SPINAL CORD INJURY HEALTH

Information and Follow-up Recommendations

Spine and Spinal Cord Injury (SCI) Information

Spinal Cord Injury Level and Classification (ASIA Impairment Scale):
Cause:
Date of diagnosis:
Spine Procedures and dates:

Recommendations:

General:

1. Yearly SCI exam and re-evaluation of medical, therapy, equipment needs by your SCI Rehabilitation physician or provider
2. Notify your rehabilitation or primary care provider if you notice any change in strength, sensation, unusual pain or change in tone (spasticity).

Urinary Tract Health:

1. You will need yearly monitoring of your urinary tract (kidneys, ureters, bladder) over your lifetime to check for kidney or bladder stones or evidence of urinary blockage (obstruction). This typically includes:
   a. ***Renal (kidney) ultrasound*** (or CT scan in some cases) and possibly an ***abdominal X-ray known as a"flat plate" or "KUB" (Kidneys, Ureters, Bladder)*** to look for urinary tract stones. The ultrasound will also check for hydronephrosis (kidney swelling due to obstruction and high pressure).
   b. In some cases, such as when people have repeated stones in the urinary tract, a ***CT scan of the kidneys (CT KUB or CT Shriki Protocol)*** may be ordered instead of the ultrasound and X-ray to easily detect stones.
   c. A blood sample to check your ***creatinine level***
   d. **Be prepared to let your provider know how many urinary tract infections (UTIs) you have had, any change in your bladder management's effectiveness, trouble with passing the catheter, clogging of the catheter, or blood in the urine. Additional tests may be recommended.**

2. Recognize the difference between bacterial "colonization" (normal or expected bacterial growth due to catheterization that is not causing illness

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or infection) and an actual infection (UTI) that needs treatment. Avoid treating bacteria that are normally found in the urine if you don't have a fever or other signs of illness, especially when using a catheter. Overtreatment with antibiotics allows bacteria to develop resistance to various antibiotics or may increase your risk for antibiotic complications (such as diarrhea due to bacterial overgrowth by *Clostridium difficile or "C. diff"*).

3. Try to keep UTI rates low. If you are experiencing more than 3 UTIs a year, have kidney infections (pyelonephritis) or blood infections (sepsis), consult your Urology or Rehabilitation specialist. More evaluation may be indicated.

4. If you have had surgical reconstruction, such as bladder augmentation, your Urologist may decide to perform a surveillance cystoscopy. This is a procedure where a small scope is inserted into the bladder thru the urethra or a stoma (an existing surgically created passage into the bladder). The Urologist will look at the lining of the reconstructed bladder and the opening to the ureters, checking for growths or other abnormalities.

5. If you manage your bladder with intermittent catheterization, try to maintain low bladder pressures to protect the kidneys. You may not be able to feel high bladder pressure. In general, keep the bladder volumes at 500 mL or less. Avoid straining (holding your breath and bearing down) to urinate. Medications may be prescribed or injected to help control an overactive bladder problem that may be coupled with high bladder pressures or leakage.

6. Smoking increases your risk for bladder cancer. Do not start smoiking. Try to quit if you are a smoker. Notify your physician if you see blood in your urine that does not resolve over 3 months.

Bowel Health:

1. If you use digital stimulation or manual removal of stool, do digital stimulations gently with the least number required. This will minimize the risk for trauma and bleeding from the rectum.

2. The goal of the bowel program is to have regular bowel movements on schedule without accidents, with results daily or every other day.

3. Avoid straining (holding your breath and bearing down). Try to keep the bowel consistency not too firm, to minimize the risk for hemorrhoid

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formation or inflammation. Likewise, avoid a very loose stool consistency, as this may cause bowel accidents or lead to skin breakdown.

4. Constipation or obstruction can cause autonomic dysreflexia in people with injuries at T6 or above. Hard stools, cramping, bloating, no stool results for 3 or more days, nausea or poor appetite, and even diarrhea can be signs of constipation or obstruction. Talk to your medical provider as soon as possible if you notice these symptoms, or go to the Emergency Room.

5. SCI slows the movement of bowel through your intestines. Keep in mind that movement of bowel thru the GI tract usually slows further as we age, so it is important to establish good bowel habits early to counteract the slowing from both the SCI and age. Bowel programs may need to be adjusted to address changes as you age.

