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Basic Physical Therapy Treatment of Constipation

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- Presenter Disclosure: Financial: Cynthia Neville has received an honorarium for presenting this course. Non-financial: Cynthia Neville has no relevant non-financial relationships to disclose.
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Learning Outcomes

After this course, participants will be able to:

- Describe at least two aspects of the diagnosis and complexity of constipation.
- Identify at least three exercises and one manual therapy technique to improve gut motility.
- Describe at least two important aspects of the role of the pelvic floor muscles in defecation.
- Describe how paradoxical contraction can cause constipation
- Identify at least three factors in the physiologic and anatomic rationale for optimizing position and posture on the toilet during defecation.
- Identify at least two behavioral factors contributing to constipation

CONTINUED

Who is affected by constipation?

- 1.9% to 27.2% of adults in the US
- Women 3.5x > men
- 44%-74% individuals residing in nursing homes
- People postoperative after hip fracture
- People with joint hypermobility
- People with neurologic conditions
- People with back or neck pain
  - (George 2016)

Affected by Constipation

- 0.7% to 29.6% of children
- 11%-38% of pregnant women
- 29%-36% of young female athletes
    - (George 2016)

Quality of Life

- Chronic constipation leads to
    - Reduced physical activity
    - Increased utilization of health care resources
- Health Related Quality of Life impact similar to
    - Diabetes
    - Chronic allergies
    - Dermatitis
    - Osteoarthritis
    - Chrohn's disease
    - Inflammatory bowel disease
        - (George 2016)

Risk factors for constipation

- Increased age
- Gender (female adults)
- Lower SES
- Lower education level
- High BMI
- Reduced mobility
- Low self reported Physical activity
- Low consumption of fruits or vegetables
- Low consumption of fiber
- Living in a densely populated community
- Family history of constipation
- Anxiety and depression
  - (George 2016)

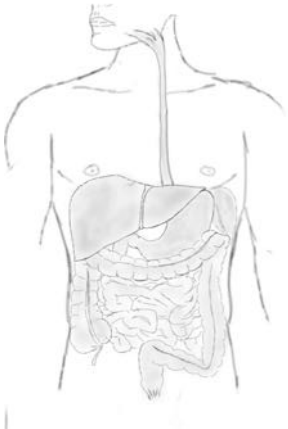
Risk factors most important for front line PTs to consider

- Medications
  - Opioids
- Lifestyle
  - Fluid intake
  - Diet
  - Physical activity level

Q3

Physiology of Digestion and Defecation

Digestive System

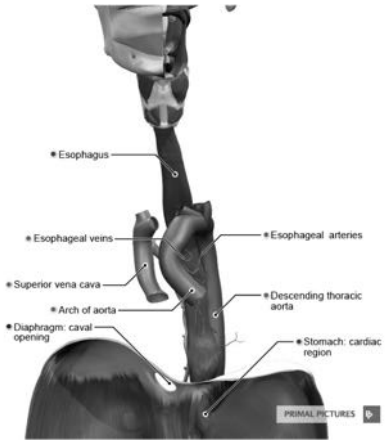


Mastication

Mouth, tongue, salivary glands and teeth

Muscles of mastication, esophagus

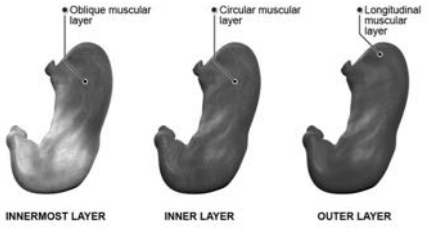
Esophagus



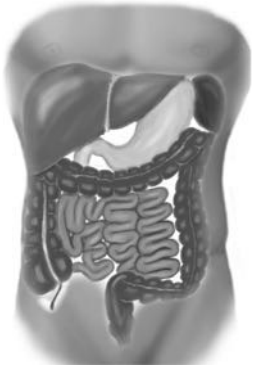
- Upper 2/32 both smooth and skeletal muscle
- Peristalsis propels bolus of food toward the stomach
- Secretions lubricate food

Stomach

- Muscularis layers vigorously churn food
- Secretes gastric juices that break down food

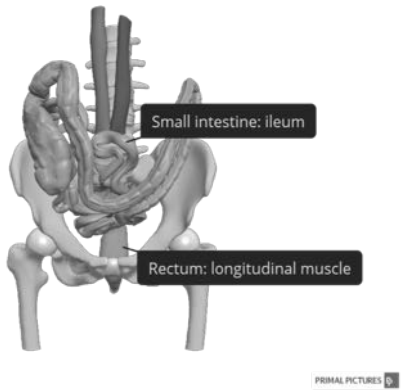


Solid organs of the digestive



- Liver- Bile digests fats and vitamins
- Pancreas-Makes digestive enzymes that break down carbohydrates, fats, and proteins
- Gallbladder- Stores bile between meals, during eating squeezes bile through bile duct to small intestine

