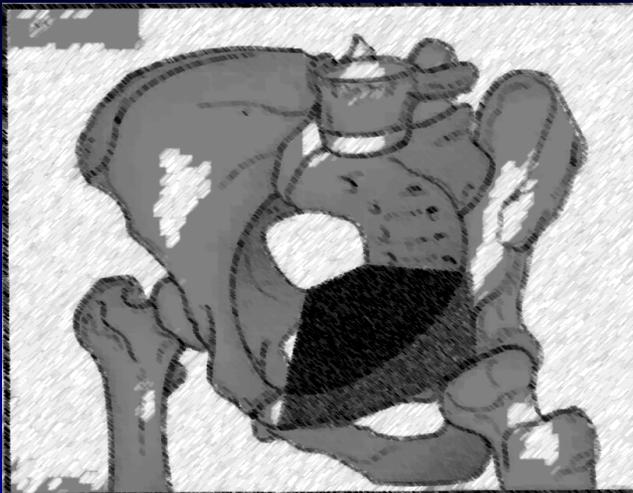




Digestive Disease Institute Role of Pelvic Floor

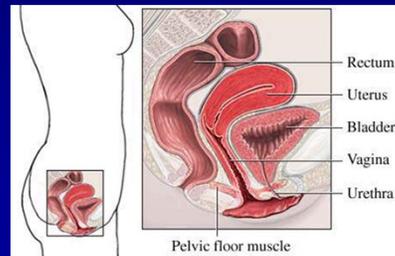
Brooke Gurland, MD
Colorectal Surgery

The Pelvic Floor -
The supportive apparatus that holds the pelvic organs in
places



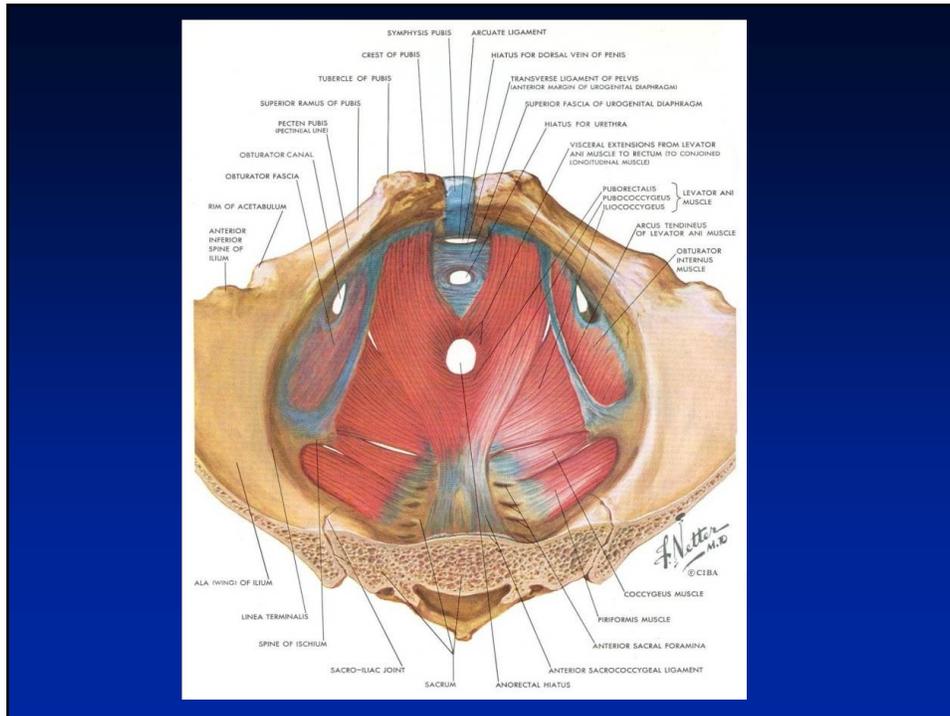
Types of Pelvic Floor Dysfunction

- Abnormal defecation
- Urinary dysfunction
- Prolapse: “bulge” pressure
- Pain
- Sexual dysfunction



