



## Digestive Disease Institute Role of Pelvic Floor

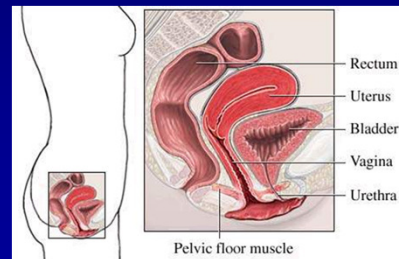
Brooke Gurland, MD  
Colorectal Surgery

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



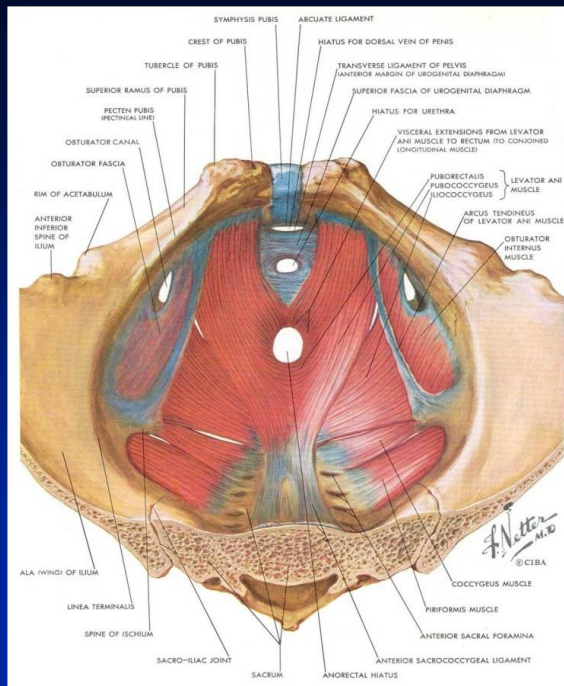
## Types of Pelvic Floor Dysfunction

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



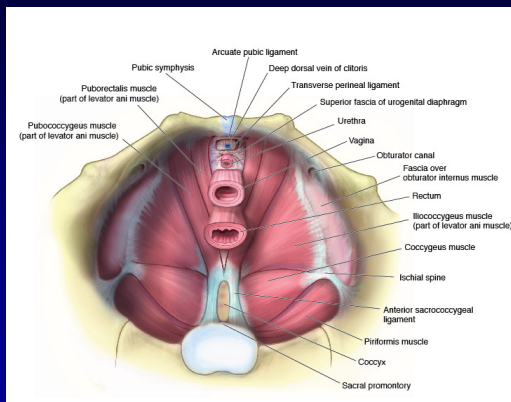
## Pelvic Floor Dysfunction

- 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



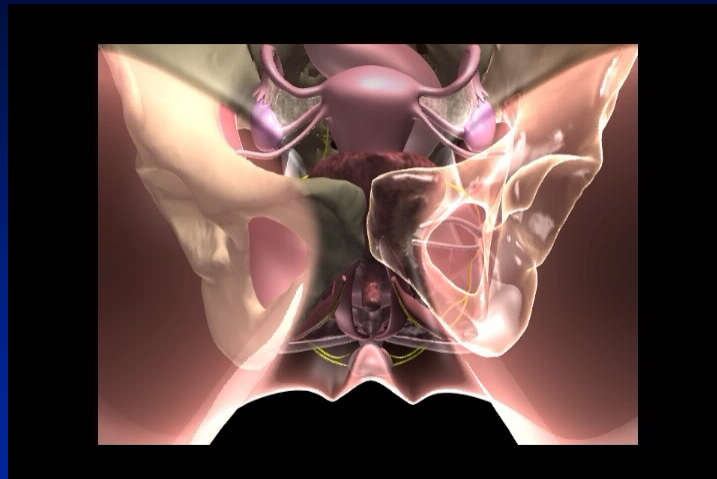
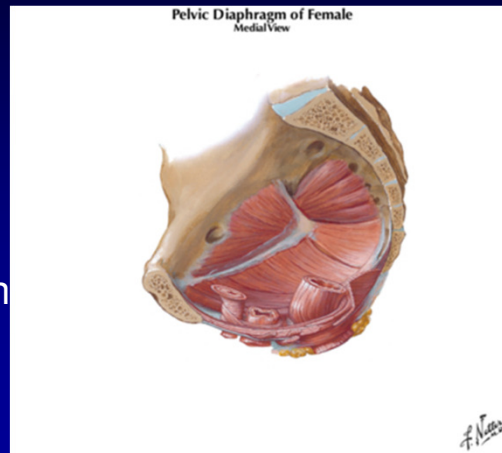
## Levator Ani