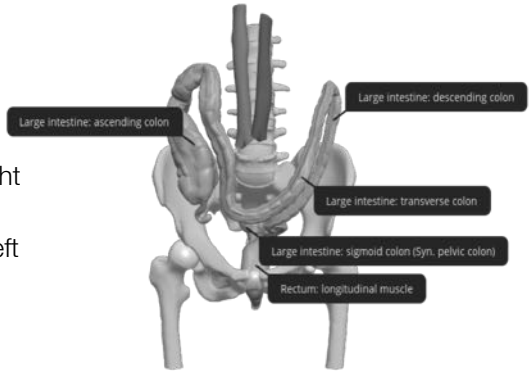
Small Intestine



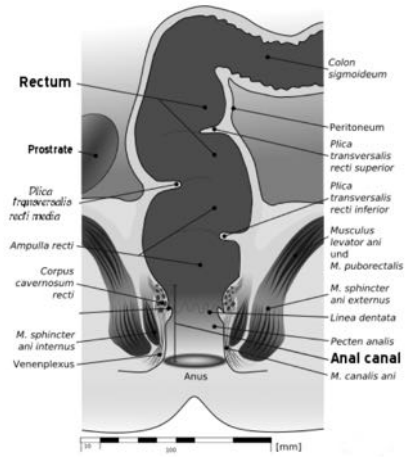
- Duodenum, jejunum, Ileum
- Peristalsis mixes chyme with digestive juices of pancreas, liver, and intestine.
- Intestinal walls absorb water and nutrients into bloodstream
- Peristalsis moves waste into large intestine

Large Intestine

- Absorbs water, converts waste into stool, propagates waste
- Appendix
- Cecum
- Colon
  - Ascending-right
  - Transverse
  - Descending-left
  - Sigmoid
  - Rectum



Rectum



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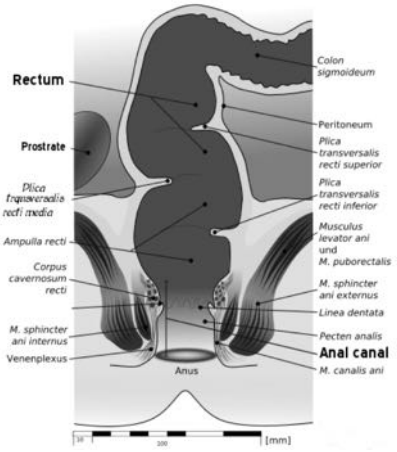
- Rectosigmoid junction: approximately at the level of S3
- Rectum is approximately 12 cm long and 4 cm in diameter from sigmoid to anorectal line
- Follows curve of sacrum
- "Valves of Houston" prevent backward propulsion

Internal Anal Sphincter (IAS)

- Fuses superiorly with circular layers of rectal smooth muscle
- Inner circular smooth muscle – medial to skeletal muscle
- Not under voluntary control
- IAS is responsible for 80% of resting tone



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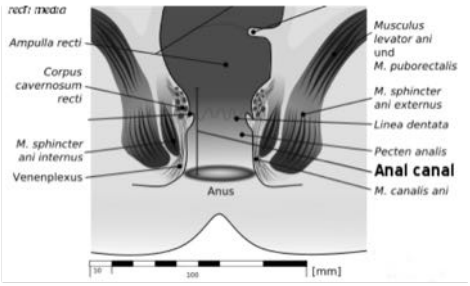
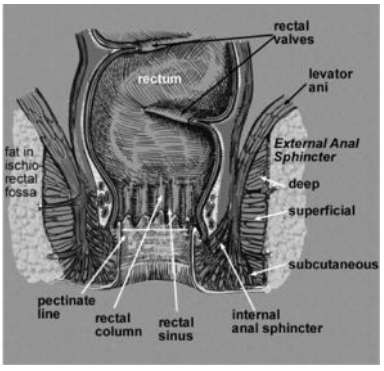
External Anal Sphincter

- Surrounds inferior end of anal canal
- 20% of resting tone
- 2-3 cm. wide on each side of the canal
- 3 components
  - *Deep* - joins superficial transverse perineal muscle, perineal body and puborectalis muscle
  - *Superficial*- tip of coccyx to perineal body
  - *Subcutaneous* – just under the skin



"Tube within a tube"