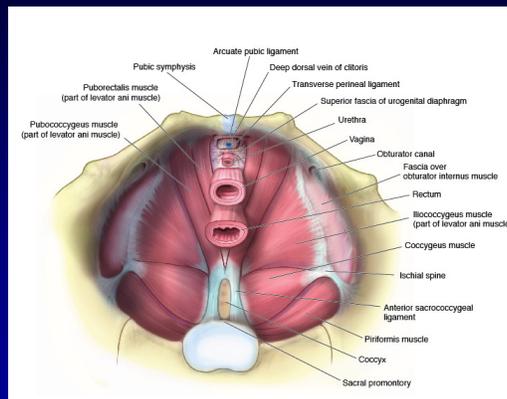
Pelvic Floor Dysfunction

- Multiple symptoms frequently exist in the same patient
 - Symptoms are underreported by patients
 - Symptoms are not elicited by physicians
- Multiple pelvic floor defects (physical findings) may exist in the absence of symptoms (complaints)
- Failure to identify pelvic floor pathology may lead to treatment failures



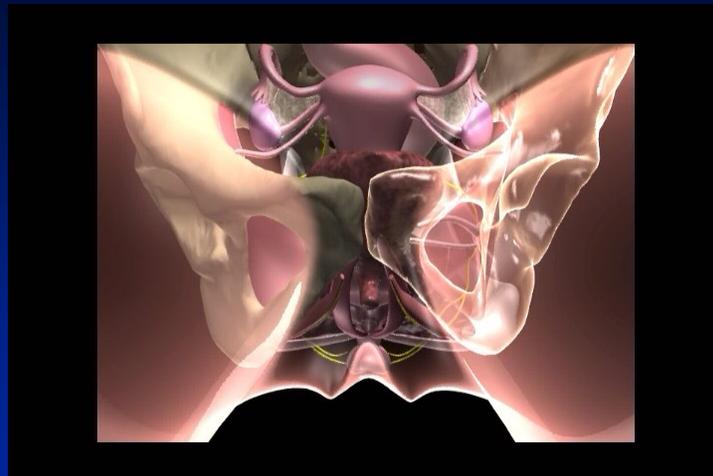
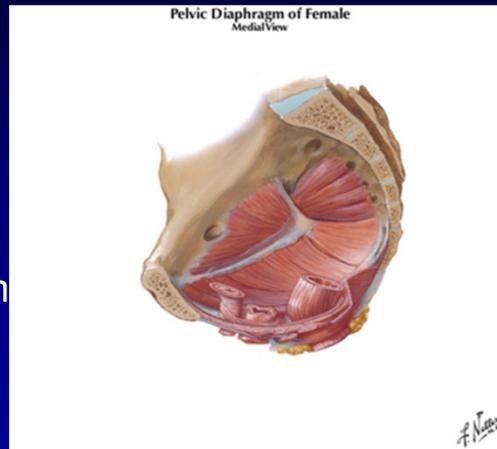
Levator Ani

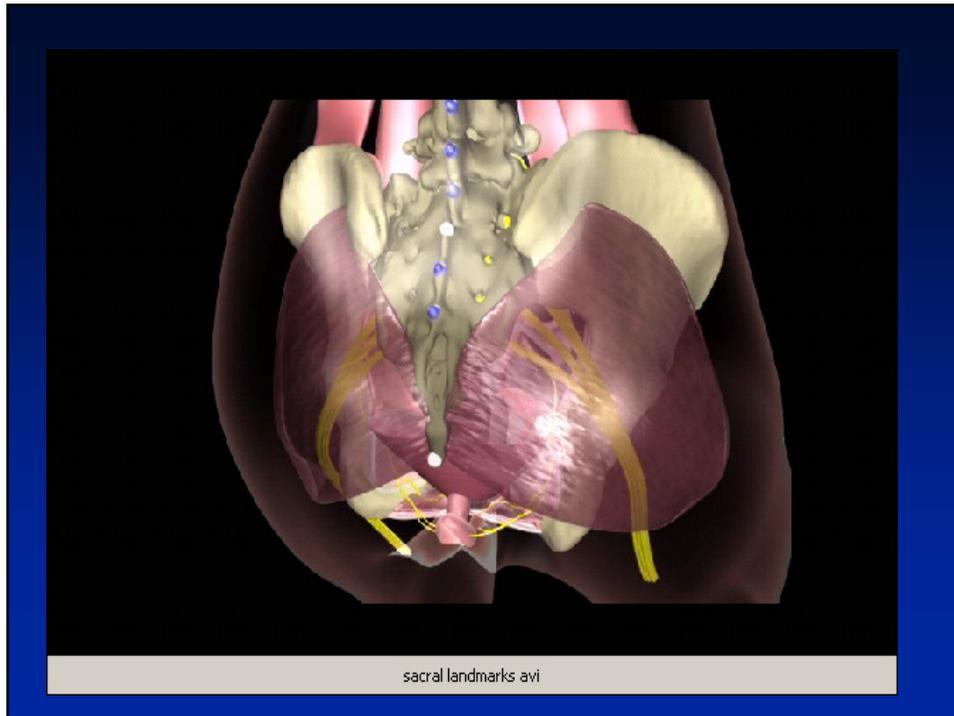
- Pelvic floor muscle
 - Striated muscle:
- Puborectalis
- Pubococcygeus
- Ileococcygeus
- Ischiococcygeus



