Pelvic Floor Anatomy

Pelvic Organ Prolapse

- Pelvic organ prolapse occurs when the pelvic floor muscles/tissues weaken
- It is a common problem and women can be asymptomatic for years
- Common symptoms include:
  - Pressure or a bulge feeling vaginally
  - Vaginal dryness or irritation
  - Unable to place or wear a tampon
  - Difficulty emptying the bowel/bladder as well as urinary incontinence
Pelvic Organ Prolapse

Reasons for prolapse
• Pregnancy and childbirth
• Aging and menopause
• Loss of estrogen to the tissues
• Chronic conditions such as coughing/constipation
• Genetics
• Women that engage in repetitive heavy lifting
• Obesity
• Smoking

Treatment options
• Behavior changes
  • Avoid constipation/heavy lifting
  • Weight loss
  • Daily kegel exercises
• Pelvic floor physical therapy
• Pessary
• Surgical correction

Cystocele

• Anterior prolapse or cystocele occurs when the tissue between the vaginal wall and bladder weakens allowing the bladder wall to protrude into the vagina

Rectocele

• Posterior prolapse occurs when the tissue between the rectum/vaginal weakens causing a bulge or a herniation
Uterine Prolapse
- Occurs when the uterus begins to descend into the vagina, this happens when the muscles and ligaments weaken and no longer support the uterus

Reasons to Pursue Surgical Intervention
- Symptomatic pelvic organ prolapse that has failed conservative treatment
  - Cystocele
  - Rectocele
  - Uterine Descent
  - Combination of the above
- Urinary Stress Incontinence

Urinary Incontinence
- Urinary Stress Incontinence
  - USI is when urine is lost at the time of physical exertion. For example with laughing, coughing, sneezing, and/or exercise.
  - Causes
    - Pregnancy/childbirth
    - Chronic coughing
    - Aging
    - Constipation
    - Smoking
- Overactive Bladder
  - Overactive bladder is when a patient feels a sudden strong urge/desire to void, which can be associated with leakage.
  - Causes
    - Aging-cognition changes
    - Neurologic Bladder
    - Recurrent infections, bladder stones or abnormal growths in the bladder
    - Urinomas
    - Persons with lumbar/sacral back changes
    - Diabetic
Diagnosing Urinary Incontinence

- Patient history
- Pelvic Exam
- Anatomy of urethra and assess for any hypermobility
- Obtaining a Urodynamic Study

**Urodynamic testing** is a study that assesses how the bladder and urethra are performing their job of storing and releasing urine. Findings of this study may show urinary stress incontinence, intrinsic sphincter deficiency, detrusor activity with or without leakage or a mixed incontinence picture.

Treatment for Urinary Incontinence

- **Urinary Stress Incontinence**
  - Behavior Modification
  - Pelvic Floor Physical Therapy
  - Pessary
  - Urethral Bulking Agents
    - Macroplastique
    - Coaptite
    - Sling placement

- **Overactive Bladder**
  - Behavior Modification
  - Pelvic Floor Physical Therapy
  - Medications
    - Botox
    - Nerve Stimulation
      - PTNS
      - Interstim

Types of Surgical Repairs

- Anterior Repair
- Posterior Repair
- Apical suspension
  - Used to support the top of the vagina
  - Sacral colpopexy
  - Uterosacral or sacropinous ligament suspension
- Vaginal hysterectomy
- Robotic hysterectomy
  - Robotic total vaginal hysterectomy
  - Robotic supraaerial hysterectomy
- Obliterative - Colpocleisis
Anterior/Posterior Repair

Anterior Repair

Posterior Repair

Types of Surgical Repairs

- Abdominal Sacral Colpopexy

DaVinci Robotic Surgery
DaVinci Robotic Hysterectomy

* [youtube](https://youtu.be/QsZuyTAr1U4)

Immediate Post-op Expectations

- Patient may still experience bladder urgency/leakage
  - Bladder spasms may use Pyridium PRN or B&O suppositories
  - Underlying overactive bladder
  - Incomplete bladder emptying
  - How can nurses help?
- Bleeding amounts may vary from spotting to a light menses, average approx. 2 pads/shift.
  - Vag packing? (why used, variances in time to leave in place)

Immediate Post-op Expectations

- Pain expectations can vary amongst patients/procedure
  - Patients with posterior repairs may have more discomfort
  - Younger patients
  - Chronic pain patients
  - Patients with hx of abdominal/pelvic adhesions
Purpose of a Voiding Trial

- What is a voiding trial?
  - Can be done actively or passively.
  - Active: placing approx. 300ml of sterile fluid into the bladder, having the patient void and complete a bladder scan.
  - Passive: remove catheter and measure patients I/O and PVR over the next 4-6 hours.
- Who needs one?
  - Provider specific, however any patient that has had pelvic floor reconstruction would be a candidate.

