



## **Multiple Sclerosis (MS)**

### **Pathophysiology**

MS is the commonest progressive neurological condition. It mostly affects women and most people with it have the relapsing remitting subtype which means that they will have an attack and then recover (fully or partially). It occurs due to patchy demyelination of the brain and spinal cord.

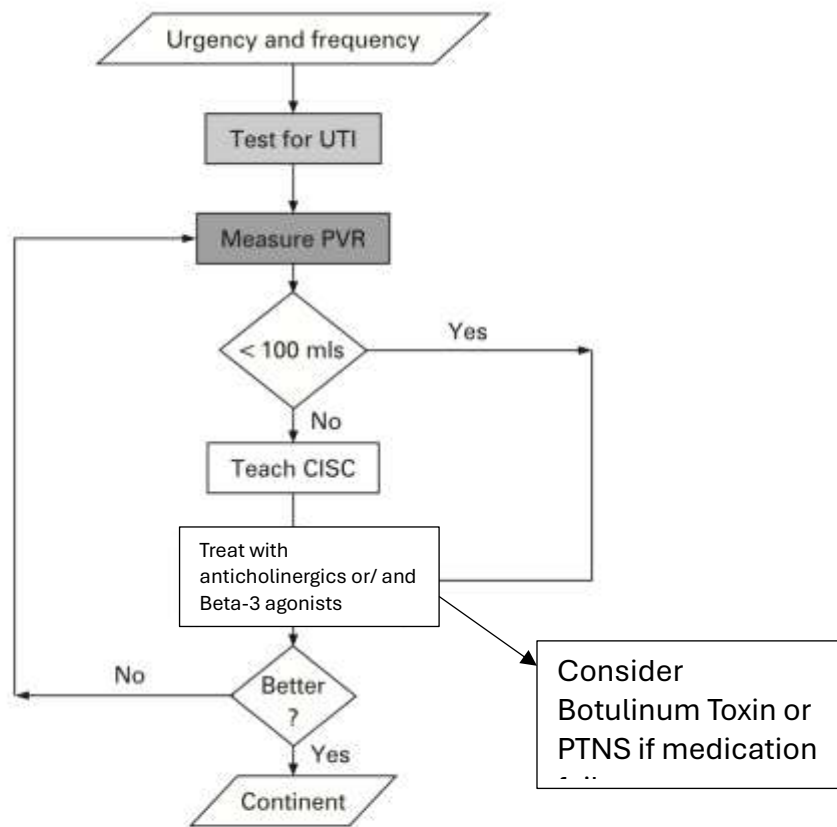
### **Management**

Patients with MS tend to experience the following:

- Poor bladder emptying (with LUTS and UTI's as a result)
- Neurogenic Detrusor Overactivity

Most importantly, most patients can be managed safely in a general urology clinic as their risk of upper tract dysfunction is VERY SMALL (<1% in some studies). They should be managed by assessment (and treatment with ISC or SPC) of their emptying, then treatment of their OAB symptoms. This can be done safely without the need for urodynamics.

The following flowchart summarises how patients with MS should be managed:



**Figure 3** Management algorithm for patients with multiple sclerosis presenting with urinary tract symptoms. CISC, clean intermittent self-catheterisation; PVR, post void residual volume; UTI, urinary tract infection.

If, following the above process, anticholinergics are not adequate, then beta-3 agonists can be trialled. PTNS and intravesical botulinum toxin can be trialled if medication fails. Even if emptying is adequate before botulinum toxin treatment there is still a high chance they will need to self-catheterise afterwards, so they should be taught how to do so. Carers or family can help with this if needed.

### **When should Urodynamics be performed:**

- If imaging shows upper tract dysfunction
- If you are considering bladder outflow surgery in a man with MS or anti-stress incontinence surgery in a female with MS

Most patients' symptoms can be vastly improved with a combination of ISC or an SPC, and medications or intravesical Botox. Specialist referral should be considered only if these measures fail, as a urinary diversion or consideration of novel treatments such as SNS may be possible.



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UTI's can be problematic and should be investigated and treated as normal. Treatment should be instigated promptly as some patients may be receiving Disease Modifying Therapy which may put them at additional risk of infection and sepsis.

Patients with MS may also suffer with bowel and sexual dysfunction. This should be approached holistically and onward referral made if this is outside the skillset of the Urologist.