Our legacy is yours.

Urinary Incontinence in Women

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Urinary Incontinence

- 25% of young women
- 44-57% of middle-aged and postmenopausal women
- 75% of older women
- $19.5 billion/yr – cost of incontinence care in US
- 6% of nursing home admissions attributed to UI
  - > Cost estimate of $3 billion/yr

- **8 out of 10 cases can be improved**
- **<50% discuss with their provider**

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US Dept of Health and Human Resources, AHRQ: Urinary Incontinence in Adults, CPGU, May 1996.

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Pathophysiology of Urinary Incontinence

- Muscle dysfunction
- Nerve dysfunction
- Support dysfunction
  - > Ligaments
  - > Fascia

- Prolapse ≠ Incontinence
  - > Often both present – but not causative

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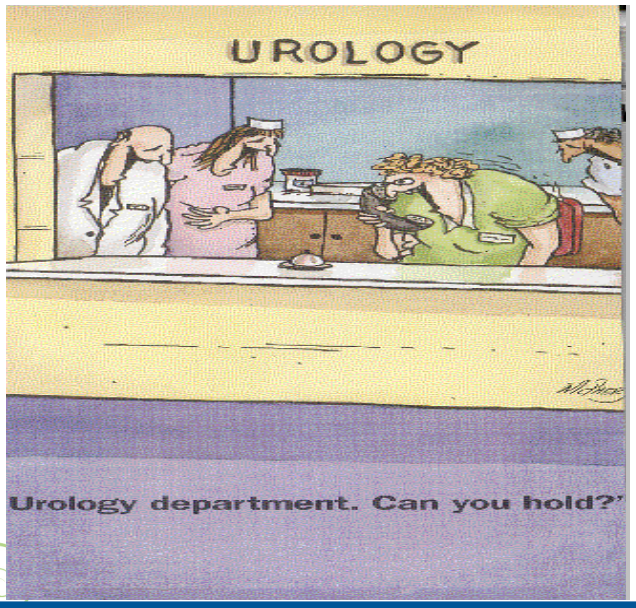

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Types of Urinary Incontinence

- Urinary Incontinence
  - the complaint of any involuntary leakage of urine
- Stress Incontinence
  - Involuntary loss of urine with effort or physical activity
- Urge Incontinence
  - Involuntary loss of urine associated with urgency or a sudden, compelling desire to void that is difficult to defer.
- Mixed Incontinence
  - Both Stress and Urge
- Nocturnal enuresis
  - Involuntary loss of urine that occurs during sleep

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Abrams P: The standardization of terminology of lower urinary tract function, *Neurourol Urodyn*, 2002

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Causes of Urinary Incontinence

- Predisposing Factors
  - Vaginal delivery and parity
  - Age
  - Family history
  - Obesity
  - Chronic lung disease and smoking
  - Chronic constipation
  - Infection
  - Medications
  - Estrogen use
  - Pelvic surgeries

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Drugs that Cause Urinary Incontinence

- Caffeine
- Alcohol
- Diuretics
- Sedative-hypnotics (benzo's)
- ACE inhibitors
- Calcium channel blockers
- Alpha-adrenergic antagonists / Symptholytics
  - > doxazosin, prazosin, tamsulosin, terazoxin
- Opioids

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Transient Causes of Urinary Incontinence

D	Delirium or acute confusion
I	Infection (UTI)
A	Atrophic vaginitis or urethritis
P	Pharmaceutical agents
P	Psycholgical disorder depression, behavioral distrubance
E	Excess urine output excess fluid intake, diuretics, CHF
R	Restricted mobility
S	Stool impaction / constipation

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Resnick, NM: Urinary incontinence in the elderly, *Medical Grand Rounds*, 1984

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Evaluation: Urinary Incontinence History

- Does is affect quality of life?
  - > Is she using pads?
    - How many and what kind?
  - > Has it stopped her from doing things she used to do?
    - Can she still exercise?
- Does she desire any help at this time?

