Aims of course/workshop
Using a combination of panel discussions and audience interaction, this course will discuss the management of the complex neurogenic bladder patient. Topics will include recurrent infection, intractable detrusor overactivity, sphincter weakness, devastated urethra, catheterisation difficulties and urolithiasis. Patient with spinal cord injury, spina bifida and MS will be emphasised. Complications related to surgical management including augmentation cystoplasty, Mitrofanoff procedures, and suprapubic catheter will be discussed. The participants will have the opportunity to formulate management algorithms based on the experience of the faculty. They will understand how to avoid complications and how to treat them effectively.

Educational Objectives
This workshop covers areas of neurogenic bladder management that are rarely discussed adequately in the didactic literature. It will provide a forum for the experienced faculty to share their knowledge of these complex problems with the participants. As this is an advanced course it is expected that discussions among the faculty and audience will allow the development of consensus in these management issues.
Management of the Complex Neurogenic Bladder Patient: avoiding and troubleshooting complications

Aims of course/workshop
Using a combination of didactic talks, panel discussions and audience interaction, this course will discuss the management of the complex and complicated neurogenic patient. Topics will include recurrent infection, intractable detrusor overactivity, sphincter weakness, devastated urethra, catheterization difficulties and urolithiasis. Complications related to surgical management including augmentation cystoplasty, Mitrofanoff procedures, and suprapubic catheter will be discussed. The participants will have the opportunity to formulate management algorithms based on the experience and knowledge of the faculty. Additionally they will understand how to avoid complications and how to treat them effectively when they are encountered.

Educational Objectives
This workshop covers areas of neurogenic bladder management that are rarely discussed adequately in the didactic literature. It will provide a forum for the experienced faculty to share their knowledge of these complex problems with the participants. As this is an advanced course it is expected that discussions among the faculty and audience will allow the development of consensus in these management issues.

Patients with neurologic disease with associated vesico-urethral dysfunction present many challenges to their caregivers. The primary consideration is improving the individuals’ quality of life. In doing this the clinician must take into consideration multiple factors. Obviously the primary neurologic diagnosis and the severity and progression of the condition are highly significant. However, age, mobility, hand function, home circumstance and support, mental status, BMI, and social factors are some of the other factors that need to be considered. If many instances applying a management algorithm to an individual patient is impossible, with treatment often tailored to the individual. Similarly, studies with Level 1 evidence for common treatment modalities in these patients are rare, if not totally lacking.

The purpose of this workshop is to review common concerns in management of the neurogenic patient, with a view to understanding how to manage these complex situations. Emphasis will be given to avoiding and managing complications. These problems will be illustrated by case histories in order to stimulate discussion among the faculty and involve the participants. It is hoped that this discussion will educate the participants on the best management with the least complications. Each of the broad areas to be discussed will be described below with a list of talking points and a relevant bibliography. It will be noted that there is considerable overlap between these areas and the cases discussed will by their nature, illustrate several of the areas in each case.
1. Recurrent urinary tract infection:
   a. How to monitor, surveillance v. symptoms
   b. Associated catheter management
      i. CIC (sterile v. clean) v indwelling (urethral v. suprapubic)
   c. Antibiotics: therapeutic v. prophylaxis
   d. Irrigation + or -, which solution
   e. Upper tract changes: scarring, calcification, how to treat

Bibliography:
   i. Khan AA, Mathur S, Feneley R, Timoney AG. Developing a strategy to reduce the high morbidity of patients with long-term urinary catheters: the BioMed catheter research clinic. BJU Int. 2007 Dec;100(6):1298-301.

2. Urolithiasis
   a. Surveillance: Ultrasound v. x-ray v cystoscopy
   b. Prevention (see above)
   c. Management: endoscopic v. open
   d. Which lithopaxy modality
   e. Influence on bladder management

Bibliography:
3. Detrusor overactivity
   a. Best pharmacologic management
   b. Botox regimes, improving efficacy
   c. Indication for enterocystoplasty
   d. Cystoplasty techniques, associated procedures
   e. Avoiding cystoplasty problems
   f. Is there a place for neuromodulation/neurostimulation

Bibliography:

4. Incompetent bladder outlet
   a. Prevention
   b. Management options: bulking, sling, artificial sphincter, bladder neck reconstruction,
   c. bladder neck/urethral closure, supravesical diversion

Bibliography:
5. Intermittent catheterization
   a. Teaching
   b. Trouble shooting: associated infection, persistent leakage etc
   c. Indications for catheterizable stoma v suprapubic catheter v. supravesical diversion

Bibliography:

6. Augmentation cystoplasty
   a. Which segment, postop management
   b. Problems: infection, stones, mucus, perforation, malignant change
   c. Enterocystoplasty v. alternatives
   d. Best surveillance options

Bibliography:
7. Continent catheterizable stomas
   a. Indications
   b. Technical considerations: which tube, implant techniques, associated procedures
   c. Stenosis, recurrent incontinence, catheterization difficulties

Bibliography:

8. Suprapubic catheter/ incontinent diversion
   a. Open v. percutaneous
   b. Catheter size and type
   c. Long term management: change interval, irrigation +/-, antimuscarinics, bactiuria, surveillance, cystoscopy/xray
   d. Long term problems: track erosion, recurrent incontinence, upper tract changes, stones, infection
   e. Alternatives: ileovesicostomy v. supravesical conduit
      i. +/- cystectomy
      ii. Pyocystis: prevention, management

Bibliography:
Notes
Record your notes from the workshop here