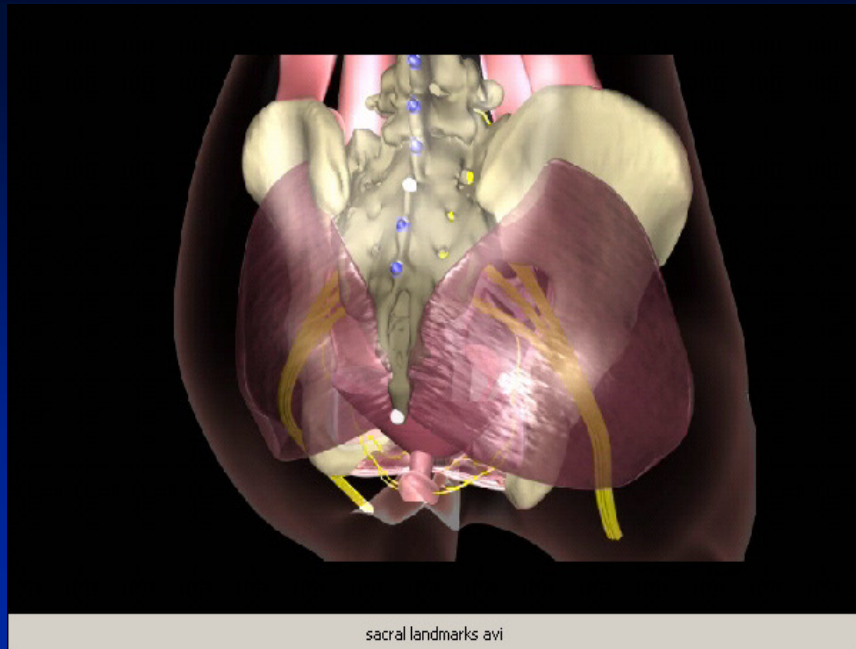
- Pelvic floor muscle
  - Striated muscle:
- Puborectalis
- Pubococcygeus
- Ileococcygeus
- Ischiococcygeus



# Pelvic Floor Muscles/ Levator Ani

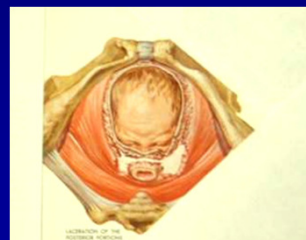
- Innervation
- S2-4 (superior)
- Perineal branch of pudendal nerve (inferior)
- Inferior rectal branch of the pudendal nerve



