

## LUT Function/Dysfunction

Christopher K. Payne, MD

Vista Urology & Pelvic Pain Partners

Emeritus Professor Urology, Stanford University

Board Chair, Worldwide Fistula Fund

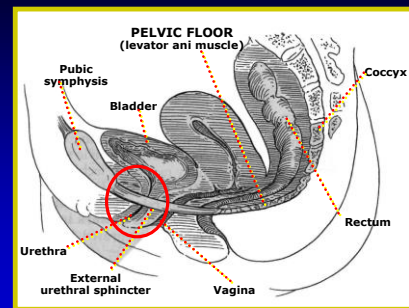
## Outline

1. Normal LUT Function
2. Classification LUT Dysfunction
3. Approach to the Patient

## Lower Urinary Tract Anatomy

- Bladder
- Outlet
  - Bladder neck/internal sphincter
  - Urethra
  - External sphincter
  - Prostate in males

## Female Pelvic Anatomy



Adapted from  
Raz et al. 1998.

## Normal Lower Urinary Tract Functions

- Urine storage
- Bladder emptying

## Urine Storage

- Bladder holds urine at low pressure and with appropriate sensation
- Outlet closed at rest and against stress
- No involuntary contractions

## Bladder Emptying

- Coordinated bladder contraction of adequate magnitude
- Simultaneous relaxation of the outlet
- No fixed obstruction

## Classification of Lower Urinary Tract Dysfunction

- Failure to empty/store
- Because of the bladder/outlet

## Classification of Lower Urinary Tract Dysfunction

	Failure to empty	Failure to store
Because of the bladder		
Because of the outlet		

## Retention

	Failure to empty	Failure to store
Because of the bladder	DM, sacral injury	OAB/UII
Because of the outlet	BPH, post sling	SUI

## Incontinence

	Failure to empty	Failure to store
Because of the bladder	DM, sacral injury	OAB/UII
Because of the outlet	BPH, post sling	SUI

## Classification of Lower Urinary Tract Dysfunction

	Failure to empty	Failure to store
Because of the bladder	DM, sacral injury	OAB/UII
Because of the outlet	BPH, post-sling	SUI

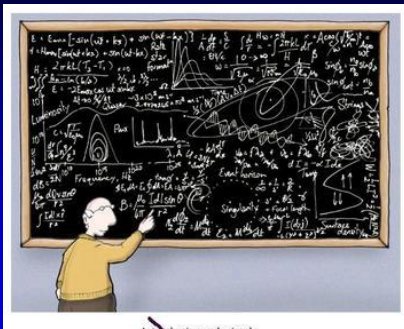
## Basic Patient Approach

- Working diagnosis
- Define treatment options
- Define patient priorities/goals
- Treatment or additional testing as indicated

## Basic Patient Approach

- Working diagnosis—female SUI
- Define treatment options—observation, PFMT, device, meds, injections, surgery
- Define patient priorities/goals—ballroom dancing with confidence
- Treatment or additional testing as indicated—none vs. stress test vs. urodynamics

## But, it's complicated



## Classification of Lower Urinary Tract Dysfunction

	Failure to empty	Failure to store
Because of the bladder	DM, <del>sacral</del> injury ✓	<del>ONB/UII</del> ✓
Because of the outlet	BPH, <del>post-</del> ing ✓	<del>SUI</del> ✓

## Moderately Complex

- Mixed urinary incontinence
- 40yo female with worsening urgency incontinence and cystocele after sling
- 80yo woman with urgency incontinence and straining to void

## An order of magnitude

- 63yo female with mixed urinary incontinence, both seem significant
- Type II diabetes for 20 years, mild peripheral neuropathy
- Two prior operations for SUI and POP
- Exam: Cystocele +1cm, supported bladder neck, drops SUI and PVR 180cc

## Where to start?



## Where to start?

- Greatest impact on QoL
- Easiest to treat
- Curable problem
- Correctable problem that causes more than one symptom
- Treatment that can improve more than one symptom

## Curriculum

### Friday

- Female urinary incontinence & OAB
- FPMRS potpourri
- Good urodynamic practice

### Saturday

- Neurogenic Lower Urinary Tract
- Practical Anatomy
- Pelvic Organ Prolapse
- Urethral disorders
- Cases and questions



## Alan Wein, MD



- Co-host ICS 2018
- Founders Professor Urology U. Penn
- Chairman forever
- Residency Program Director
- Campbells Urology
- International Consultation on Continence
- Teacher and researcher extraordinaire

## Diane Newman, RN, PhD



- Co-host ICS 2018
- Professor Nursing U. Penn
- Co-Director of the Penn Center for Continence and Pelvic Health
- Prolific researcher and author
- Panel member of first AHCPR Urinary Incontinence Treatment Guidelines

## Sherif Mourad, MD



- Professor of Urology Ain Shams University, Cairo
- General Secretary of ICS
- Founder PACS
- Author, Editor
- Teacher
- Surgeon

## Holly Richter, MD



- J. Marion Sims Professor of OB/GYN University of Alabama at Birmingham
- UAB was first NAFC Center of Excellence
- Leader in PFDN and UITN
- Active in care of childbirth injuries overseas.

## Mike Kennelly, MD



- Carolinas Medical Center and University of North Carolina School of Medicine
- Director of Urology for specialized Rehab Center
- Co-Director of Women's Pelvic Health Center
- Clinical Research
- Leadership Paraplegia Society, SUFU, AUA, American Spinal Injury Soc

## Jeannette Potts, MD



- Trained and Board Certified in Family Medicine
- Urology Fellowship Cleveland Clinic, CCF Faculty x 15 years
- Seminal Contributions in Urogenital infections, Pelvic Pain, Prostate Cancer screening.
- Worldwide lecturer
- Patient advocate

## Vani Dandolu, MD, MPH, MBA



- Scientific Program chair ICS 2020
- Chair of OB-GYN at University of Nevada 2011-2017 & Residency program director 2007-2017
- Now Medical director OBGYN for OptumCare Women's Health
- National Awards teaching excellence
- Research interests:
  - Trends in POP and UI surgeries
  - Cost analysis of GYN treatment
  - Surgical skills training