6. You should expect to have the same schedule of bowel health screening (colonoscopies, checking for blood in stool) as people without SCI. You may need an individualized bowel preparation for colonoscopy, longer preparation time and additional medications to effectively empty the colon for colonoscopy.

Skin Health:

1. You are at higher risk for developing skin breakdown due to pressure or shear (friction) without realizing the skin has been damaged.

2. Learn the warning signs of skin damage. Teach your caregivers.

3. Daily skin checks will help detect wounds earlier. Use both looking at your skin (with a mirror or taking pictures) and feeling your skin to check for changes. This includes your feet. A caregiver may need to help you if you are not able to do the checks. Call health care provider if you have a color change, hotspots, callous, sore or cracks that do not go away within two days.

4. Regular pressure releases with a well-matched pressure reducing wheelchair cushion or specialty seating system, padded equipment for toileting and bathing and a pressure-reducing mattress will help prevent skin breakdown. Learn how to maintain your pressure-reducing cushion.

5. Inform your rehabilitation or primary care provider as soon as possible about any skin breakdown, and relieve pressure from the area as soon as you suspect possible skin injury.

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6. If you require a wheelchair for mobility, evaluation of your seating system is recommended with any changes in your fit or function.

7. Good nutrition, enough protein, vitamins and minerals is very important to help heal any wounds. An appointment with a dietician can be helpful.

8. Prevent pressure. Wear pressure reducing boots or splints when in bed to prevent pressure on the heel and ankle.

9. Manage edema (swelling). Compression socks or garments may be needed.

10. Prevent deformity, do range of motion daily, and wear shoes.

Bone Health:

1. You are at risk for fractures, especially in areas of the body that are weak. Know the signs or symptoms: deformity, swelling, bruising, redness, and warmth. Inform your provider as soon as possible if you suspect a fracture.

2. Preventing trauma, such as falls or twisting of the limbs, helps to reduce your risk for fracture. Sometimes, a fracture can result even when the injury is minor.

3. Some fractures below the injury level, such as in the foot, may not be treated with hardware or surgery. Others, such as at the hip, may be treated surgically. SCI experts generally do not recommend a regular cast to treat a fracture, because that often causes a skin injury if the limb does not have good sensation. Customized and removable splints often work well to immobilize a fracture and still be able to check your skin.

4. You may benefit from blood thinning medications for a short period of time to prevent a blood clot if you have a fractured limb.

Shoulder, Arm, Hand Function:

People with spinal cord injury who use their arms for wheelchair pushing and transfers are at risk for developing shoulder, arm, and hand problems over time. Some examples of this include shoulder bursitis or tendonitis, rotator cuff tears, carpal tunnel syndrome, or contractures (loss of range of motion). Notify your rehabilitation therapists or medical provider about any new pain or changes in your strength, function or feeling.

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Pain:

People with spinal cord injury can develop different types of pain, including nerve pain, muscle/tendon/joint pain, or cramping abdominal pain. Nerve pain is often described as burning, tingling, shooting, even itching or cramping. Review your pain management with your provider regularly, or if there is a sudden change.

Spasticity:

Muscles can become hyperactive and cause painful cramping, spasms, or tightness after SCI. This can become more apparent or stronger over many months after your SCI. There are medication and non-medication options to manage this, and your SCI provider can assist in finding the right treatment.

Autonomic Dysreflexia:

Autonomic dysreflexia or "AD" is a condition affecting people with SCI at T6 or higher, and is relatively unique to SCI. Many providers may not be familiar with AD. If you are at risk for this, be prepared to discuss AD, know your baseline blood pressure, what typically triggers your AD, and how to manage it. Sometimes people don't experience their first episode of AD until after the hospital stay. Wallet-sized cards are available as reference. Your Rehabilitation provider may have AD cards, or a sample card can be found at:
http://www.msktc.org/sci/factsheets/autonomic_dysreflexia

Mood:

The SCI and the transition from hospital/rehabilitation to home can be stressful events. Be aware of any problems with mood, adjustment, or anxiety. Finding the right supportive treatment with non-medication and/or medication strategies is important. Find a medical provider with whom you can discuss your mood.

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