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Evaluation: Urinary Incontinence History

- Stress vs Urge vs Mixed symptoms
  - > Sneeze/cough vs gotta go – or both
- Normal voiding
  - > Does she feel she empties completely
- Reversible causes
  - > DIAPPERS
  - > Rx (diuretics, caffeine, alcohol, narcotics, antihistamines)

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Evaluation: Urinary Incontinence Examination

- Pelvic exam
  - > vaginal support, vaginal discharge, vaginal atrophy
  - > assess pelvic floor muscle strength – ask her to kegel
  - > any tenderness
- Cough stress test
  - > ask her to cough and watch for leakage
- Neurologic exam
  - > watch her walk in
  - > normal sensation during pelvic exam

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Evaluation: Urinary Incontinence Diagnostic Tests

- Urinalysis
  - > Infection
  - > Hematuria
  - > Glucosuria
- Postvoid Residual
  - > Only if symptomatic
  - > <50 normal, >200 abnormal
    - in between is subject of disagreement
- Voiding Diary
  - > Very helpful for poor historian
- Urodynamic Studies
  - > Pre-operatively or confusing history

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Urinary Incontinence:
Treatments

- You have to know what you are treating!
  - > Stress vs Urge – or both
  - > Nocturia?
- Behavior Modification works for all types
  - > Pelvic floor muscle exercises
  - > Scheduled voiding
  - > Fluid management (60-80 oz / day, avoid fluids before bed)
  - > Weight loss
- Send to PT
  - > Studies show 50% reduction in leaking episodes

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Urinary Incontinence:
Treatments

- Bring them back after PT!
  - > 80% feel very helpful initially
  - > Only 50% are satisfied after 1 year
- Change the things you can
  - > Stop diuretics if possible
  - > Diagnose / treat sleep apnea
  - > Address chronic cough

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Urinary Incontinence:
Treatments – Urge Incontinence

- Bladder detox diet
  - > Stop Coffee/Tea/Carbonation/Artificial Sweeteners/alcohol
  - > 4wks – nada/none/zip – then add back slowly
- Stop excess fluids
  - > 60-80 oz of liquids per day
  - > Avoid fluids for 3-4 hrs prior to bed
- Deal with constipation
  - > Fiber and miralax – EVERY day
- Weight Loss
  - > Every kg loss results in 3% improvement

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Urinary Incontinence:
Treatments – Urge Incontinence

- Medications
  - > Antimuscarinic Medications (oxybutynin, tolterodine, trospium, darifenacin, fesoterodine, solifenacin)
    - Only modest improvement
    - High discontinuation rate due to side effects – dry mouth/constipation
    - Concerns about dementia, trospium may be best
  - > Beta-agonists (mirabegron)
    - No generic – often needs PA
    - Rare side effects
    - Still only modest improvement
    - Not recommended in uncontrolled HTN, end-stage renal dx, or liver impairment
- Bottom Line – Rarely the long term solution

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Urinary Incontinence:
Treatments – Urge Incontinence

- Botox Injections
  - > Office procedure
  - > Repeat every 3-6 months
  - > 5% risk of retention
- PTNS (post tibial nerve stimulation)
  - > Weekly office treatments x 12, then once a month maintenance
  - > No significant risks, just slow to work
- Interstim (sacral nerve modulation
  - > Wire lead implanted in S3 with buttock implanted generator
  - > Risks of infection and anesthesia

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Urinary Incontinence:
Treatments – Stress Incontinence

- Medications
  - > No good options
- Pessary
  - > Can try, but limited efficacy
- If conservative options fail – surgery is next step

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Urinary Incontinence:
Treatments – Stress Incontinence

- Surgery options
  - > First line gold standard is a mesh mid-urethral sling
  - > So what is all the mesh controversy??
- Typical recovery from mid-urethral sling
  - > 1 wk off work
  - > Limited lifting for 6 wks
  - > Rarely need narcotics
- Misinformation is keeping many women from treatment

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Urinary Incontinence:
When to refer

- Complicated history
- Failed initial interventions
- History of prior incontinence surgery
  - – Wants surgery
- Elevated post void residual

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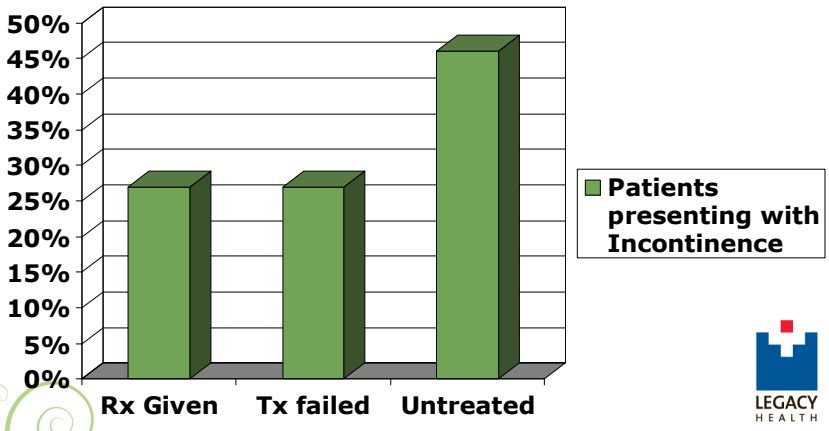
Barriers to Treatment Remain



