



## Parkinson's Disease – Urological Factsheet

### Overview

Lower urinary tract symptoms (LUTS) affect up to **86%** of patients with Parkinson's disease (PD). Storage symptoms and nocturia are most common. Careful assessment is required, particularly to exclude **Multiple System Atrophy (MSA)** prior to invasive intervention.

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### Pathophysiology

- PD results from degeneration of **dopaminergic neurons in the substantia nigra**
  - Dopamine inhibits the micturition reflex
  - Dopamine loss leads to **detrusor overactivity and storage LUTS**
  - Coexistent **benign prostatic enlargement** may contribute to voiding symptoms in men
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### PD vs MSA – Key Distinction

- **~50% of MSA patients** initially misdiagnosed as PD; MSA progresses more quickly, doesn't respond well to levodopa and tends to have early severe autonomic dysfunction (bladder, bowels, blood pressure).
  - MSA patients have **poor outcomes** following bladder outflow or incontinence surgery
  - Stress incontinence rates in MSA: **82–100%**
  - **DSD prevalence:** PD ~4% vs MSA ~47%
  - **If any diagnostic uncertainty → liaise with neurologist before surgery**
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### Initial Assessment

- **Uroflowmetry**
  - **Post-void residual (PVR)**
  - Medical management acceptable once safe bladder emptying is confirmed
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### Medical Management (First-Line)

- **Anticholinergics:** use cautiously (cognitive effects, anticholinergic burden)
  - **Beta-3 agonists:** fewer side effects, useful alternative
  - **Alpha-blockers:** for voiding LUTS
    - Warn about postural hypotension and fall risk
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### Urodynamics

- Indicated if:
    - Inadequate response to medication and invasive treatment is being considered
  - Assess for **BOO and/or DO**
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### Surgical & Advanced Therapies

- **Bladder Outflow Surgery (e.g. TURP):**
    - ~70% of PD patients with BOO on UDS will improve
    - Ensure **MSA excluded first**
    - Counsel if BOO + DO coexist – DO may continue post operatively and require further treatment
  - **Botulinum Toxin:**
    - Safe and effective
    - Majority do not require ISC
  - **Neuromodulation:**
    - **Deep Brain Stimulation (DBS):** often improves LUTS; consider awaiting DBS before invasive LUTS therapy
    - **Sacral Neuromodulation:** limited evidence; potential research role
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### Key Points

- Medical therapy is the **mainstay of LUTS management in PD**
- Monitor closely for adverse effects
- **Exclude MSA before invasive treatment**
- TURP can be safely performed in appropriately investigated and counselled PD patients