Neurogenic Bladder: What You Should Know

A Guide for People with Spinal Cord Injury
Why Is This Information Important?

• Before SCI, you didn’t have to think about managing your bladder
• After SCI, you may need more time, thought and planning to manage your bladder
• You may not feel the sensation of needing to use the toilet
• You may need help with managing your bladder
The Urinary System

- Consists of the kidneys, ureter, bladder, and urethra
- Male and Female urinary systems are almost identical
  - Prostate gland in males
  - Length of the urethra differs
Function of the Urinary System

- Kidneys filter blood, remove waste and excess water, turns waste into urine
- Urine flows down the ureters to the bladder
- Bladder holds urine until urination occurs
- Upon voiding, the bladder contracts, a sphincter opens, and urine passes through the urethra
Urination is Voluntary and Involuntary

- The bladder and sphincter muscles work in close coordination.
- When the bladder is full, messages are sent up the spinal cord to the brain.
- Then, you decide whether to urinate or hold it. This is voluntary control.
- If you want to void, the brain sends messages back to the urinary system.
- The bladder then contracts and the sphincter opens. This is involuntary control.
Bladder Function Changes after SCI

- Impulses from the bladder may no longer tell your brain that your bladder is full. You may not be able to control the release of urine
Neurogenic Bladder

• This term refers to the changes that occur in bladder function following SCI
• Two types of bladder dysfunction:
  – Hyperreflexive bladder (also known as overactive, spastic, or reflex bladder).
    • Bladder holds less urine than before SCI
    • Bladder may have spasms, and contract on its own
    • This results in frequent, small urinations
    • Bladder may not empty with each urination
    • Common with SCI above the sacral area
Neurogenic Bladder

• Second Type of Bladder Dysfunction:
  – Areflexic bladder (also known as flaccid bladder)
    • Bladder has lost its ability to contract and stretches to hold a large amount of urine
    • Bladder overfills and leaks, like a glass too full of water
    • Common with SCI to the sacral area of the spinal cord
Managing Your Bladder after SCI

• The first goal of bladder management is to protect the kidneys

• The second goal is to avoid incontinence
Emptying Your Bladder

• The bladder should be emptied regularly and completely to avoid kidney problems
• If this cannot be done spontaneously, catheterization should be used
Intermittent Catheterization (ICP)

- A small rubber or plastic tube is inserted into the bladder to drain urine several times a day
- Nursing staff does this initially but will teach you how to do it
- Bladder volume needs to be around 300-500 ml
- ICP should be done at least four times a day
Continuous Drainage: Indwelling Catheters

• A Foley catheter is a hollow tube with a part that goes inside the bladder

• It is inserted in the urethra and should be changed about once a month to prevent infection
Continuous Drainage: Suprapubic Catheters

- A surgical procedure places a tube directly in the bladder.
- A balloon is inflated to keep the tube in place.
- The bladder can empty continuously.
- The catheter tube needs to be changed about once a month.
Other Methods of Voiding

• Stimulated Voiding
  – Just as a spastic muscle might move when tapped, a bladder might contract when tactually stimulated. Tapping on the bladder may cause urination

  – “Reflexive Voiding” can be started by tapping over the lower abdomen or tugging on pubic hair

  – Stimulated voiding is not as efficient as other methods
Spontaneous Voiding

- If your bladder contracts on its own, wearing an external device such as a condom catheter can keep you dry
Tips for Avoiding Bladder and Kidney Infections

• Drink lots of fluids to wash out bacteria and avoid formation of kidney or bladder stones

• Empty your bladder routinely, avoid overfilling. Keep urine content below 500 ml

• Maintain a good bowel program, avoid constipation
Tips for Keeping Your Skin Dry

• Follow your bladder management program consistently
• Routinely empty your bladder
• Manage fluid intake
• Wear appropriate appliances (condoms, padding)
• Avoid infections
• Change clothing when wet
Autonomic Reflexia and Bladder Management

• If SCI is T6 or above, you may develop Autonomic Dysreflexia
• The most common cause of this is overfilling of the bladder
• This condition needs immediate attention
• Check to see if the catheter line is clear, clear it if it is blocked. Empty the catheter bag. Press the bladder to initiate voiding
Urinary Stones

- Stones can develop in the kidneys, ureters, or bladder
- Stones are mineral deposits that develop due to infection, diet, or chemicals
- Usually, stones pass through the urinary system
- If stones get large, they may block the urinary system, causing pain and damage