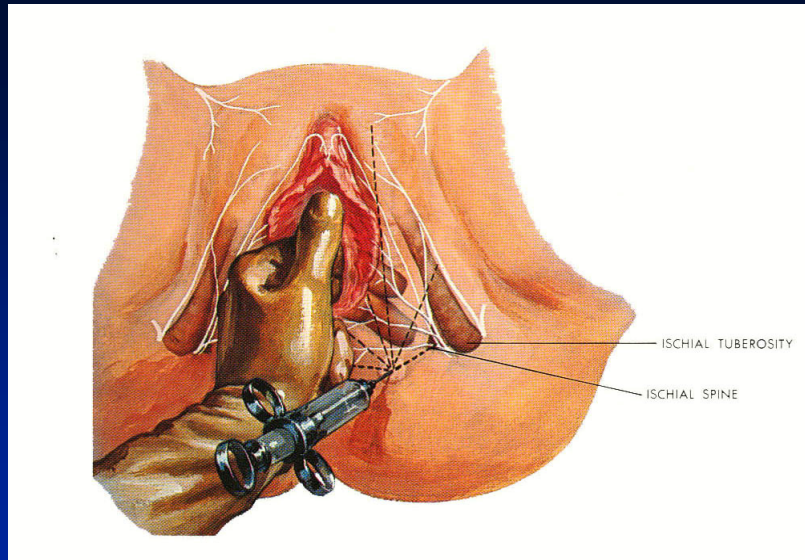


## Factors That Weaken The Pelvic Floor

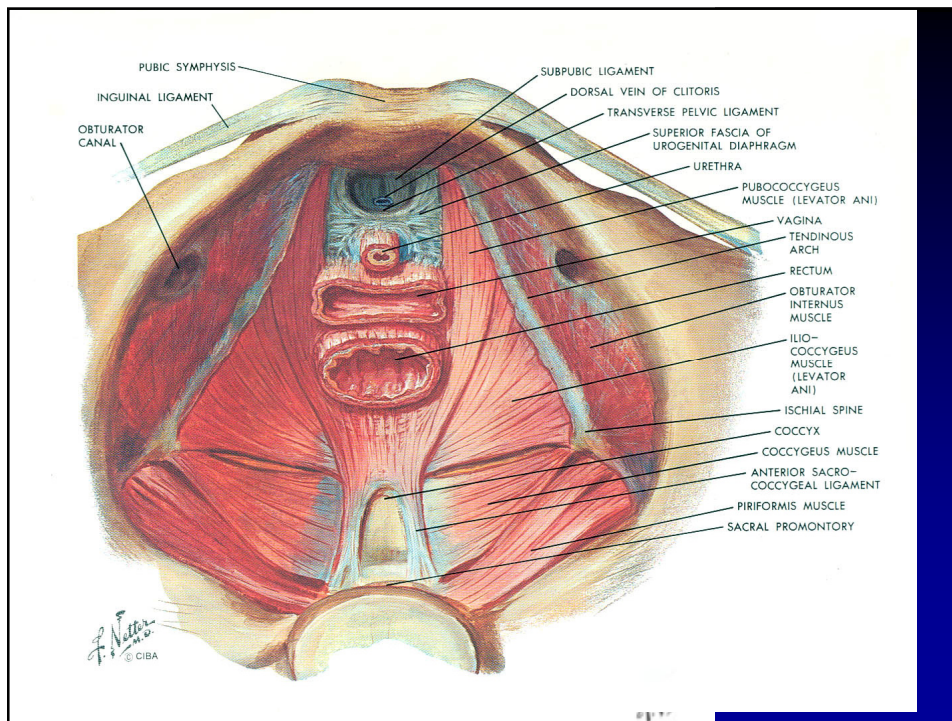
- Childbirth
- Aging
- Menopause
- Chronic Straining
- Neuromuscular conditions
- Radiation