Milsom: How widespread are symptoms of an overactive bladder and howare they managed?, *BJU Int*, 2001

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Pelvic Organ Prolapse

- 45% of women have mild to mod (above the hymen)
- 2% have advanced (past the hymen)
- 1 in 9 women will have surgery by 80yo
- 30% of those will undergo at least one additional surgery
- Can regress over time – particularly if mild

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Causes of Prolapse

- Predisposing Factors
  - > Vaginal delivery and parity
  - > Age
  - > Family history
  - > Obesity
  - > Chronic lung disease and smoking
  - > Chronic constipation
  - > Pelvic surgeries

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Evaluation: Prolapse

- Does is affect quality of life?
  - > Has it stopped her from doing things she used to do?
    - Can she still exercise?
- Causes discomfort – but not pain
- Does she desire any help at this time?

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Evaluation: Prolapse

- History
- Physical Exam
- Postvoid residual
  - > If complains of incomplete emptying

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Evaluation: Prolapse
Physical Examination

- Physical Exam – measure straining
  - > POPQ
  - > Baden Walker – Half Way System
- Cystocele
- Rectocele
- Uterine Prolpase
- Vaginal Vault Prolapse

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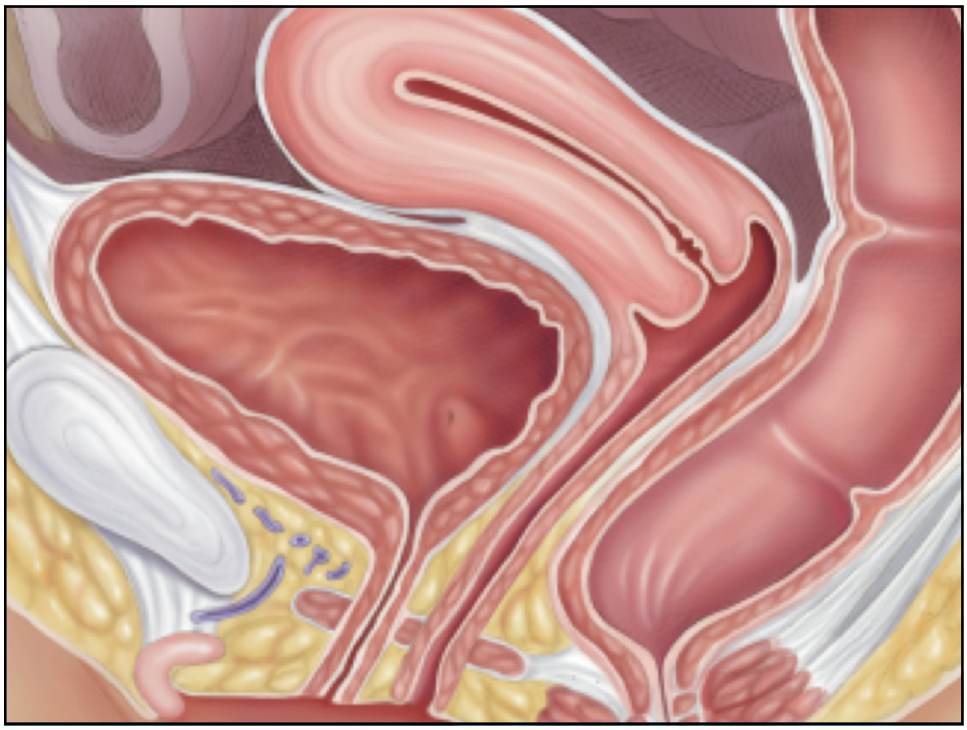

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Evaluation: Prolapse
Physical Examination

> Baden Walker – Half Way System

- Grade 1 – normal to half way point of vagina
- Grade 2 – half way point to hymen
- Grade 3 – past hymen

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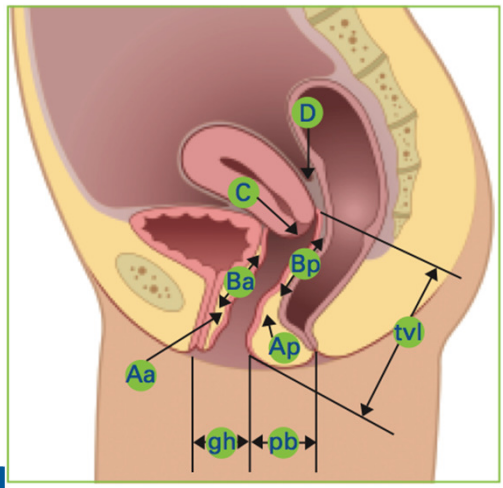
Evaluation: Prolapse
Physical Examination