Pelvic Floor Muscles/ Levator Ani

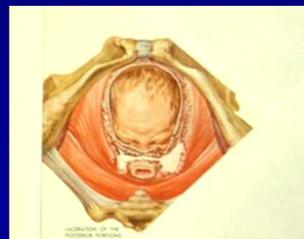
- Innervation
- S2-4 (superior)
- Perineal branch of pudendal nerve (inferior)
- Inferior rectal branch of the pudendal nerve

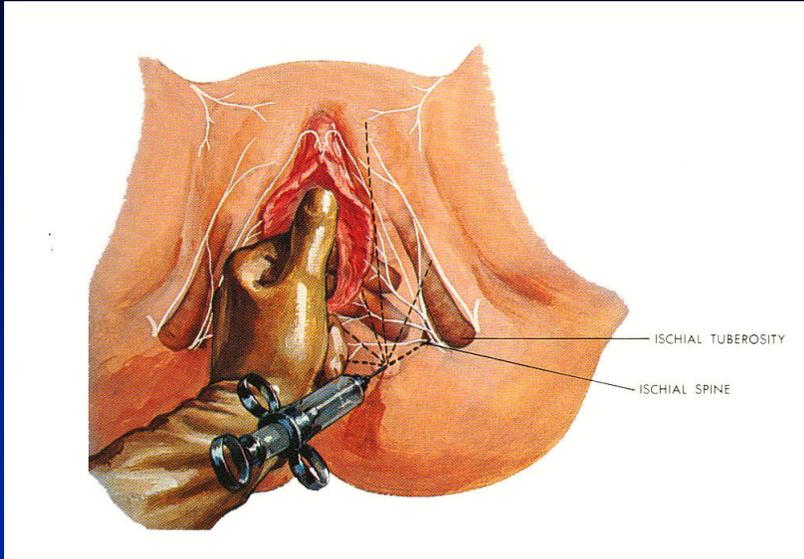




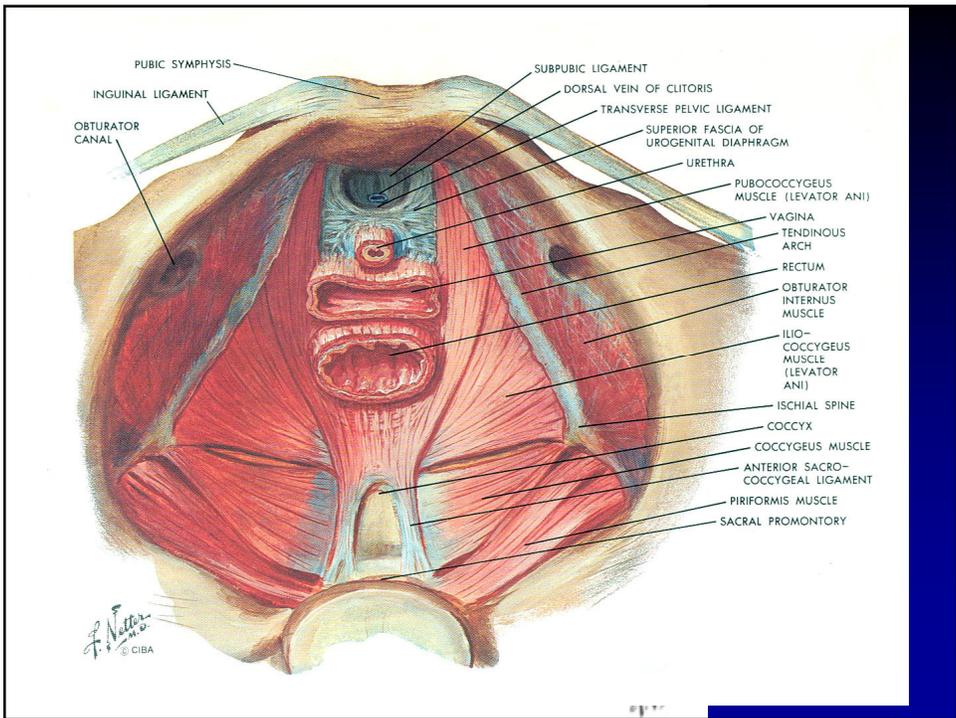
Factors That Weaken The Pelvic Floor

