VI. URINARY INCONTINENCE IN NEUROLOGICAL PATIENTS

A. INITIAL MANAGEMENT

1. STRONG GENERAL RECOMMENDATIONS

- Patients with known neurological disease often need evaluation to exclude bladder dysfunction, not only if symptoms occur, but as a standard assessment as neurogenic bladder has a high prevalence in the particular disease (for prevalence figures see chapter)
- A possible neurological cause of “idiopathic”incontinence should always be considered. Diagnostic steps to evaluate this include basic assessments, such as history and physical examination, urodynamics and specialised tests.
- Incontinence in neurological patients does not necessarily relate to the neurologic pathology. Other diseases such as prostate pathology, pelvic organ prolapse, might have an influence. These factors should be evaluated as potential primary or contributory causes.
- Extensive diagnostic evaluation is often useful and necessary to tailor an individual treatment based on complete neurofunctional data. This may not be needed in every patient e.g. patients with suprapontine lesions or in patients where treatment will consist merely of bladder drainage when the person is frail or has limited life expectancy.
- There is often a need to manage both bladder and bowel dysfunction simultaneously

2. INITIAL ASSESSMENT

- The management of neurological urinary incontinence depends on an understanding of the likely mechanisms producing incontinence. This can in turn depend on the site and extent of the nervous system abnormality.
- Under current classifications, neurogenic incontinence patients can be divided into four groups. History and physical examination are important in helping distinguish these groups:
    - peripheral lesions (as after major pelvic surgery) including those with lesions of the cauda equina (eg.lumbar disc prolapse);
    - sacral spinal cord lesions involving the sacral micturition centre
    - suprasacral spinal cord lesions (suprasacral infrapontine spinal cord lesions);
    - central lesions of the brain or brain stem (stroke, Parkinson’s disease).
- Assessment should be made using Questionnaires, urinalysis, bladder diary, uroflowmetry with assessment of PVR, and imaging of the urinary tract (ultrasonography); all provide basic data for the initial assessment of the NLUTD.
- Invasive urodynamics should be used as part of the initial assessment in select patient populations (SCI, meningomyelocele)
- Due to increasing data on organ cross-sensitisation and the debilitating effect of faecal incontinence on QOL, a history of bowel function should be also included