> POPQ



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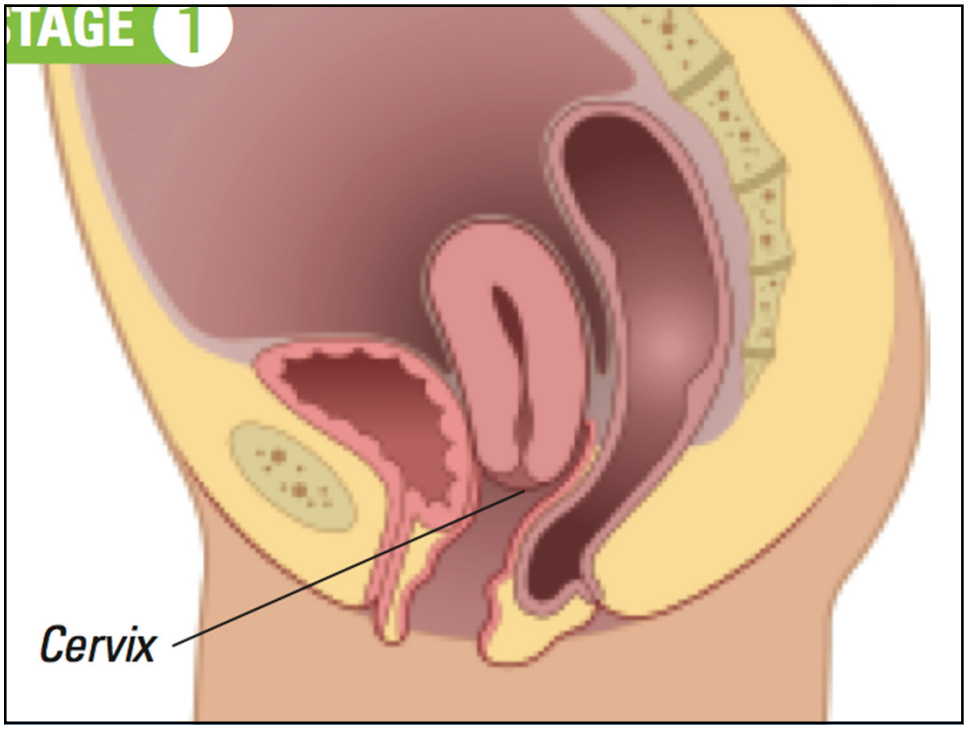

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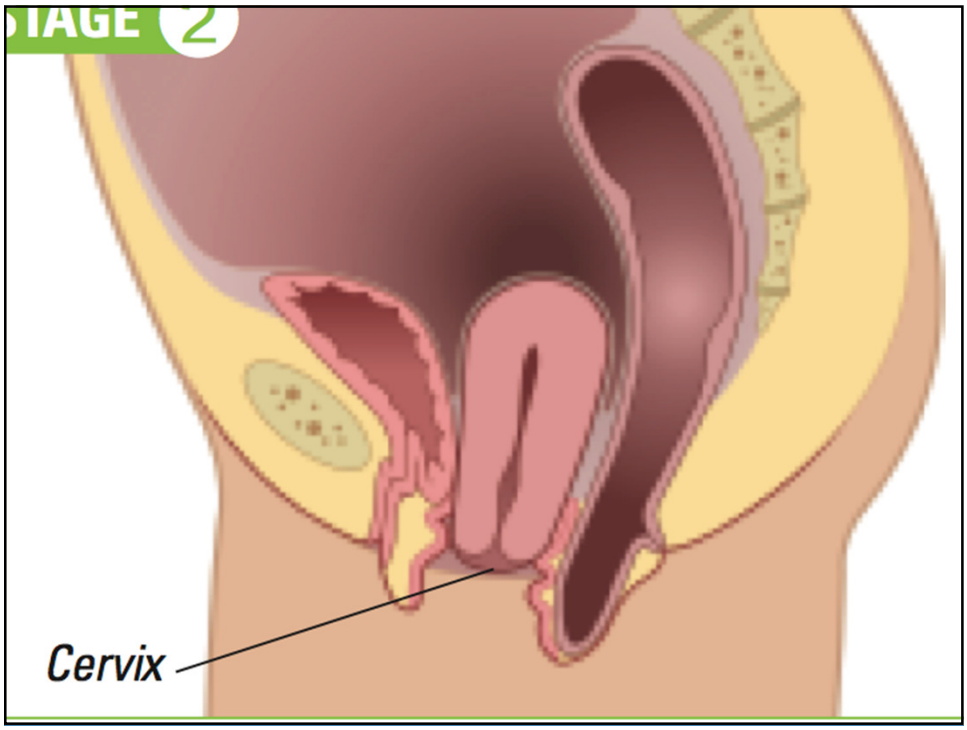