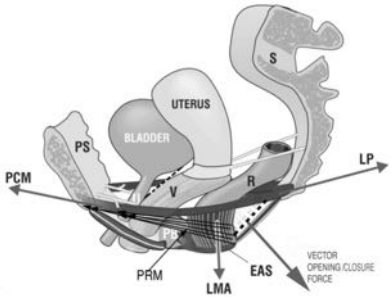
- Inner tube: internal sphincter (smooth muscle)
- Outer tube: puborectalis external sphincter complex (skeletal muscle)
- Attaches the perineal body to the anococcygeal ligament
- EAS responsible for 20% of resting tone



Q1

Puborectalis

- Deep and medial portions may contain both smooth and skeletal muscle fibers
- Maintains anorectal angle
- Anus attaches to perineal body anteriorly and attaches to coccyx via anococcygeal ligament posteriorly
- Major insertion sites for levator ani between IAS and EAS
- Anal integrity affects levator ani function



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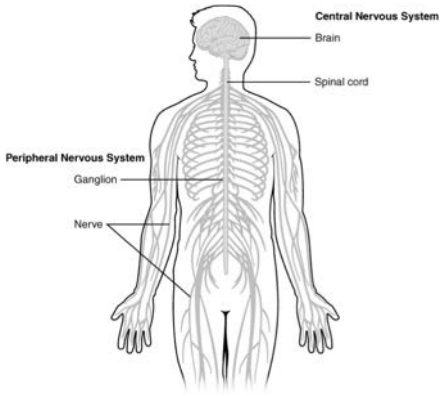
Colorectal Nervous System Control

- Enteric
- Sympathetic
- Parasympathetic
- Somatic



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Enteric Nervous System (ENS)

- "the brain in your gut"
- Neurons with cell bodies / plexuses within the wall of the gut, between longitudinal and circular smooth muscle layers
- Directly control most aspects of colorectal motility
- Complex
- Motor neurons- inhibitory and excitatory
- Sensory neurons- responds to mechanical and chemical stimulation, activate reflex circuits controlling motility
- Interneurons- long projections propagate reflexes over distance to motor neurons
- Viscerofugal neurons-project out of the gut wall to communicate with sympathetic and parasympathetic nervous systems

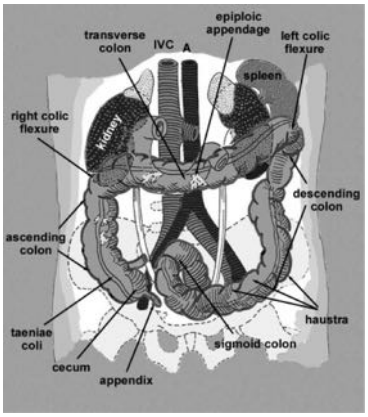
Sympathetic Nervous System (SNS)

- Release noradrenaline causes presynaptic damping down of enteric motor reflexes
- SNS slows down digestion
- Paravertebral sympathetic neurons control blood flow
- Prevertebral sympathetic neurons control
  - Blood flow cause vasoconstriction
  - Secretory activity
  - Smooth muscle activity

Parasympathetic Nervous System (PNS)

- Powerful vagal efferent input to upper GI tract and proximal colon
- Dominates digestive function
- Distal regions of the colon and rectum receive input from the sacral parasympathetic nucleus (SPN)
  - Projects via pelvic nerve S2-4 to pelvic plexus ganglia
  - Mixed sympathetic and parasympathetic

Sensory innervation



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Colon

- Proximal
  - Vagal (PNS)
- Distal
  - Spinal somatic
- High threshold mechano-receptors

Rectum

- Low threshold mechano-receptors
- Highly sensitive
- Conscious awareness
- Activate propulsion

Physiology of Colonic Transit

- Reflexes

Gastrocolic Reflex

- Initiated by distention of the stomach
  - After eating, drinking hot liquid
  - Physical activity and walking
- Results in –
  - Increased peristalsis in all areas of the large intestine
  - Bowel movements often occur after the morning meal

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Intrinsic Defecation Reflex

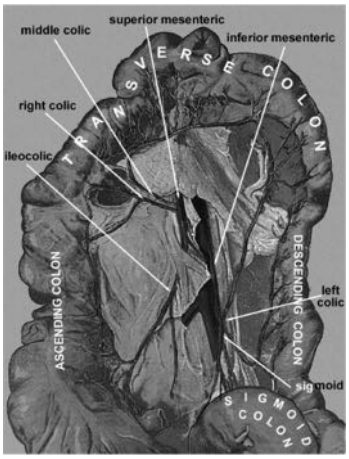
- Initiated by - feces entering the rectum leads to rectal wall distension
- Results in –
  - Peristaltic waves moving feces into the anal canal
  - Internal sphincter and external sphincter relax
  - Evacuation occurs
- Primary mechanism for defecation in infants
- Easily suppressed by cortical inhibition in adults

