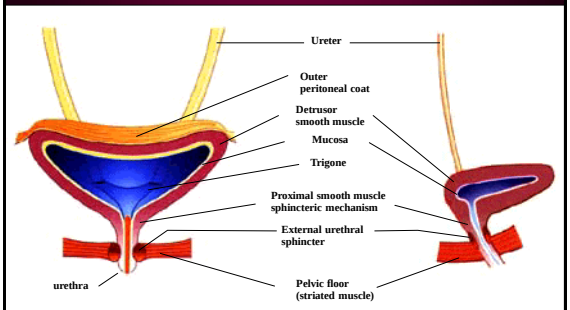
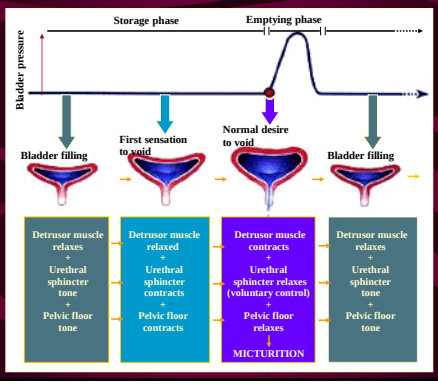
URINARY INCONTINENCE

Clinical Clerkship Lecture Series

Structure of the Female Lower Urinary Tract



Normal Micturition Cycle



Urinary Incontinence: Extent of the Problem

- **Overall prevalence 10-70%**
- **38-83% nursing home residents**
- **27% women under age 45 with stress incontinence symptoms**
- **Cost of over $10 billion annually**

CASE PRESENTATION #1

Mrs. V.M.

44 year old female GTPAL 44004 referred by her family doctor with urinary incontinence.

What questions would assist you in making a diagnosis?

Urinary Incontinence - History

- Duration, severity, onset
- Aggravating and relieving factors
- Associations (eg. Cough, laugh, sneeze, related to physical activity?)
- Urinary urgency, frequency
- ?pads
- Interfering with life—normal activities?

Urinary Incontinence - History

- UTI, dysuria, hematuria
- Nocturia
- Enuresis
- Small or large urinary losses
- ?continuous loss
- Weight changes
- ?prolapse symptoms
- Fecal incontinence, constipation, diarrhea

Urinary Incontinence - History

- Obstetrical history
- Menstrual history
- Menopause
- Other medical illnesses—diabetes, neurological disorders, prior pelvic surgery
- Family medical history
- Vocational history--?heavy lifting
- Medication list

Case #1 – Actual History

- Mrs. V.M.

44 year old female GTPAL 44004 with 6 year history of progressive urinary loss with cough, laugh, sneezing and exercise. Now needs pads. Interfering with life. Normal urinary frequency. Loss of small volumes only. No recent urinary tract infections. Large babies delivered vaginally, first required forceps and had associated tears. UI worsened after last delivery. Has a sensation of pelvic pressure. Still menstruating regularly. No associated bowel symptoms or weight changes. Interested in your advice—has heard about "pelvic exercises".

Urtinary Incontinence – Physical Examination

What aspects of the physical examination are important to establishing a diagnosis in this patient?

Urinary Incontinence – Physical Examination

- Vitals
- General physical exam
- Back and neurological exam – lower extremities
- Detailed pelvic exam
- Cough testing –lying, standing
- "Marshall-Bonney test" – urethral hypermobility

Case #1 – Actual Physical Findings

- Mrs. V. M.
  - normal vitals and general physical exam
  - positive cough testing
  - hypermobile anterior vaginal wall
  - MB test corrects loss
  - well estrogenized
  - anteverted, mobile uterus, no masses

Urinary Incontinence - Diagnosis

What is your "provisional" diagnosis in this patient, based upon her history and physical examination?

Provisional Diagnosis

"Genuine stress urinary incontinence"

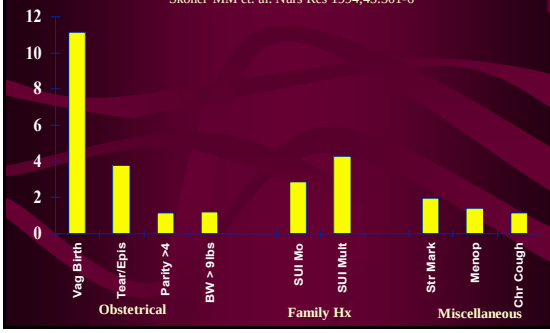
Differential Diagnosis??

