THE OHIO STATE UNIVERSITY

To Pee or Not to Pee

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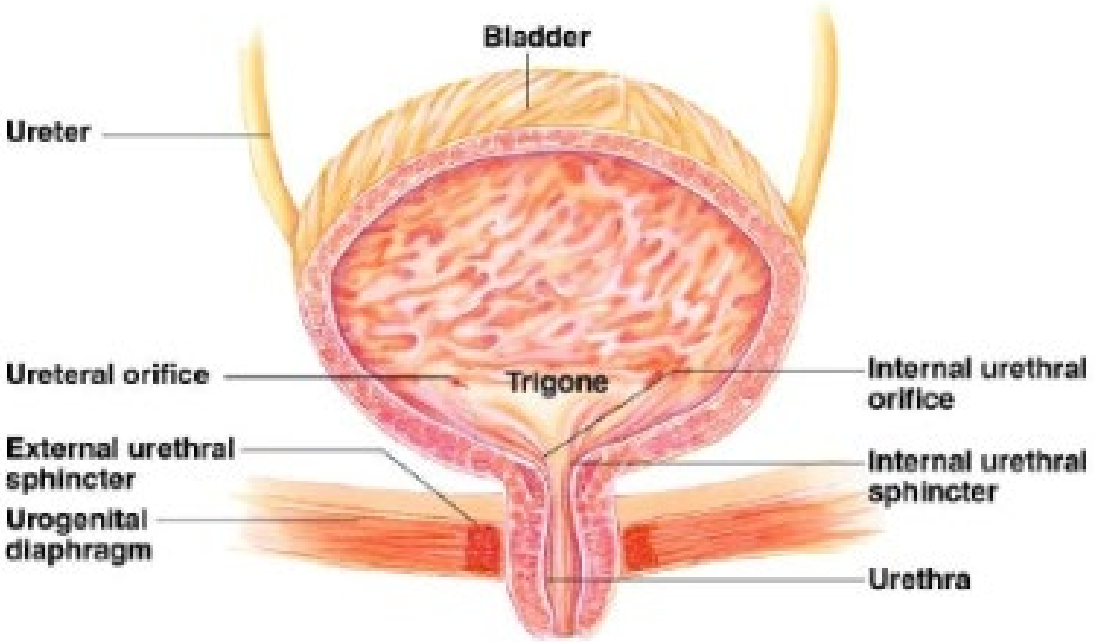
Disclosures