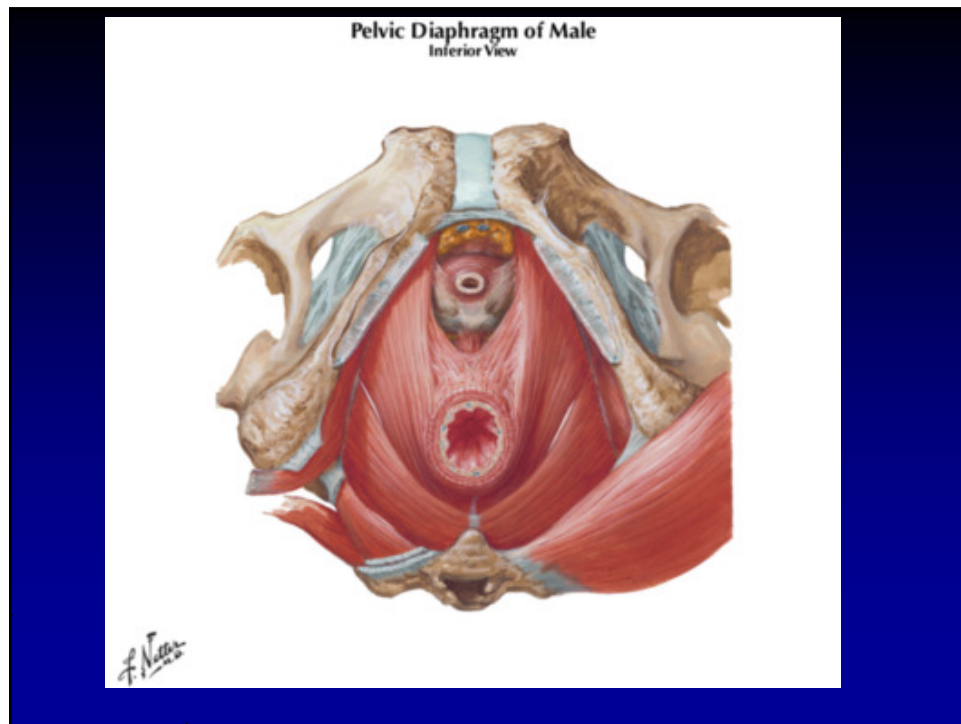






Pudendal Block





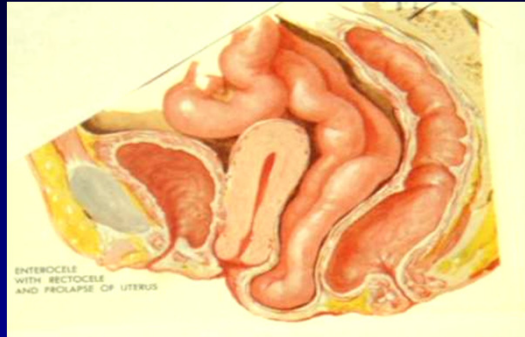
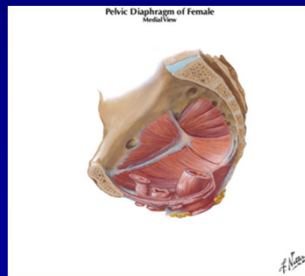
## Gender Differences

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



## Pelvic Floor Hernia

- Cystocele
- Rectocele
- Enterocele
- Sigmoidocele



## Perineal Hernia

- Enterocele
- Sigmoidocele

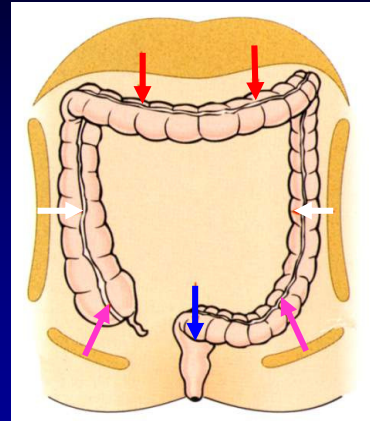


Abdominal and Vaginal approaches for suspension and fixation  
Data geared at anatomic repair not functional improvement



## Normal Defecation

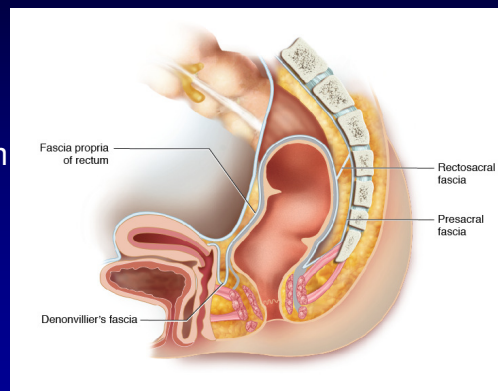
- Motility
- Reservoir
- Rectal Sensation
- Expulsion



LEVATORS CONTRACT  
TERMINALLY

## Anorectal Angle

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



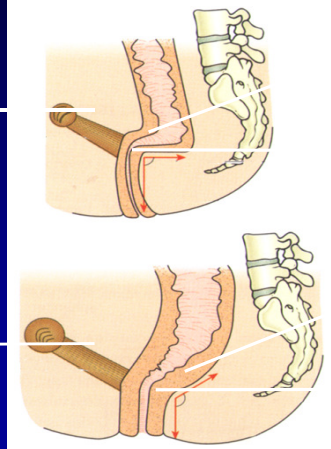
## Rectal Expulsion

CONTRACTION TO AVOID  
DEFECATION

Contracted  
muscle

DEFECATION

Relaxed  
muscle



Anorectal angle  
 $90^\circ$

Anal canal  
lengthens

Anorectal angle  
straightens

Anal canal  
shortens

## Pelvic floor muscles

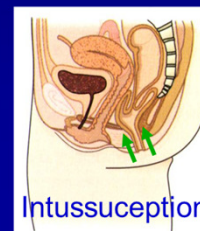
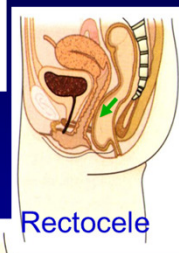
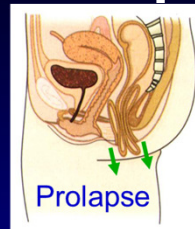
- Pelvic floor muscles
  - Failure to relax maintains rectoanal angle as a barrier to defecation
  - Laxity keeps rectoanal angle open preventing barrier function
- Anal sphincters
  - Failure to relax leads to difficult evacuation
  - Laxity or injury prevents adequate barrier function

## 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



Every life deserves world class care.