Parasympathetic Defecation Reflex

- Initiated by - stretch of the rectum stimulates afferent fibers
- Results in –
  - Activation of the parasympathetic nerves
  - Intensification of peristaltic activity in the descending colon, sigmoid, rectum, and anus
- Is most effective in stimulating total evacuation of the bowels
- Can be suppressed by voluntary contraction of the EAS
  - Frequent suppression of the parasympathetic reflex may lead to constipation
  - May contribute to constipation during stressful events

Mass Movements

- Initiated by – gastrocolonic reflex, colon distension, or parasympathetic stimulation
- Results in -
  - Strong peristaltic waves (HAPCs) moving feces the entire length of the colon in a very short time
- Occur 2 to 5 times per day
- Most abundantly during the hour after eating breakfast.
- Not all mass movements result in defecation.
- Excessive mass movements may occur with IBS or Crohn's disease



Colonic Transit time

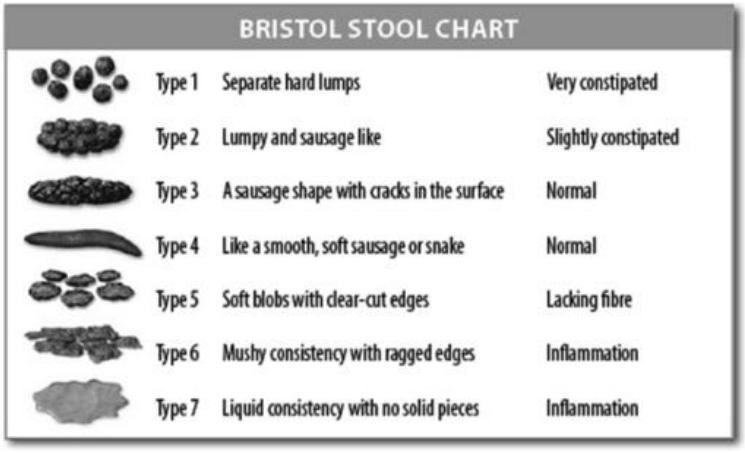
- 1 to 4 days to travel the entire GI tract
  - 4 to 6 hours -small intestine
  - 24 to 72 hours - large intestine
    - Avg. 40 hours
- Age 3 – adults & elders
- Depends on fecal consistency
- Normal output : 300-400g/day ; 10-14 oz

Normal Bowel Frequency

- 1-3x/day
  to
- 1x every 3 days

Image by ShadOwfall from Pixabay

Fecal Consistency



Factors Affecting Intestinal Motility

- Amount of feces
- Content of feces: fats vs. carbohydrates
- Consistency of feces
- Intestinal hormones
- Nervous system input to the intestines
- Female hormones
- Emotions
- Visual input
- Olfactory input
- Time of eating, schedule
- Systemic diseases: anorexia, DM, hypothyroidism
- Physical activity level

Defecation

Defecation Reflexes

- Normal defecation involves the rapid semi-voluntary emptying of the rectum and distal colon
- Distension of the rectum and stretch of the LA due to fecal matter stimulate stretch receptors
  - RAIR: Recto-anal inhibitory reflex
    - AKA Sampling reflex
  - Accommodation Reflex

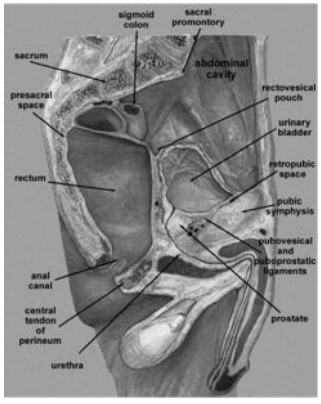
Recto-anal Inhibitory Reflex (RAIR)

- Initiated by stretch receptors
- Results in:
  - Relaxation of the internal sphincter
  - Partial contraction of the external sphincter
  - Allowing 30 ml of fecal matter to partially enter the anal canal
  - Consistency of bowels is assessed by the highly sensitive anal lining

RAIR or Sampling Reflex

- If liquid is sensed, external sphincter tone increases
- If gas is sensed it is selectively released
- If anal sensation is lost, patients may run to the bathroom frequently to release flatus
- OR think that they are releasing gas but actually release stool

Accommodation Reflex



- Initiated by - increased EAS tone (anal pressure is higher than rectal pressure)
- Results in
  - Rectal relaxation by accommodation of the stretch receptors
  - Suppression of the urge to defecate.
  - Peristalsis stops and continence is maintained.