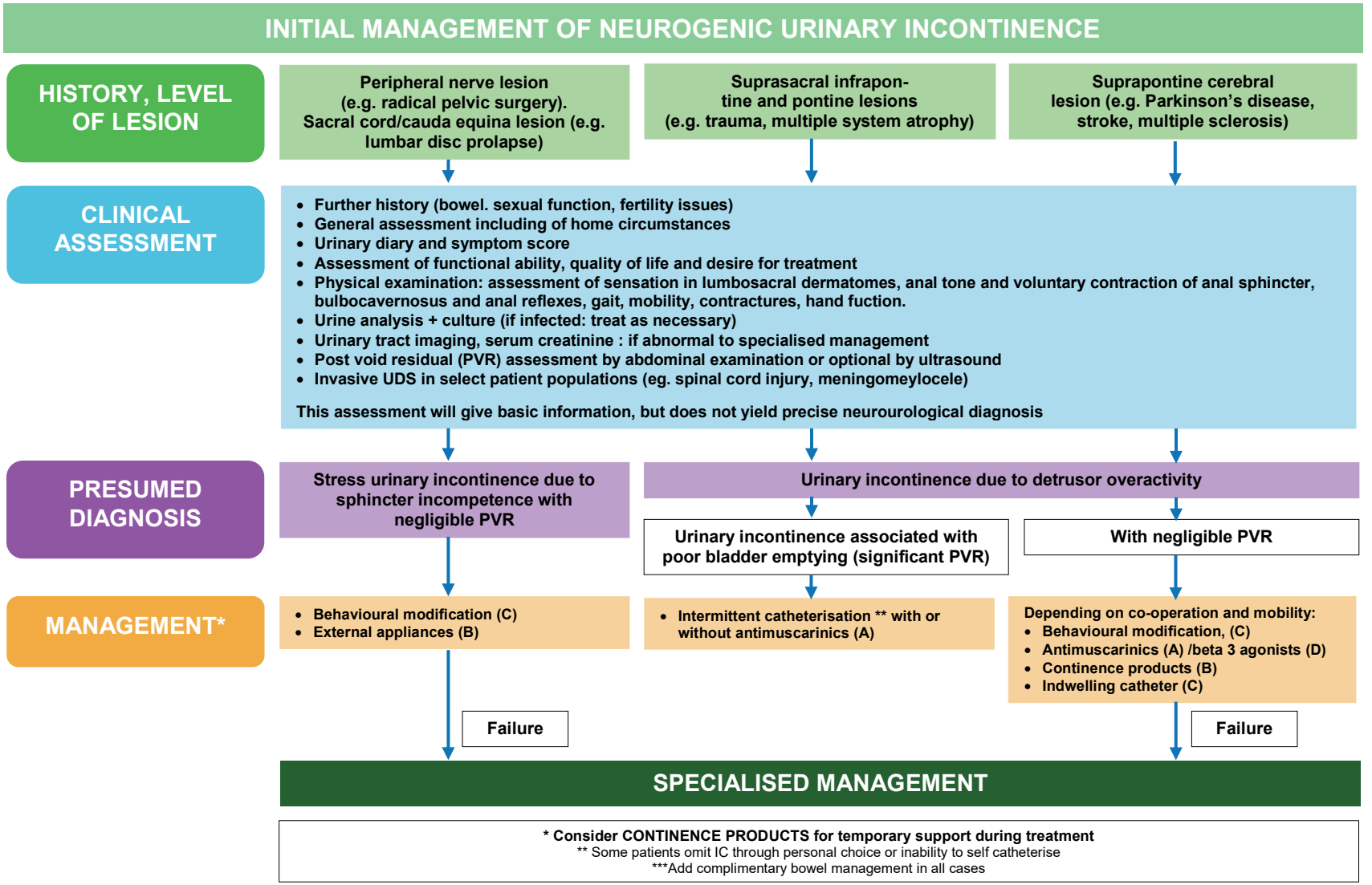
3. INITIAL TREATMENT

- Patients with peripheral nerve lesions (e.g. denervation after pelvic surgery) and patients with spinal cord lesions (e.g. traumatic spinal cord lesions) should receive specialised urological management (GoR A).
- Initial treatment for patients with incontinence due to suprapontine pathology, like stroke; need to be assessed for degree of mobility and ability to cooperate. Initial recommended treatments are behavioural therapy (GoR C) and antimuscarinic drugs for presumed detrusor overactivity (GoR A). If incontinence persists and if operative procedures are not indicated then continence products (GoR B) or catheters (GoR C) may be necessary on a long-term basis. These can also be necessary in non-cooperative or less mobile patients.

Pharmacological detrusor relaxation and/or antibiotics may be useful in cases of persistent bypass leakage and/or recurrent UTI (patients with continuous drainage)

In all cases, bowel management should complement management of NLUTD

INITIAL MANAGEMENT OF NEUROGENIC URINARY INCONTINENCE



* Consider CONTINENCE PRODUCTS for temporary support during treatment
** Some patients omit IC through personal choice or inability to self catheterise
***Add complimentary bowel management in all cases

VI. URINARY INCONTINENCE IN NEUROLOGICAL PATIENTS

B. SPECIALISED MANAGEMENT

1. ASSESSMENT

- Most patients with neurogenic urinary incontinence require specialised assessment: Invasive urodynamic studies should be used with videourodynamics if available when surgical interventions are planned or when the “bladder may be unsafe”.
- Upper tract imaging is needed in some patients and more detailed renal function studies will be desirable if the upper tract is considered in danger: high bladder pressure, upper urinary tract dilation, recurrent or chronic upper tract infection, (major) stones, (major) reflux.
- In patients with peripheral lesions, clinical neurophysiological testing may be helpful for better definition of the lesion

2. TREATMENT

For specialised management, conservative treatment is the mainstay (GoR A). Management of neurogenic urinary incontinence has several options. The algorithm details the recommended options for different types of neurological dysfunction of the lower urinary tract. The dysfunction does not necessarily correspond to one type/level of neurological lesion and is defined best by urodynamic studies. One should always ascertain that the management ensures a safe lower urinary tract (storage at low pressure and complete emptying)

Both urinary and bowel function should be assessed together if both systems are affected, as symptoms and treatment of one system can influence the other, and *vice versa* (GoR A).

As therapeutic approaches can differ in various neurological diseases, the most prevalent diseases are discussed separately in the chapter

3. TREATMENT MODALITIES (OFTEN IN COMBINATION)

➢ Conservative

- Intermittent catheterisation (GoR A)
- Behavioural treatment (GoR C)
- Timed voiding (GoR C)
- Continence products (GoR B)
- Antimuscarinics (GoR A)
- Alpha-1-adrenergic blockers (GoR C)
- Oral cannabinoid agonists (MS) (GoR C)
- Beta-3-agonist alone or as an add-on to AM (GoR D)
- Bladder expression (GoR B)
- Triggered voiding (GoR C)
- Indwelling catheter (GoR C)

➢ Minimally invasive treatments

- Botulinum toxin for: sphincter (C) detrusor (A)
- Intravesical electrical stimulation (C)
- PTNS/TTNS (C)
- SNM (stable disease only) (C)

➢ Surgical treatment

- Artificial sphincter (A)
- Bladder neck sling (B)
- Sub-urethral tapes (D)
- Bulking agents (D)
- Bladder neck closure (D)
- Stents intraurethral (B)
- TUI sphincter (B)
- Sacral deafferentation (B)
- Sacral anterior root stimulator (B)
- Enterocystoplasty (B)

SPECIALISED MANAGEMENT OF NEUROGENIC URINARY INCONTINENCE