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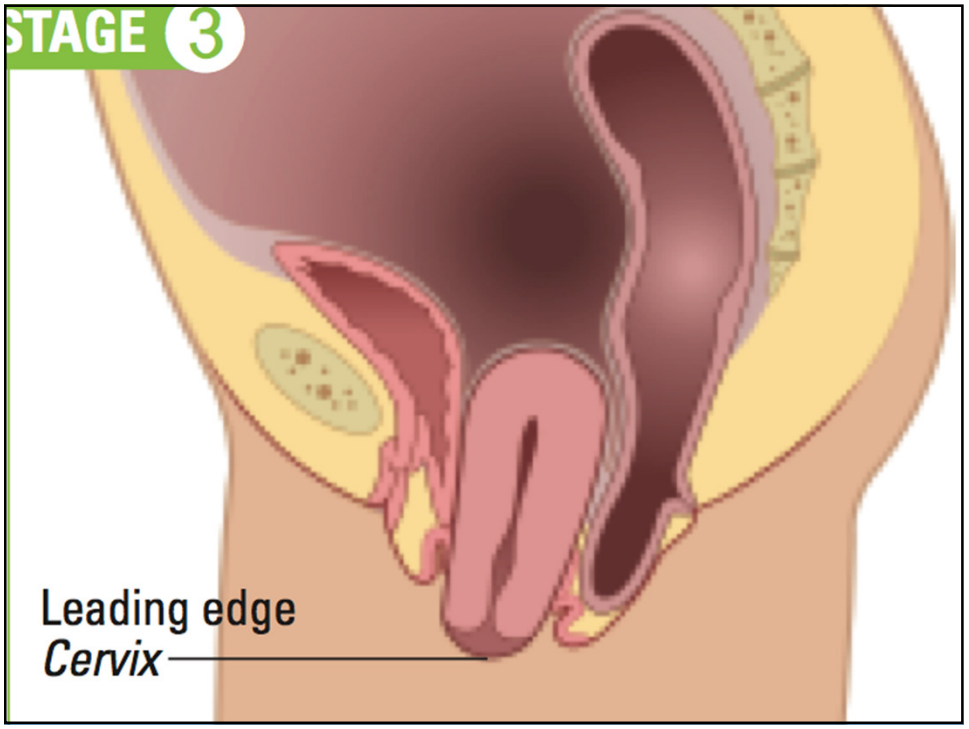

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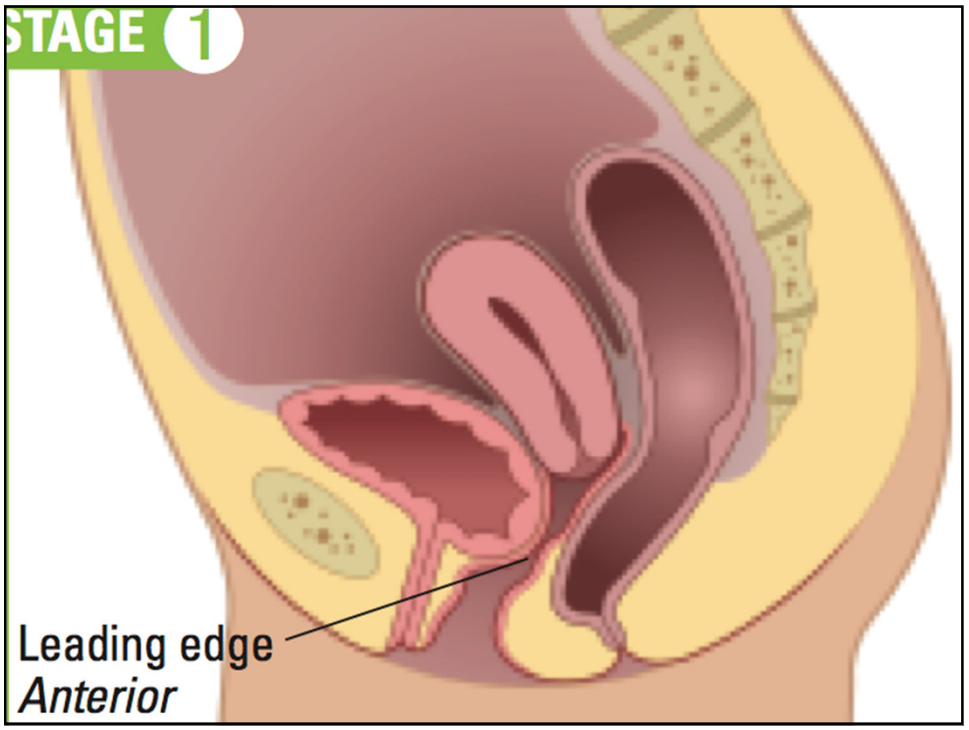

