

# Bladder Management

following

# Spinal Cord Injury

*Information for  
Health Professionals*

**QUEENSLAND  
SPINAL CORD INJURIES  
SERVICE (QSCIS)**

[www.health.qld.gov.au/qscis](http://www.health.qld.gov.au/qscis)

## Types of Neuropathic Bladder Impairment following SCI

- **Suprasacral (Reflexic/UMN)**
  - suprasacral lesion causing detrusor hyperreflexia, small volumes voided with high residual volumes, detrusor-sphincter dysynergia (DSD), high voiding pressures.
- **Infrasacral (Contractile/LMN) –**
  - lesion at sacral centre or below, contractile but not atonic with detrusor fibrillation, poor compliance to bladder filling.
- **Mixed (conus – type) –**
  - **Type A** – lesion in sacral centre involving detrusor nucleus causing detrusor hyporeflexia with external sphincter hyperreflexia. Large volume bladder with overflow incontinence.
  - **Type B** – lesion involving pudendal nucleus causing detrusor hyperreflexia with external sphincter hyporeflexia. Small volume bladder with frequency

## Investigations

- Regular urine m/c/s
- Baseline IVP and urodynamics (cystometry and urethral pressure profile) performed in the Spinal Injuries Unit.
  - Yearly or 2<sup>nd</sup> yearly renal tract ultrasound + KUB as screening procedure.

## Goals of Bladder Management

- Protect upper tract from high pressure (< 40 cm H<sub>2</sub>O) and its complications including ureteric reflux, hydronephrosis and renal failure.
  - Minimise post-voiding residuals and resultant UTIs.
  - Prevent other complications e.g. calculi.
  - Ensure social continence.

## Methods of Bladder Management

The method of bladder management chosen depends on:

- 1) the level and completeness of the injury,
- 2) the degree of hand function and
- 3) sex.

### **Intermittent Clean Self Catheterisation (ICSC)**

- Is now the most common and best method.
- It is suitable for most paraplegics and some tetraplegics with sufficient hand function.
- Catheters should be performed every 4 hours and 6<sup>th</sup> hourly overnight.
- May need anti-cholinergic medication (e.g. oxybutynin) to reduce detrusor hyperreflexia and incontinence between catheters.

### **Permanent Catheterisation (Indwelling Urethral or Suprapubic Catheterisation)**

- Usually for tetraplegics who are unable to self-catheterise.

### **Reflex Voiding + external collecting device (urodome)**

- Suitable for males with insufficient hand function for ICSC.
- Generally not used much at present time.
- Many people with long standing SCI still use this method.
- More risk of upper tract problems in the long term.
- Must be able to empty bladder to low residual volume at regular intervals to avoid UTIs.



### **Symptoms of UTIs in SCI**

- ✓ Systemic symptoms e.g. fever, general malaise.
- ✓ Dysuria not common due to poor bladder sensation.
- ✓ Frequency manifests as incontinence between catheters or voiding around IDC.
- ✓ Change in appearance or odour of urine
- ✓ Increase in muscle spasticity or neuro-pathic pain.

### **Management of UTIs**

#### **General Principles**

- Most people should be on urinary antiseptics e.g. hiprex or cranberry especially if recurrent UTIs.
- Avoid long term antibiotic use.
- Exclude underlying cause e.g. calculi especially if recurrent UTIs.

#### **Intermittent Clean Self Catheterisation (ICSC)**

- ✓ most people performing ICSCs should have sterile urine most of the time and therefore;
- ✓ UTIs should generally be treated even if not symptomatic.
- ✓ Catheter technique may need to be checked.
- ✓ Recurrent UTIs need to be further investigated.

### **Permanent Catheterisation**

- ✓ Colonisation is common.
- ✓ Generally this should not be treated unless the person is symptomatic.

### **Reflex Voiding + external collecting device (urodome)**

- ✓ Urine should be sterile most of the time
- ✓ UTIs should be treated.
- ✓ Infection often related to poor bladder emptying and high residual urine volume.

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