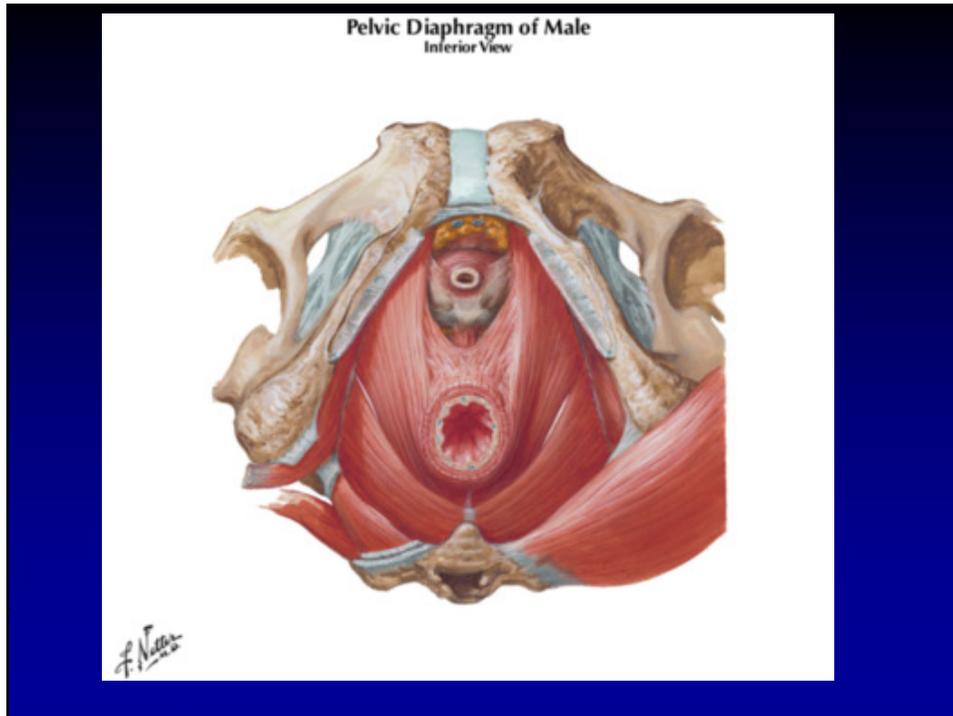
- Childbirth
- Aging
- Menopause
- Chronic Straining
- Neuromuscular conditions
- Radiation





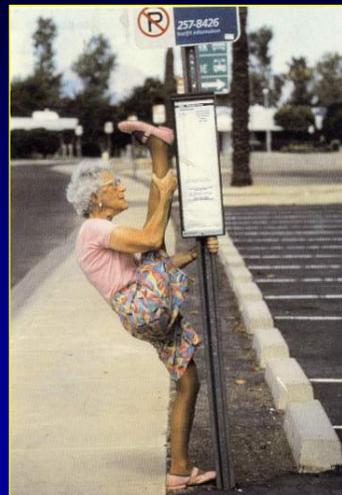
Pudendal Block





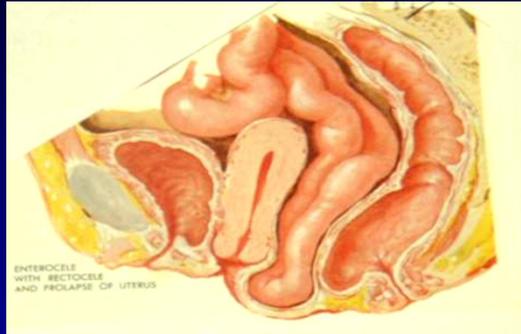
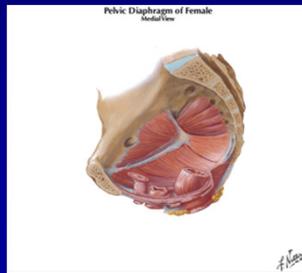
Gender Differences

