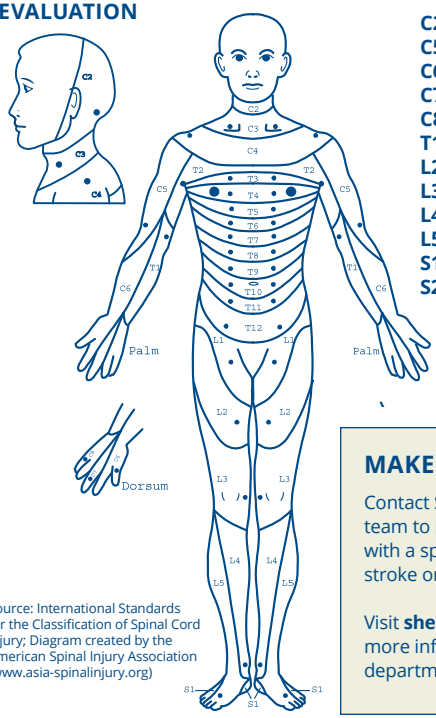
Shepherd Center

Emergency Response to Spinal Cord Injury

TREATMENT

1. Establish airway.
2. Immobilize spine.
3. Monitor oxygenation and vital signs closely.
4. Insert indwelling urethral urinary catheter.
5. Record sensory and motor levels.
6. Determine weight and allergies.
7. Optional: Administer intravenous methylprednisolone protocol (if this follows the trauma center's protocol).
8. Obtain radiograph of spine; consider advanced imaging of spine/head.
9. Order lab work (complete blood count, electrolytes, blood alcohol, drug screen, blood gases).
10. Prevent skin compromise by padding bony prominences and repositioning the patient every two hours.
11. Consider placing a nasogastric tube for abdominal decompression.
12. Complete tertiary trauma survey and stabilize other fractures/injuries.
13. Refer to specialty hospital for spinal cord injury treatment.

SENSORY EVALUATION



Source: International Standards for the Classification of Spinal Cord Injury; Diagram created by the American Spinal Injury Association (www.asia-spinalinjury.org)

MOTOR EVALUATION

C2, C3, C4 - Diaphragm
C5 - Elbow flexors
C6 - Wrist extensors
C7 - Elbow extensors
C8 - Finger flexors
T1 - Finger intrinsics
L2 - Hip flexors
L3 - Knee extensors
L4 - Ankle dorsiflexors
L5 - Long toe extensors
S1 - Ankle plantar flexors
S2, S3, S4 - Anal sphincter

MAKE A REFERRAL

Contact Shepherd Center's admissions team to make a referral for patients with a spinal cord injury, brain injury, stroke or neuromuscular diagnosis.

Visit **shepherd.org/admissions** for more information or call our admissions department at **800-743-7437**.

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Shepherd Center

Post-Acute Response to Spinal Cord Injury

DYSREFLEXIA*

Dysreflexia is a life-threatening emergency that may affect people with spinal cord injury at T-6 or above.

Signs and Symptoms:

- Sudden headache
- Stuffy nose
- Blotchy skin
- Sweating
- Elevated blood pressure
- Flushing in the face/neck/shoulder
- Bradycardia
- Goose bumps

Causes: The most common noxious stimuli are:

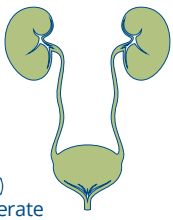
- Bladder distention
- Pressure ulcers
- Constipation
- Ingrown toenails
- Pressure on the skin
- Urinary tract infection

Treatments:

- Sit up straight and loosen tight clothing.
- Catheterize or check for obstruction in bladder drainage system.
- Remove stool from rectum manually using lidocaine ointment.
- Check skin for cause of pressure.
- If systolic blood pressure is not lowered below 150 mm Hg, consider administration of anti-hypertensive medication with rapid onset and short duration, such as clonidine 0.2 mg or nifedipine 10 mg.
- Continue to monitor for noxious stimuli.

* If the patient is pregnant and labor is imminent, dysreflexia may develop and is life-threatening to the mother and fetus.

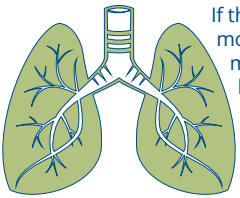
URINARY TRACT INFECTION



In the patient with spinal cord injury, the indications for obtaining urinalysis with urine culture and treating with antibiotics are:

- Fever above 101 degrees F
- Blood in urine (hematuria)
- Bladder program change (e.g., leaking or not draining)
- Urinalysis positive for inflammatory markers (i.e., moderate leukocyturia or significant positivity of leukocyte esterase)
- Bacteriuria alone without inflammatory marker findings does not correlate with urinary tract infection in a person using urinary catheters.

RESPIRATORY ISSUES



If the patient has an open airway, review the most recent chest radiograph and vital capacity measurement available. Use this radiograph as a baseline because the patient with spinal cord injury may not have a normal radiograph at baseline.

Also, ask the patient if he/she has a history of sleep apnea. If so, they may be sensitive to pain and sleep medications that could cause respiratory failure.

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