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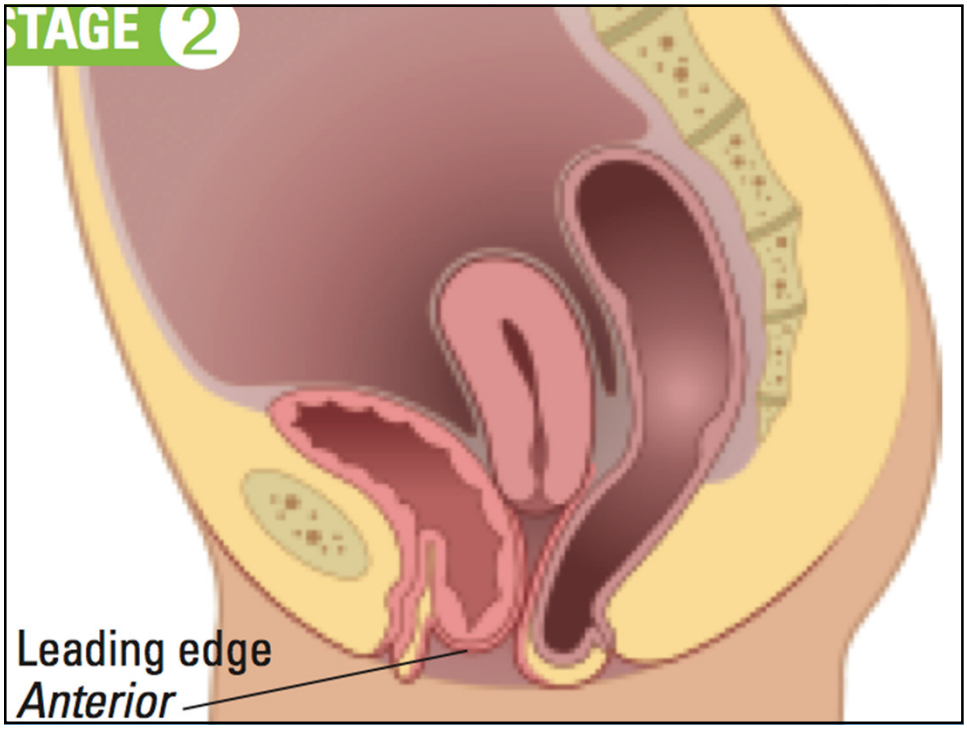
STAGE 2
Leading edge
Anterior

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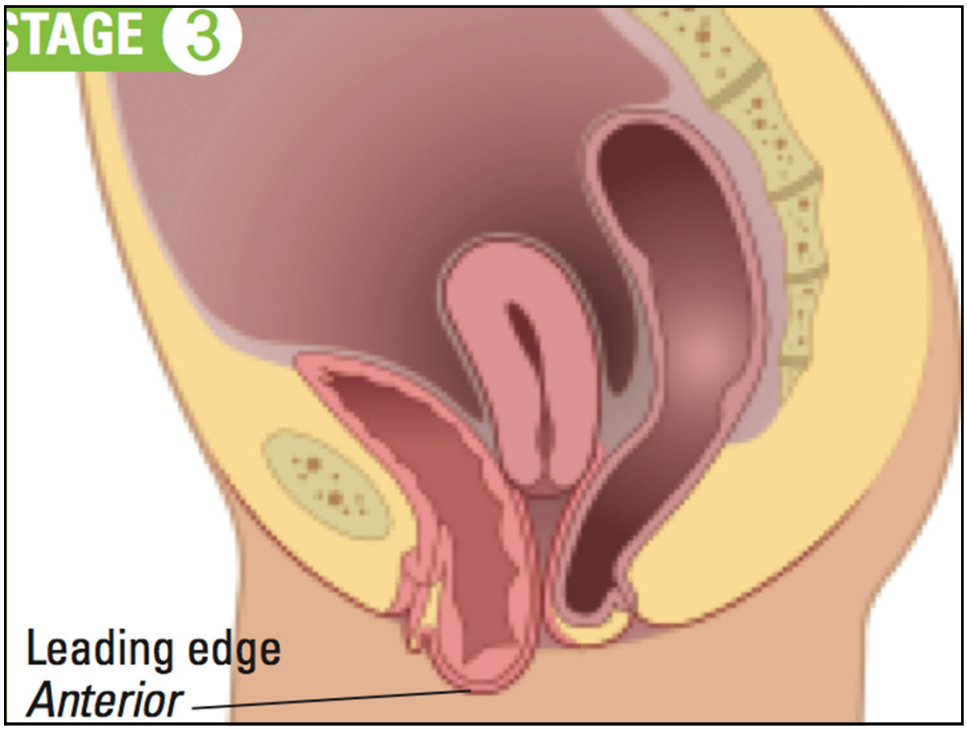
STAGE 3
Leading edge
Anterior