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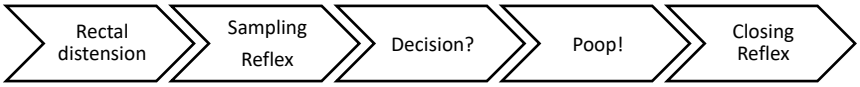
Storage of feces

- Requires cortical inhibition, EAS strength, and rectal distensibility
- Need external sphincter contraction for 30 to 60 seconds until peristalsis is shut off
- If peristaltic action is fast, a large volume of feces may rapidly enter the rectum and the accommodation reflex is overcome and urgency is felt
- Depends on the nature and volume of feces and the strength of PFM

Pooping



- Elicits RAIR
- EAS contracts

- Determines if liquid, solid, or gas

- Pass gas
- Poop
- Defer

- EASE and IAS relax
- Rectal peristalsis expels feces

- EAS Contracts

Adapted from George 2017

Diagnosis of Constipation

Functional Gastrointestinal Disorders

Disorders of Gut Brain Interaction

Rome IV

- Disorders of Gut-Brain Interaction

Drossman DA 2016

Rome IV Criteria Constipation

A **symptom**, not a disease

- In a patient who does not take laxatives or have IBS, patient has at least two of the following in any 12 weeks of the last 6 months
- Loose stools are rarely present without use of laxatives
- Criteria for IBS are not fulfilled

- Straining during at least 25% of defecations
- Hard or lumpy stools in at least 25% of defecations
- Sensation of incomplete evacuation in at least 25% of defecations
- Sensation of ano-rectal obstruction in at least 25% of defecations
- Manual maneuvers to facilitate in at lease 25% of defecations
- **Less than 3 BMs/week**

Q2

Normal Bowel Movements

- Frequency: 2 to 3x/day to 3x/week
- Consistency: firm
- Color: brown
- Bristol stool chart Type 3-4
- Abnormal stool: Types 1,2 and Types 5-7 on Bristol Stool Chart
- Color: black may indicate blood

Constipation

- Primary constipation- functional impairment of the colon and ano-rectal structures
- Secondary constipation- related to organic or structural disease, systemic disease, or medication
- Severe constipation - < 1 BM per week
  - Women 3.5x greater than men

CONTINUED

In most cases-
No underlying organic cause

- CIC = chronic idiopathic constipation
- CFC = chronic functional constipation

Photo by Polina Zimmerman from Pexels

CONTINUED

Red Flags:
Rule out organic cause

- Sudden change in persistent bowel rhythm in patients over 50 years old
- Rectal bleeding or bloody stool
- Iron deficiency anemia
- Weight loss
- Significant abdominal pain
- Family / personal history of colon cancer
- Inflammatory bowel disease
- Palpable mass

Most Common Medical Tests

- Anal-rectal manometry
- Rectal balloon expulsion
- Colonic transit time – marker study
- Defecography and Dynamic MRI

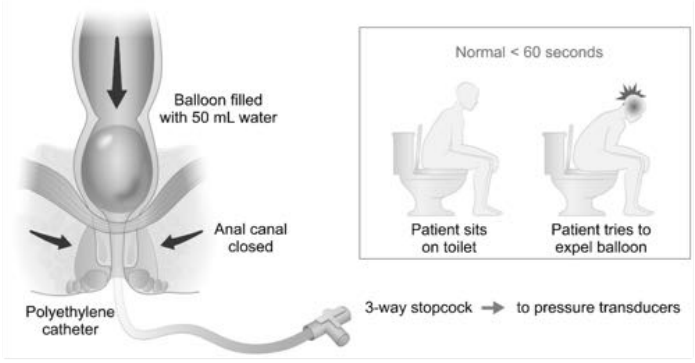
Anal-Rectal Manometry

- 3 balloon system – many different types of catheters
- Measures pressure and reaction in three areas
  - Deepest balloon – in the rectum, can be inflated
  - Middle balloon – in the proximal anal canal, measures IAS
  - Superficial balloon – in the distal anal canal, measures EAS
- Patient is tested in horizontal (non- functional position)

Anal Canal and Squeeze Pressure Measurements

- Anal resting pressures are measured while the transducer is withdrawn in 0.5 to1 cm steps – primarily measures IAS function (80% of rest tone)
- Anal squeeze pressures are measured during slow withdrawal of transducer.
- Patient is asked to keep the anal sphincters contracted during pull
- Calculation
  - Maximum average squeeze pressure
  - Squeeze sphincter length
  - Cross sectional asymmetry