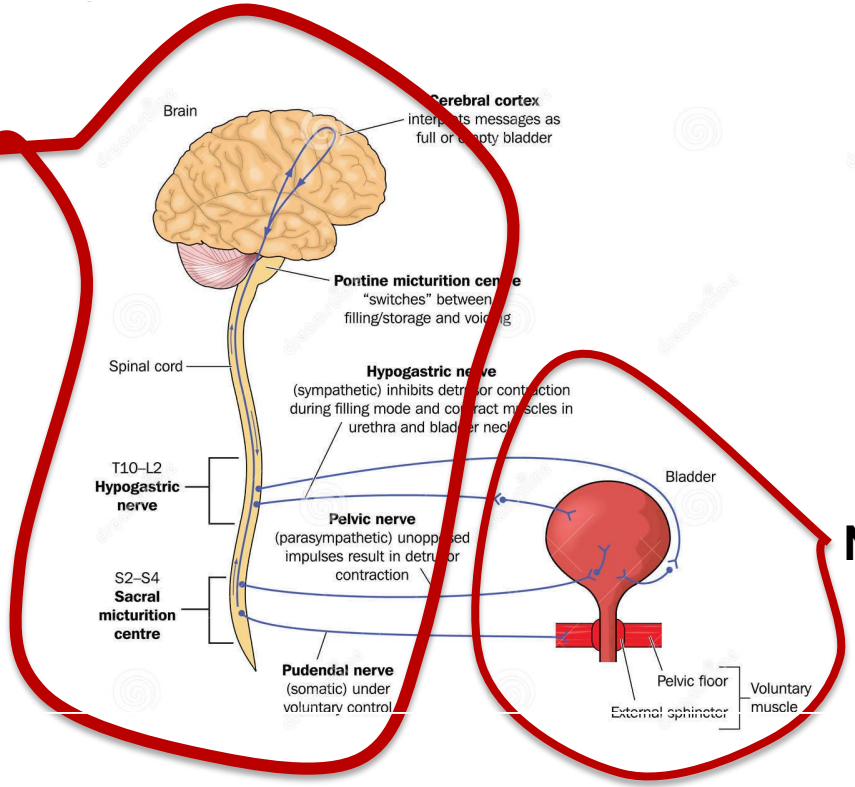
- None

Normal Function



Bladder Dysfunction

Neurogenic



Non neurogenic

Bladder Dysfunction

Bladder Dysfunction in PD

- 30-70% overall
- Worse in MSA

- 70% ~ Difficulty holding urine (urgency, frequency, incontinence, nocturia)

- 20% ~ Difficulty emptying the bladder (poor stream, pushing, hesitating, not emptying well)

Araki et al Neurol Neurosurg Pscyhiatry 2000; Yeo Int Urol Neph 2012

Bladder Dysfunction

- PD – 5-6 years after diagnosis
- MSA – often prior to diagnosis

- Associated with adverse health outcomes and decreased quality of life

Concomitant Risk Factors

- Age
- Obesity
- Post-menopausal status
- Bowel dysfunction/chronic constipation
- Women: Pregnancy, vaginal delivery, number of children
- Men: BPH, post-prostatectomy status
- Neurogenic: diabetes, stroke, spinal disease/nerve injury, spinal cord injury

Evaluation

- History
- Questionnaires
- Exam
- Post-void residual
- Urinalysis

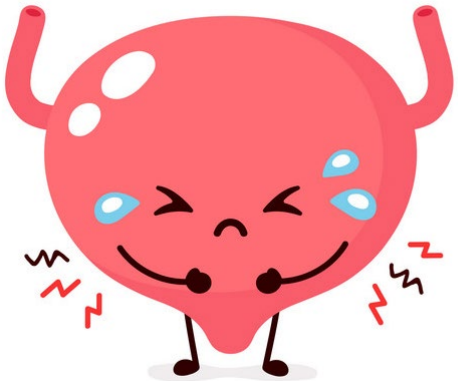
Advanced Evaluation

- Urodynamics
- Cystoscopy

Patient Scenario: Ron

Evaluation

- PD diagnosed 7 years ago
- Frequency, urgency, leakage, up “all night”, 4 pads per day
- Diagnosed with enlarged prostate – on Flomax and Finasteride with no improvement
- Fluids: 1 pot of coffee, 2 waters, 1 beer
- Exam: Normal



Behavioral Modifications

Behavioral Modifications

- Fluid management
- Scheduled/timed urination
- Constipation management
- The ”Knack” maneuver
- Biofeedback with pelvic floor physical therapy

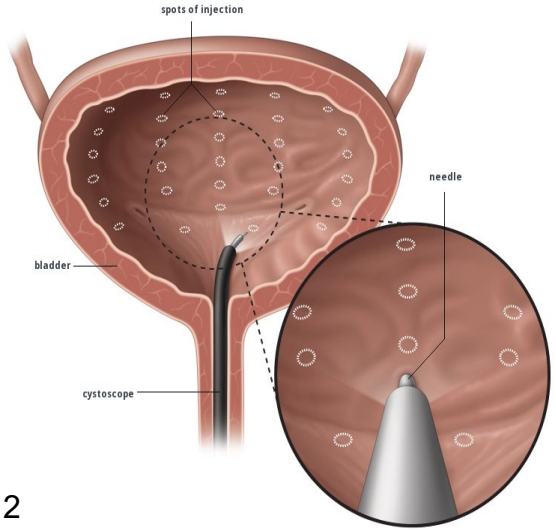
Incontinence Devices

Medications

- Anticholinergics
- Beta 3 agonist
  - Mirabegron
  - Vibegron
- Dopaminergic drugs
- Desmopressin