Why would someone not pass a voiding trial?

- Inflammation from surgery.
- Too much tension if a sling was placed.
- Improper voiding techniques such as Valsalva with voiding.

Tips for success

- What next?
  - May go home with a catheter in place or learn to self-catheterization prior to discharge
  - Return to clinic next day to repeat voiding trial.
  - May need sling release done operatively.

Postoperative State

- No heavy lifting greater than #5 for the first 4 weeks
  - No repetitive bending.
- Avoiding constipation
  - Post-operative management includes Colace 100mg PO BID and Miralax single dose daily.
- Nothing in the vagina for 4-6 weeks or until post-operative appointment
  - No bathtubs, douching or intercourse.
- When should patient call provider after d/c?
Follow-up Expectations

- Return to clinic at 4 weeks post-op/PRN. May vary amongst providers.
- At 4 week appointment most patients can slowly return to their normal activity.
- May take up to 12 full weeks for total recovery.
- Based on history some patients may need pelvic floor physical therapy.
  - Noted poor pelvic floor tone or dysfunction
  - Ongoing bowel/bladder concerns
  - Lifestyles that involves heavy lifting

Enhanced Recovery

- ERP, ERAS
- Multidisciplinary approach
- Minimal cost
- Improved patient satisfaction
- Decreased LOS & complications

(Patient education, Tobacco cessation, and alcohol use)

Preadmission

- Education: Improve anxiety, pain, nausea, facilitates early discharge, patient satisfaction
- Tobacco cessation and reduced alcohol use: Smoking cessation 4 weeks before surgery results in postop complications, may tobacco use at 12 months postop

(Patient education, Tobacco cessation, and alcohol use)

Preoperative

- Elimination of fasting
- Carbohydrate beverage
- No mechanical bowel preparation
- Preventive analgesia
- Minimally invasive surgery
- Non-opioid analgesia
- Euvolemia
- Normothermia

(Intraoperative

- Early line removal
- Euvolemia
- Mobilization
- Early diet advancement
- Multimodal analgesia

Postoperative

- Patient education
- Tobacco cessation and alcohol use
- Education: Improve anxiety, pain, nausea, facilitates early discharge, patient satisfaction
- Tobacco cessation and reduced alcohol use: Smoking cessation 4 weeks before surgery results in postop complications, may tobacco use at 12 months postop

(Carey & Moulder, 2018; Nelson et al., 2019)
Preoperative

- Elimination of fasting:
  - American Society of Anesthesia recommends fasting from light meal at least 6 hours, from fried food or high fat content at least 8 hours, and from modest intake of clear liquids for 2 hours
  - Improves surgical outcomes and patient comfort

- Carbohydrate beverage
  - Postop insulin resistance, protein breakdown, enhanced return of bowel function, and hospital stay
  - No effect on postop complication rates

  (Carey & Moulder, 2018; Nelson et al., 2019)

Preoperative

- No mechanical bowel preparation
  - Associated with patient discomfort, dehydration, and electrolyte disturbances impacting recovery

- Preemptive analgesia
  - Goal: optimize pain management and with minimal opioid exposure
  - "Medication cocktail"

  (Carey & Moulder, 2018; Nelson et al., 2019)

Intraoperative

- Minimally invasive surgery

- Non-opioid analgesia
  - "Euvolemia"
    - Postop complications, promotes earlier return of bowel function, and hospital stay
    - "3 pronged approach"
  - "Normothermia"
    - Coagulopathy, blood loss, wound healing and immune activation
  - Room temp, fluid warming, forced air infusion blankets

  (Carey & Moulder, 2018; Nelson et al., 2019)
Postoperative

- Early line removal
  - Improves mobility and pain control
  - Foley, IV, drains, etc.
- Euvolemia
- Mobilization
  - Improves lung function, bowel function, and insulin resistance
  - "Early and often"
- Early diet advancement
  - Decreases LOS and postop ileus
  - Regular diet w/in 24 hours postop
  - Other options = coffee consumption and gum chewing
- Multimodal analgesia
  - 2 is more effective than 1
  - Oral is preferred over IV
  - Alternating acetaminophen and NSAIDs

References