Balloon Expulsion Test



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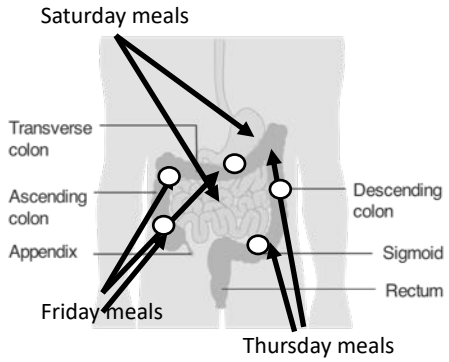
Lee BE, Kim GH. How to Perform and Interpret Balloon Expulsion Test. . 2014;20(3):407-409. doi:10.5056/jnm14068

Colonic transit time testing



- Right Colon 11.3 hrs
- Left Colon 11.3 hrs
- Rectosigmoid 12.4 hrs
- Total 35 hrs
- Prolonged colonic transit may be a cause of chronic constipation (STC)

Defecography and Dynamic MRI

- To identify anatomic alterations including rectocele, enterocele, or intussusception (rectal prolapse out of the anus)
- Defecography- uses flouroscopic Xray imaging of a barium paste enema
  - Subject sits on a toilet and is asked to squeeze, cough or expel the contrast.
- Dynamic MRI- 120 - 150 ml of contrast material i.e. (US gel) is placed into the rectum
  - Can it be done sitting? Only in Open magnet MRI
- Colonic reflexes are NOT evoked - this is NOT physiological defecation, but a test of voluntary rectal evacuation

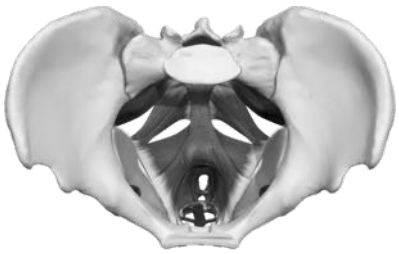
Pelvic Floor Muscle Function and Dysfunction

And Constipation

Pelvic Floor Anatomy Review

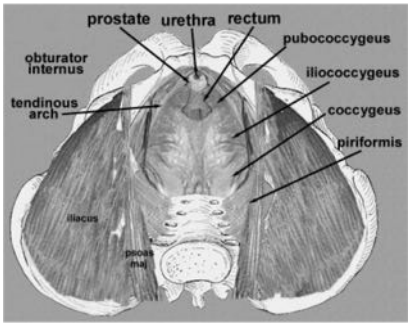
The Pelvic Floor

- Bony pelvis/pelvic girdle
- Skin
- Pelvic floor muscles (PFM)
- Fascia and ligaments
- Vascular and nervous system components
- Viscera



Walls of the Pelvis

- Back wall is formed by the sacrum and piriformis muscles
- Front wall is the pubic symphysis and pubic bones
- Floor is formed by the levator ani
- 2 side walls are made up of the obturator internus



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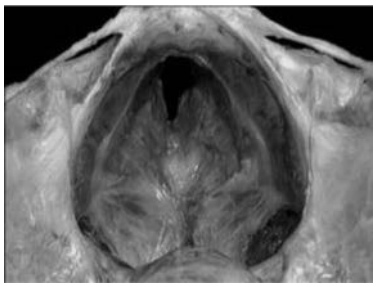
Levator Ani

- Pubic bone and OI fascia along the arcus tendineus levator ani to coccyx
- Closes the pelvic floor
- Carries the weight of the abdominal and pelvic organs
- Prevents constant strain on the visceral ligaments



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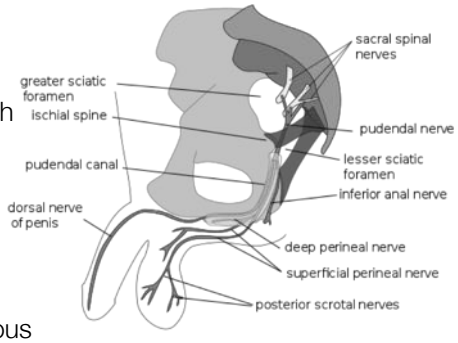
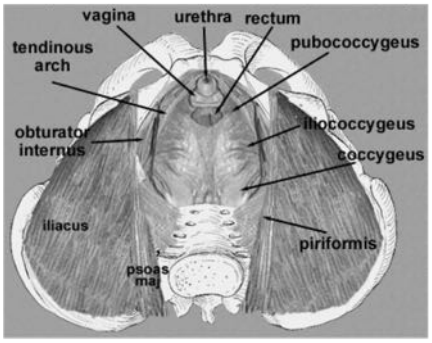
Pudendal Nerve