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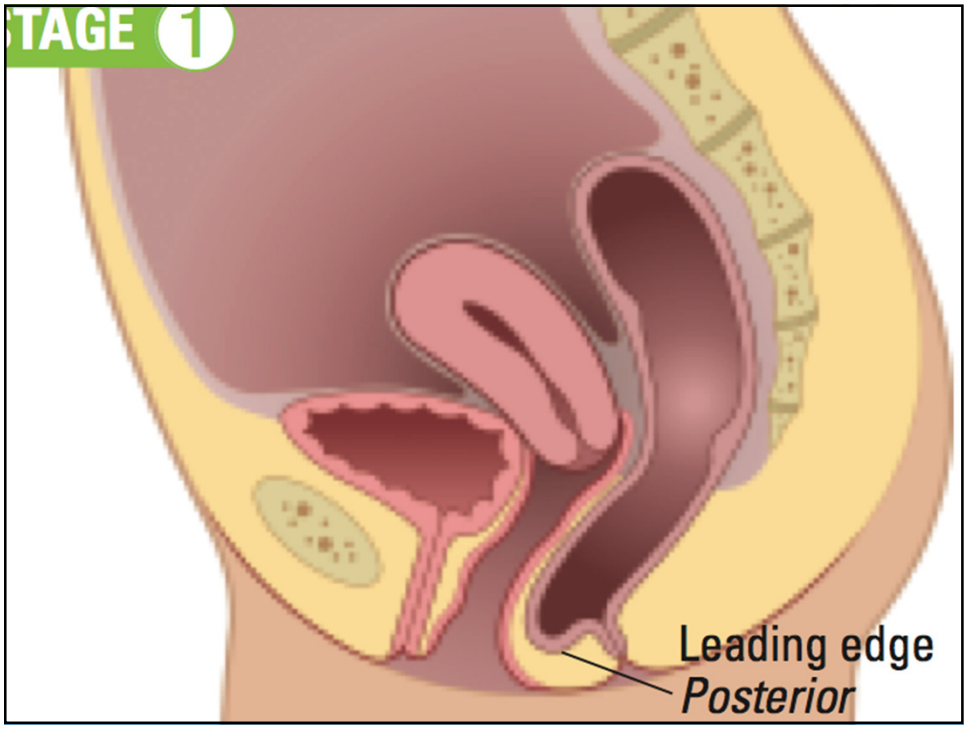
STAGE 1
Leading edge
Posterior

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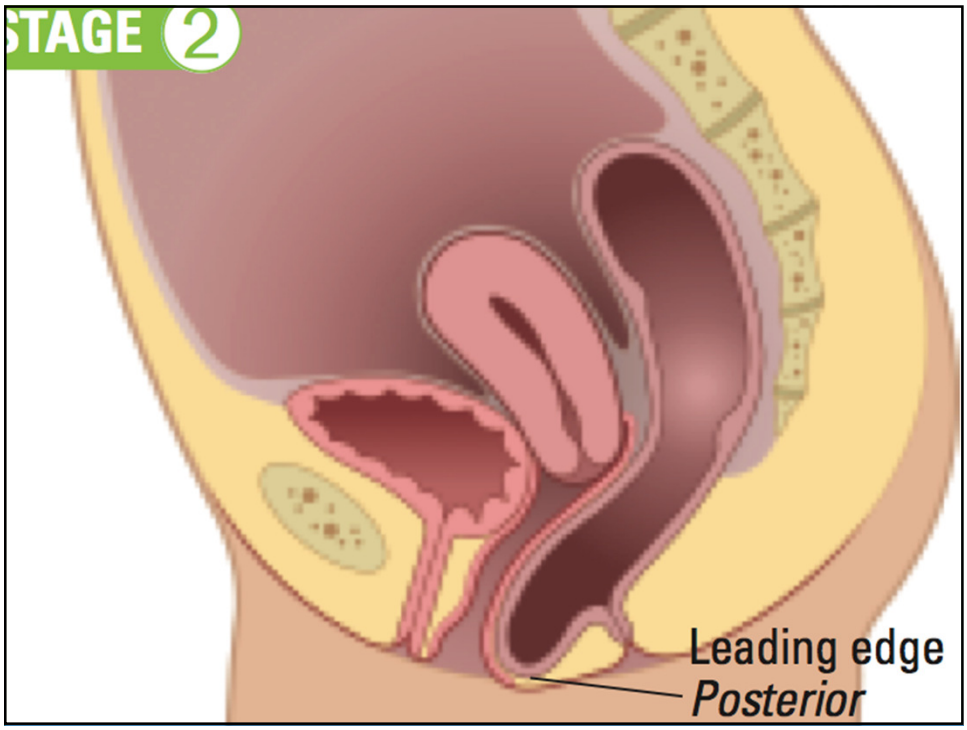
STAGE 2
Leading edge
Posterior

