# Pelvic Organ Prolapse

**Clinical Case Applicability:** urinary incontinence, pelvic organ prolapse

**Learning Objectives:**
1. Describe the normal anatomy of the pelvic floor
2. Understand the pathophysiology of pelvic organ prolapse (POP)
3. Understand the different management options for POP

**Clinical Presentation:** A sensation of bulging in the vagina that can be accompanied by urinary/fecal incontinence, incomplete bladder emptying, constipation, dyspareunia; NOT typically painful

**What are different types of prolapse? (figure 1)**
Cystocele (bladder, anterior vaginal wall)
Rectocele (rectum, posterior vaginal wall)
Uterine prolapse (uterus)
Vaginal vault prolapse (vagina after hysterectomy)

**What are the risk factors for POP?**
- Major risk factors: vaginal birth (Risk ↑ 1.2 times with each vaginal delivery) & aging
- Other risk factors include: menopause, chronically increased intra-abdominal pressure, constipation, increased BMI, pelvic floor trauma and connective tissue disorders

**What is the anatomy of the normal pelvic floor?**
Delancey's 3 levels of support for the vagina **(figure 2)**:
1) Apical: cardinal-uterosacral ligament complex provides apical attachment of the uterus and vaginal vault to the sacrum (defect: uterovaginal prolapse)
2) Mid vagina: arcus tendineous fascia pelvis & the fascia overlying the levator ani muscles (defect: cystocele)
3) Distal vagina: urogenital diaphragm and the perineal body (defect: distal rectocele, perineal descent)

1° support: Levator ani: group of 3 paired muscles: iliococcygeus, pubococcygeus, puborectalis **(figure 3)**
- works as a "sling", provides the foundation of support
- Innervated by sacral plexus/pudendal nerve

2° support: endopelvic fascia: fibromuscular sheath

**What is the pathophysiology behind POP?**
Proposed mechanisms include:
1. Levator ani defects: Injury/avulsion during childbirth →higher rates of prolapse associated with increasing severity of these muscle defects
2. Age-related change: incidence doubles between age 20-59; may be secondary to physiological changes in aging, degenerative processes & decreased estrogen; ↓ collagen content, collagen stiffer/more fragile
3. Connective tissue dysfunction: increased incidence in women with connective tissue disorders (Ehlers-Danlos); injury (i.e. during delivery)→abnormal tissue repair→instability & prolapse

**How is prolapse diagnosed?**
History & pelvic exam; use of **POP-Q** – objective classification system for describing/staging prolapse; quantitative measurements of various points at rest and with Valsalva (anterior, apical, posterior)

**What are the treatment options available for POP?**
- Expectant management
- Pelvic floor physical therapy: may limit progression and alleviate prolapse symptoms
- Vaginal pessaries fitted into the vagina and include support & space-filling pessaries
- Surgery: includes hysterectomy and reconstructive options

**Figure 1**

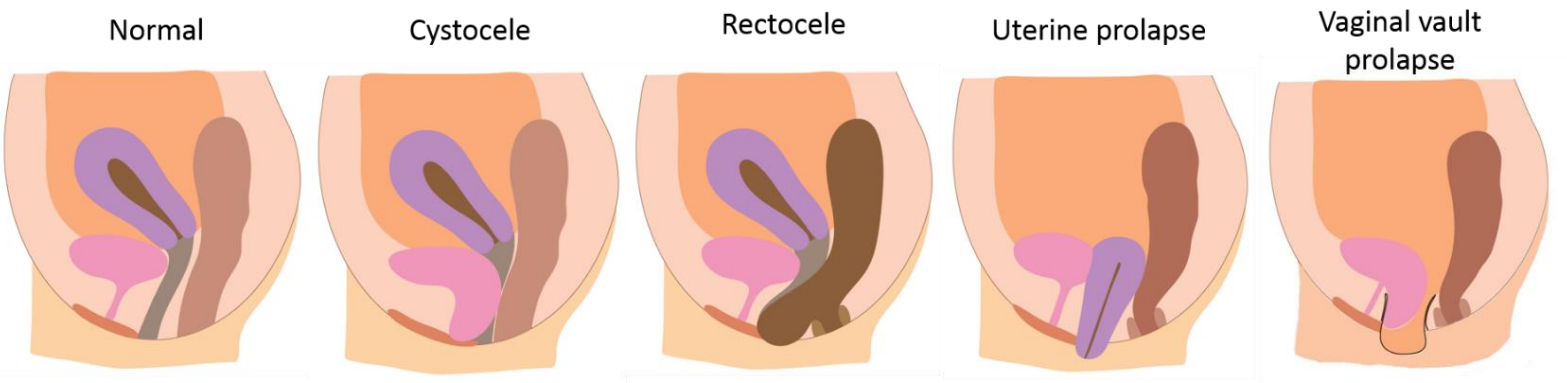



**Figure 2**

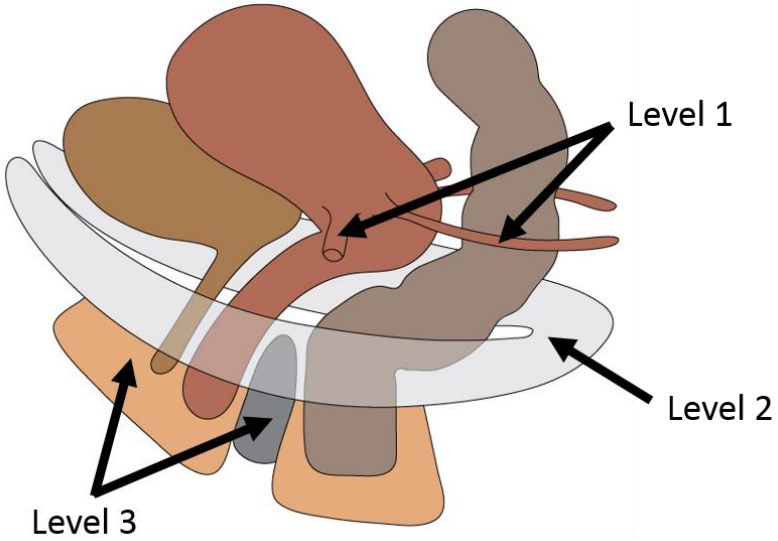
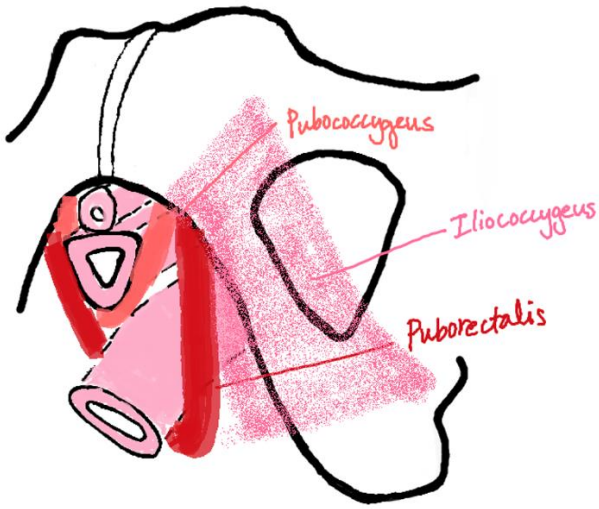



**Figure 3**




**Figures 1 & 2: Aki Yao, Learning Design & Publishing, Medical School Information Services, University of Michigan**

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