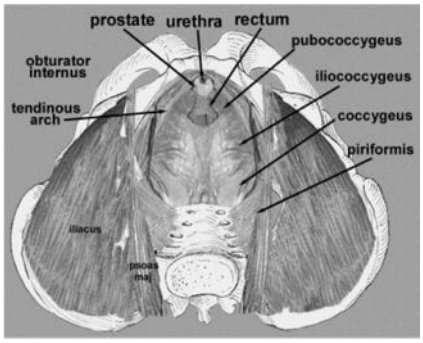
- Origin - S2,3,4
- Travels:
  - Out the greater sciatic notch between the piriformis and coccygeus
  - Hooks around (under) the sacrospinous ligament
  - Enters back into the pelvis through the lesser sciatic notch (over the sacrotuberous ligament) through pudendal (Alcock's) canal
  - Splits into three branches



Female



Male



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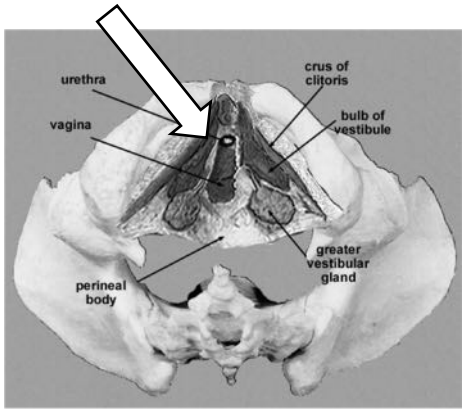
Urogenital Hiatus (UGH)



- Opening within the levator ani through which the urethra and vagina pass
- During vaginal birth the fetal head passes through the UGH
- Pelvic organ prolapse occurs through the UGH

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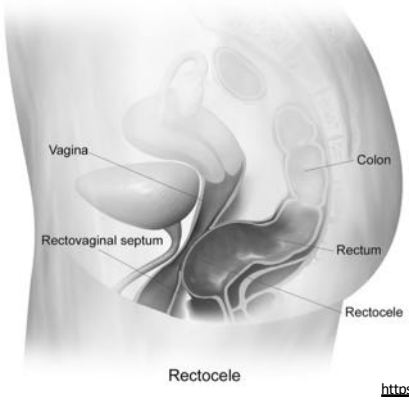
http://www.wesnorman.com/pelvis.htm

Rectocele



Rectocele

- Rectal wall bulges into the vagina
- May alter defecation mechanics
- Fecal matter may get stuck

https://commons.wikimedia.org/wiki/File:Rectocele_Diagram.png
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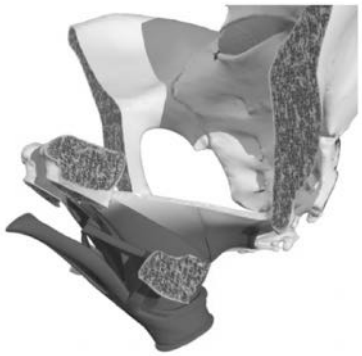
Pelvic Floor Muscle Function

Pelvic floor muscle function

- Voluntary :
  - Contraction : “squeeze and lift”
  - Relaxation

Pelvic floor muscle contraction

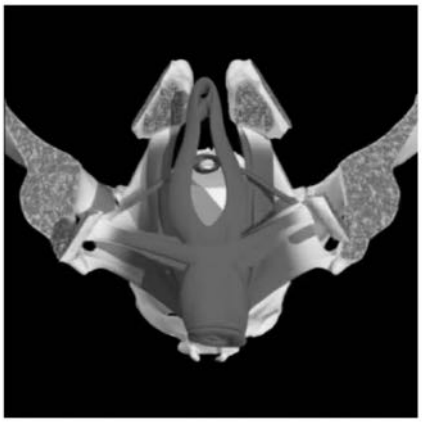


Video: Primal Pictures

Pelvic floor function

- Involuntary
  - Contraction : pre-contraction before increased intraabdominal pressure
  - Relaxation: “drop and open” prior to defecation, urination, and during childbirth