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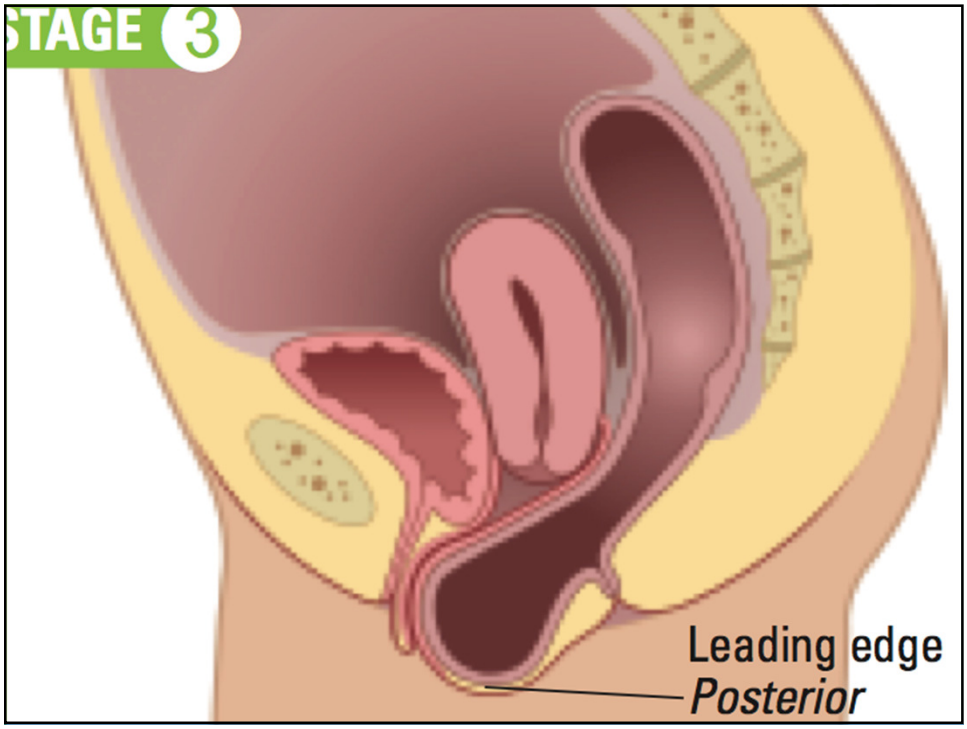

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Prolapse:

Treatments

- Reassurance
- Physical Therapy
- Pessary
  - > Try a tampon
- Surgery
  - > One – two months no lifting and off work
  - > Does not last forever

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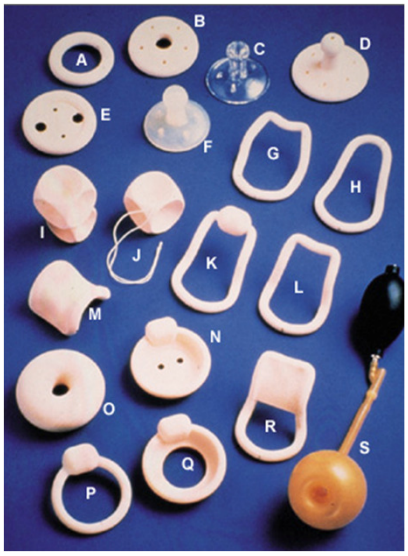

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Parting Pearls

- Behavior Changes for Incontinence
  - > Stop Coffee, Tea, Carbonation, Alcohol and Artificial Sweeteners
  - > 60-80 oz of liquid per day
- Stop diuretics, control diabetes
- Prolapse – most does not need treatment
  - > Try reassurance
  - > Remember it does not cause pain

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