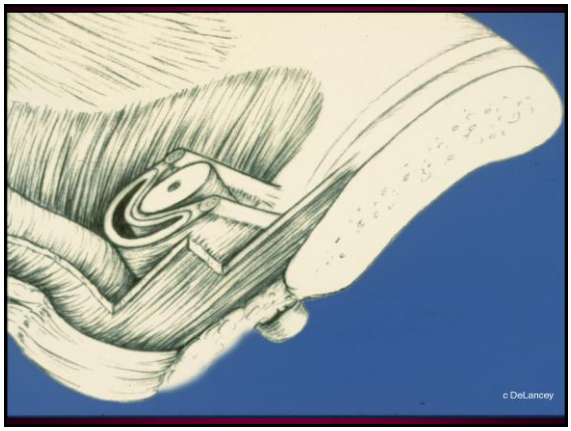
Classification of Urinary Incontinence

	Stress	Urge	Mixed	Overflow
Cause	• Urethral hypermobility • Intrinsic sphincter deficiency	• Detrusor overactivity • Sensitive bladder	• Combination of urge and stress	• Underactive or acontractile detrusor • Obstruction
Symptoms	• Leakage during intra-abdominal pressure	• Involuntary leakage • Strong desire to void	• One symptom predominant • with age	• Bladder distension • Frequent to constant dribbling

Relative Risk for Having Stress Urinary Incontinence

Skoner MM et. al. Nurs Res 1994;43:301-6





Pathophysiology

- Urethral supports vs vesicle neck
- Fascial defects
- Interplay of muscles, fascia, nerves
- Hammock hypothesis
- Future directions: empirical vs selective treatment

Urinary Incontinence - Investigations

What investigations would you order or consider to establish a diagnosis in this patient?

Urinary Incontinence - Investigations

- Minimum:
  - urine culture, R&M
  - post-void residual
- Comprehensive—confirmatory:
  - bloodwork (CBC, BUN, Cr, TSH, ?FSH)
  - cystometrogram
  - ? Multichannel urodynamics
  - ? cystoscopy

Treatment Options

What advice would you give this patient regarding her new diagnosis?

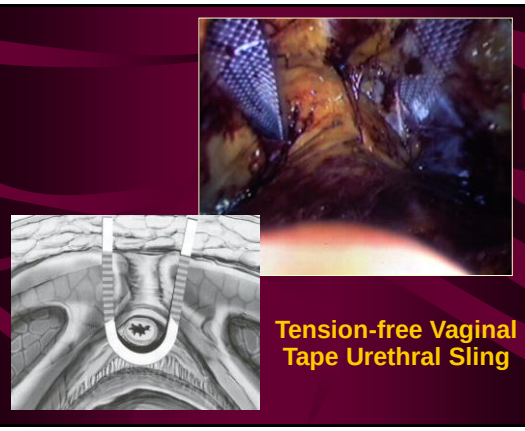
(Consider the likely etiology, expected clinical course and treatment choices for this condition.)

Urinary Incontinence – Treatment Advice (Case #1)

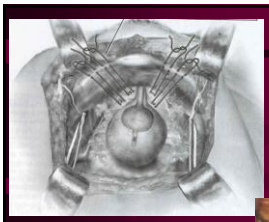
Kegels Exercises!!

Urinary Incontinence – Treatment Options (Case #1)

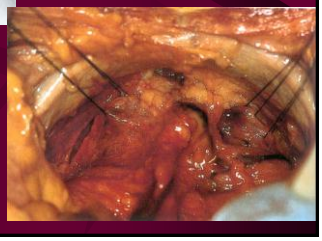
- Kegels, drill, timed toileting
- Caffeine restriction
- Judicious fluid intake
- Medications—alpha-adrenergic stimulators
- ?pessaries
- Surgery



Tension-free Vaginal Tape Urethral Sling



Burch Retropubic Colposuspension



Conclusions

- Urinary incontinence is a prevalent societal condition that can have a significant impact on a woman's quality of life.
- A detailed history and physical exam are important in determining the diagnosis, etiology, and effect on activities of daily living.
- Minimum investigations include urinalysis, urine culture and assessment of PVR.

Conclusions, con't

- Extent of treatment is guided by individual patient objectives and impact on QOL.
- Behavioural modifications and Kegels are the first line of treatment in most cases of urinary incontinence. Conservative strategies should always be offered before surgical options.
- Surgery is only indicated for Genuine Stress Urinary Incontinence.

Questions?