Given?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<input type="checkbox"/> No	<input type="checkbox"/> No	
<input type="checkbox"/> Declined	<input type="checkbox"/> Declined	
<input type="checkbox"/> N/A	<input type="checkbox"/> N/A	
<i>Bone Health:</i> _____		

<i>BMD Scheduled/Req Given?</i>	<i>Vitamin D?</i>	<i>Calcium?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Recommended	<input type="checkbox"/> Recommended
<input type="checkbox"/> No	<input type="checkbox"/> Declined	<input type="checkbox"/> Declined
<input type="checkbox"/> Declined	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
<input type="checkbox"/> N/A		
<i>Bladder:</i> _____		

<i>Renal Bloodwork (CR, eGFR,lytes) Ordered?</i>	<i>Renal/Bladder U/S Ordered?</i>	
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<input type="checkbox"/> No	<input type="checkbox"/> No	
<input type="checkbox"/> Declined	<input type="checkbox"/> Declined	

<input type="checkbox"/> N/A <i>Pt Has 3+ UTIs Referral to Specialist Made?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Bowel:</i> _____	<input type="checkbox"/> N/A <i>Pt has Hematuria, referral to specialist made?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A	
<hr/> <i>Bowel Program Too Lengthy: Referred to Specialist?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Too Lengthy: Reviewed Bowel Management?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Patient Has Bowel Incontinence, Referred to Specialist?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Pt Not Receiving Adequate Fibre, recommended Fibre:</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Autonomic Dysreflexia:</i> _____	<hr/> <i>Bowel Program Too Infrequent: Referred to Specialist?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Too Infrequent: Review Bowel Management?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Pt Has Blood in Stool, Referred to Specialist?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A	
<hr/> <i>Provided AD Wallet Card?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <i>Skin:</i> _____	<hr/> <i>Assessed AD severity, provided education?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<hr/> <i>Pt Has Ulcer; Refer to Wound Care?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Declined <input type="checkbox"/> N/A <i>Pain:</i> _____	<hr/> <i>Provided Pressure Relief Education?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<hr/> <i>Provided Skin Check Education?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<hr/> <i>Patient's Pain is Affecting Function Action?</i> <input type="checkbox"/> Assessed & Changed Management		

- Ordered Investigations
- Referred to Specialist
- Declined
- N/A

Spasticity: _____

Bothersome, Reassessed Spasticity Management?

- Yes
- No
- Declined
- N/A

Worsening Past 12 months, Referred to Specialist?

- Yes
- No
- Declined
- N/A

Neurological/MSK: _____

Significant Change in Neurological Function Action?

- Assessed & Changed Management
- Referred to Specialist
- None
- N/A

Respiratory: _____

Pt has 2+ Infections in past year; referred to specialist?

- Yes
- No
- Declined
- N/A

Spirometry Ordered?

- Yes
- No
- Declined
- N/A

Sleep Study Ordered?

- Yes
- No
- Declined
- N/A

Sexual: _____

Not Sexually Satisfied; Referred to Specialist?

- Yes
- No
- Declined
- N/A

Discussed Management of ED?

- Yes
- No
- Declined
- N/A

Referral to Fertility Clinic Made?

- Yes
- No
- Declined
- N/A

Discussed Safe Sexual Practices?

- Yes
- No
- Declined
- N/A

Mental Health: _____

Depression Treatment:

- Counselling
- Medication Adjustment
- Declined Treatment
- N/A

Anxiety Treatment:

- Counselling
- Medication Adjustment
- Declined Treatment
- N/A

Follow Up Plan			
<i>1 year?</i>	<i>Once Tests Complete?</i>	<i>With Family Doctor (within 6 months)?</i>	<i>As Needed?</i>
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
<i>Follow Up Plan Comments:</i> _____			

