NEUROGENIC BOWEL AND BLADDER ACUTE CARE MANAGEMENT

KEY POINTS

- Initiate a bowel management program for all patients with acute spinal cord injury.
- The goal of effective bladder management is to preserve upper urinary tract structures and minimize urinary tract infections. Customize bladder management after acute spinal cord injury to the individual, weighing potential benefits and risks, such as fluid status, comorbid injuries and conditions, and personal preferences.

Neurogenic bowel and bladder dysfunction are highly prevalent following traumatic SCI. Early and effective management of neurogenic bowel and bladder symptoms helps reduce the incidence of secondary complications including autonomic dysreflexia, skin breakdown, ileus, and UTI.

Neurogenic Bowel Management

In the first few days after acute SCI, patients are at risk for ileus because the gut wall is hypotonic and unresponsive to stimuli. Colonic transit time is severely prolonged during the initial weeks post injury, and more than 80 percent of individuals with SCI experience some degree of bowel dysfunction.[1-5] The most commonly reported symptoms of neurogenic bowel dysfunction include constipation (32 to 56 percent), fecal incontinence (27 to 86 percent), abdominal distension or discomfort (22 to 33 percent), and the need for digital stimulation or manual disimpaction (66 percent).[2,3,6-14] Symptoms of neurogenic bowel dysfunction are more severe in individuals with complete SCI compared with incomplete SCI. Constipation due to neurogenic bowel dysfunction can contribute to autonomic dysreflexia when SCI is at or above T6.[3,15-17]

Increased external anal sphincter tone and increased rectal tone and contractility can result from injuries above the S2 level and lead to reflex defecation.[18-21] Injuries at or below the S2 level can cause reduced external anal sphincter tone and reduced rectal tone and contractility, leading to fecal impaction and incontinence.[22-24] The physiological terms reflexic and areflexic bowel are commonly used to classify neurogenic bowel dysfunction. However, individuals with injuries above S2 may show no sign of reflexic bowel function, while others with injuries at the conus medullaris or cauda equina may demonstrate some residual reflexic bowel function.

A bowel management program is indicated for all individuals with acute SCI who do not require surgical intervention (e.g., ostomy), either because of neurogenic bowel dysfunction severity or secondary complications. Bowel management for individuals with reflexic and areflexic neurogenic bowel dysfunction includes diet and fluid management, oral medications (e.g., stool softeners, laxatives, prokinetic agents, and rectal medications), and assisted defecation by means of manual disimpaction and/or positioning. Mechanical rectal stimulation with digital stimulation and rectal stimulants such as suppository or mini-enemas may be useful for individuals with reflexic neurogenic bowel dysfunction. Goals of bowel management include:[25-27]

- Passing stool daily or every other day,
- Moderate to large amounts of soft, formed, bulky stool and complete emptying of the rectal vault,
- Bowel evacuation at a consistent time of day, and
- Completion of bowel care in less than 30-60 minutes.

Surgical diversion via colostomy or ileostomy may be required for severe neurogenic bowel dysfunction and/or severe skin breakdown in the perineal or perirectal regions.

Neurogenic Bladder Management

Most patients with traumatic SCI have impaired micturition and voiding due to neurogenic bladder dysfunction, which can lead to upper and lower urinary tract complications. The overall goal of effective bladder management is to preserve the upper urinary tract structures and minimize lower tract complications.[28]

During an initial period of spinal shock, detrusor areflexia occurs and the bladder has no contractions, resulting in overflow incontinence. Recovery of skeletal muscle reflexes, which may occur after 6 to 8 weeks, leads to gradual recovery of uninhibited bladder contractions for individuals with injuries above the S2 level. Detrusor-sphincter dyssynergia, intermittent or complete failure of external urinary sphincter relaxation