- Pain perception
- Stress response
- GI function/motility
- Hormonal influences
- Pelvic floor weakness



Pelvic Floor Hernia

- Cystocele
- Rectocele
- Enterocele
- Sigmoidocele



Perineal Hernia

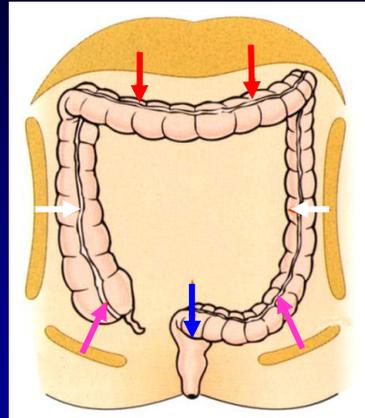
- Enterocele
- Sigmoidocele



Abdominal and Vaginal approaches for suspension and fixation
Data geared at anatomic repair not functional improvement

Normal Defecation

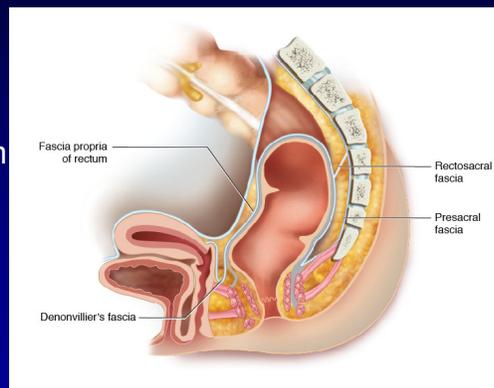
- Motility
- Reservoir
- Rectal Sensation
- Expulsion



LEVATORS CONTRACT
TERMINALLY

Anorectal Angle

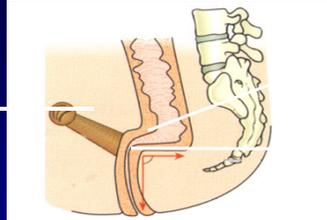
- Puborectalis muscle
- U-shaped sling
- Contributes to gross fecal continence?
- Flap-valve mechanism
- Puborectalis as a sphincter?



Rectal Expulsion

CONTRACTION TO AVOID
DEFECATION

Contracted
muscle

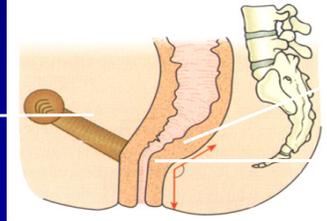


Anorectal angle
 90°

Anal canal
lengthens

DEFECATION

Relaxed
muscle



Anorectal angle
straightens

Anal canal
shortens

Pelvic floor muscles

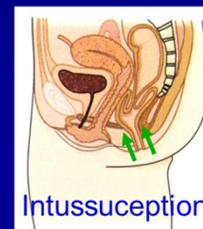
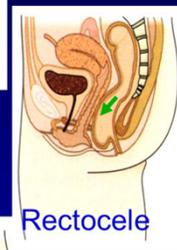
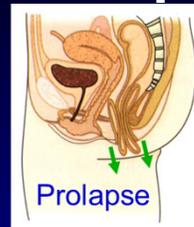
- Pelvic floor muscles
 - Failure to relax maintains rectoanal angle as a barrier to defecation
 - Laxity keeps rectoanal angle open preventing barrier function
- Anal sphincters
 - Failure to relax leads to difficult evacuation
 - Laxity or injury prevents adequate barrier function

Normal Defecation

- Stool and flatus distend the rectum
- Internal Anal Sphincter relaxes allowing for the sampling reflex
- To delay defecation, the External Anal Sphincter contracts
- To defecate...
 - Intra-abdominal pressure increases
 - Puborectalis muscle and EAS relaxes
 - Pelvic floor descends

Pelvic Hernia/ Prolapse

- Lead to mechanical obstruction
- Loss of expulsion



Dysnergic Defecation

- Failure to relax pelvic floor muscles
- Physical therapy / muscles retraining/ relaxation is treatment of choice

The role of the Pelvic Floor Conclusion

- Muscular support
- Maintain continence



Cleveland Clinic

Every life deserves world class care.