Onabotulinumtoxin A

- FDA approved in 2011 for neurogenic bladder
- Blocks nerve endings in the bladder muscle
  - Decreases spasticity
  - Decreases sensitivity
- Office-based procedure
  - Cystoscopy with injection



Anderson et al Urology 2014; Giannantoni et al J Urol 2011; Knuupfer et al J Urol 2012

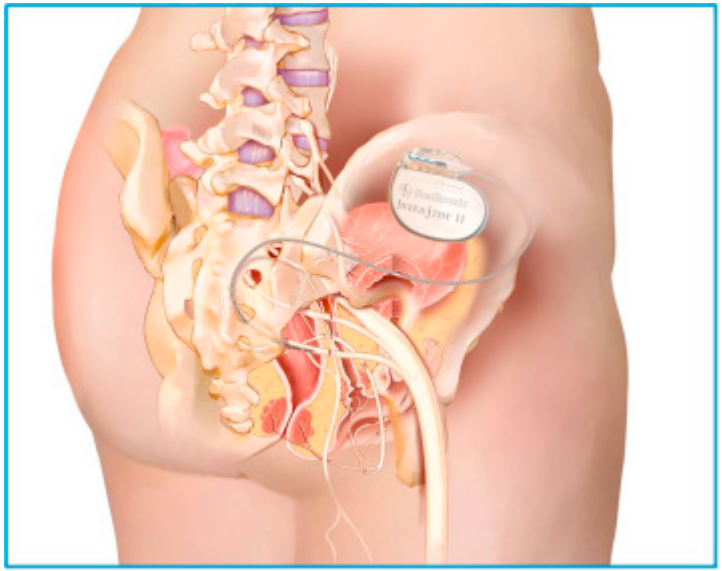
Botox Efficacy

- 6 month average duration of therapy
- About 60-70% improvement is considered success
- Side effects
  - UTIs, Hematuria
  - Urinary retention – 5% requiring self catheterization

PTNS

- In office procedure
- 12 weekly sessions
- Continued monthly after

Sacral Neuromodulation



Sacral Neuromodulation

- FDA approval study
  - 60% of refractory OAB patients had >50% improvement
  - Approved for fecal incontinence
- Limitations
  - Battery life
  - Rechargeable device is an option
  - Worse in progressive disease

Peters et al Urology 2013.

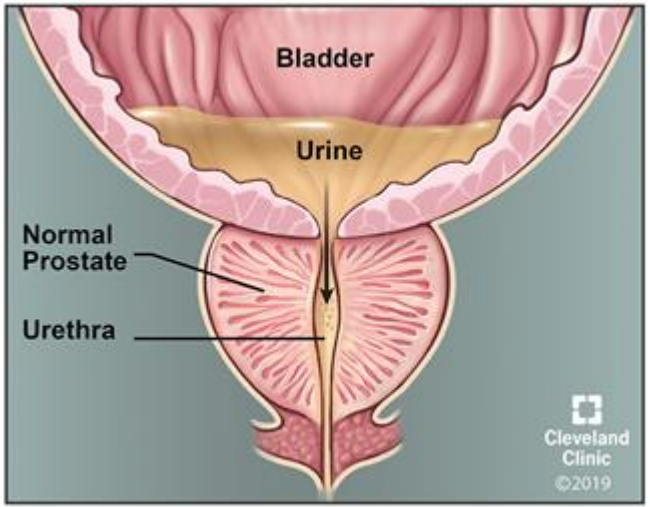
Deep Brain Stimulation

- Improvement in urinary incontinence and frequency
- No change in nocturia
- Better outcomes if Subthalamic Nucleus is targeted

Witte et al Neurourol and Urodynamics 2017

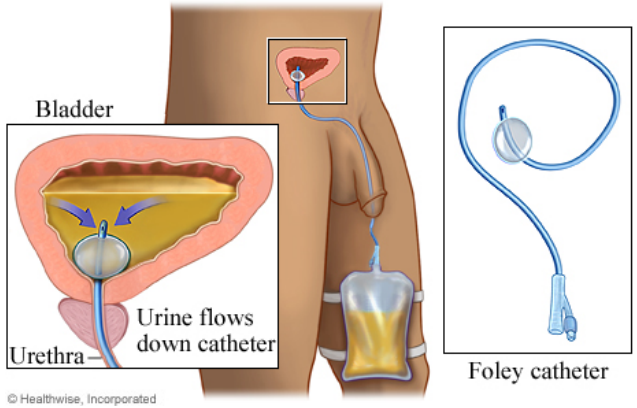
What about difficulty emptying?

- Weak bladder?
- Enlarged prostate?
- Abnormal urethral sphincter opening



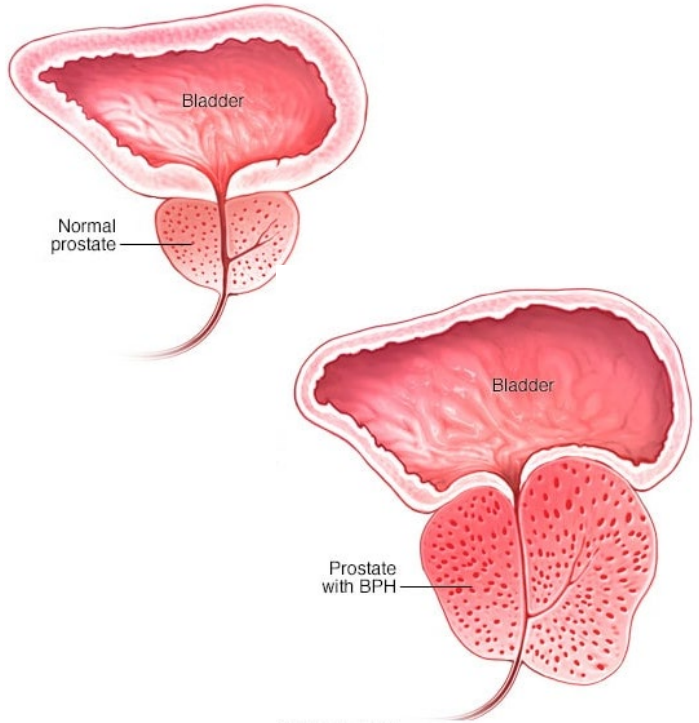
What about difficulty emptying?

- Weak bladder?
  - Sacral stimulation, self catheterization, indwelling catheter



What about difficulty emptying?

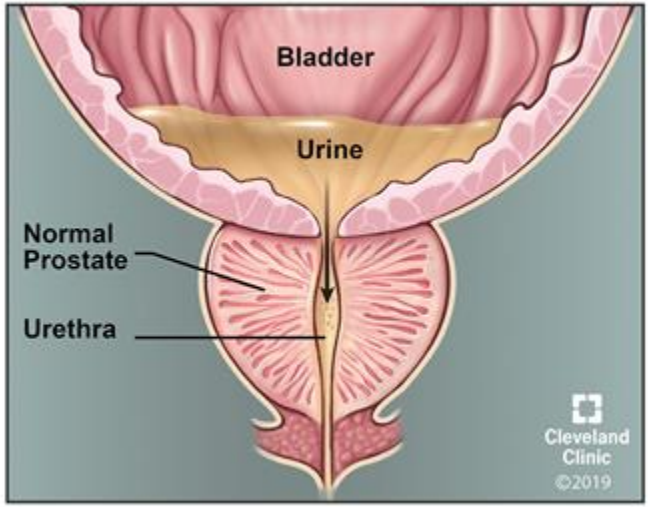
- Enlarged prostate?
  - Medications
  - Surgery - laser, cautery, clips, vapor….
  - Biggest risk– worsening leakage



Staskin et al Jurol 1988; Rosh et al J Urol 2009

What about difficulty emptying?

- Abnormal urethral sphincter opening
  - Minimal impact in PD but primary issue in MSA
  - Self catheterization, indwelling catheter



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