Pelvic floor muscle relaxation



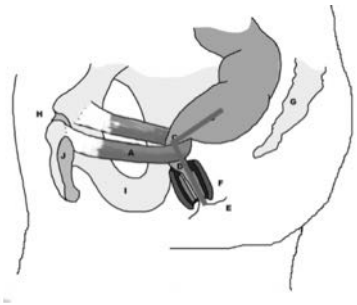
Video: Primal Pictures

Pelvic Floor Dysfunction

- Underactive
- Overactive
- Non-functioning / non-contracting non-relaxing

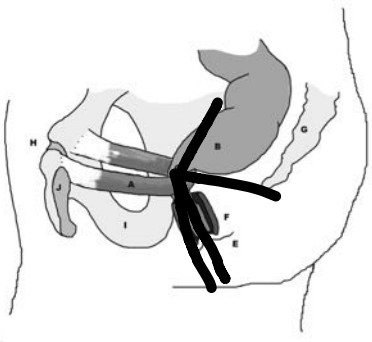
Name of Condition	Description	Symptoms / Diagnosis (Patient Complaints)	Signs / Impairments (Tests, Measures, Observations)	SOWH Gynecological Manual, 2002
Normal PFM	PFM is able to contract and relax on command and in response to increased intra-abdominal pressure as appropriate	Normal urinary, bowel, and sexual functioning	Strong or normal voluntary and involuntary contraction Complete relaxation	
Underactive PFM	PFM is unable to contract when needed	Urinary or fecal incontinence, pelvic organ prolapse	Absent or weak voluntary and involuntary PFM contraction Non-contracting PFM	Supportive dysfunction
Overactive PFM	PFM is unable to relax and may contract during functions such as defecation or micturition	Obstructive voiding or defecation, dyspareunia, pelvic pain	Absent or partial voluntary PFM relaxation Non-relaxing PFM	Hypertonus dysfunction
Non-functioning PFM	No PFM action palpable	Any PFM symptom may be present	Non-contracting, non-relaxing PFM	

Flap-Valve Theory of Anorectal Continence (Bartolo 1986)



- PFM (puborectalis) maintains the anorectal angle
  - Angle formed between axis of the rectum and the anal canal
  - Normally 80° to 100°
- Increased intra- abdominal pressure will be transferred to the anterior aspect of the rectum
- Closing the valve
- Maintaining continence

Changing the Ano-rectal angle



https://commons.wikimedia.org/wiki/File:(155)_Stylized_depiction_of_action_of_puborectalis_sling.png
Lesion at English Wikipedia / CC BY-SA (https://creativecommons.org/licenses/by-sa/3.0)
Modification: Angle lines added

- Increased < 100°
  - Increased intra abdominal pressure will open the valve
  - Pushing the contents of the rectum into the anal canal
  - Ready for evacuation
- Decreased > 80°
  - Increased intra abdominal pressure will close the valve
  - Obstructing defecation
    - Intentional
    - Pathological

Q9

Physical Therapy Treatment of Constipation

First 3 things to do for constipation

- Increase water
- Increase dietary fiber
- Increase physical activity

1. Recommended fluid intake

- 6 to 8 x 8 oz portions of total fluids
  - (= 48 – 64 oz/day)
- People with bowel control problems should try to have 50% of total fluid intake be water
- 0.5 oz of fluid per pound of body weight for pediatrics and geriatrics
- Evidence is sparse
  - Boileson 2017

https://commons.wikimedia.org/wiki/File:Water_at_glass.jpg
श्रेष्ठ भूपेन्द्र / CC BY-SA (https://creativecommons.org/licenses/by-sa/4.0)

2. Physical activity

- General body conditioning
  - Aerobics, walking, swimming, bike.
  - Alternating rhythmical movements : hip flexors
  - After meals
- Exercise therapy
  - Has significant benefits as a means of improving constipation symptoms
    - (Gao 2019)

- Physical Activity Guidelines for Americans 2nd edition
  - Office of Disease Prevention and Health Promotion

https://health.gov/our-work/physical-activity/current-guidelines

3. Dietary fiber

- Get fiber from a wide range of foods
- Spread fiber throughout the day, eat smaller amounts all day
- Decrease oils as they disrupt normal digestion
- Must maintain adequate fluid intake
- Add fiber slowly
- Do not overload on unprocessed fiber
- 27 to 40 grams of fiber per day

Image: The U.S. Food and Drug Administration / Public domain
https://commons.wikimedia.org/wiki/File:Kids_%E2%80%98n_Fiber_(6120828233).jpg

Defecation Posture

- Sit fully on toilet
- Lean forward (increased hip flexion)
- Rest forearms on legs
- Heels off floor
- Consider a step stool to increase hip flexion
- May also help to squat

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Q4

Increasing the ano-rectal angle

Image courtesy of Physiotec

- Helps fecal material empty
- Voluntary relaxation of puborectalis – necessary for normal defecation
- Squatting and hip flexion greater than 90 degrees

Alternative Position- One foot on stool

- Avoiding increased hip flexion
  - THR
- Limited hip flexion
  - Obese
  - Parkinson's rigidity
- Make sure hip flexion does not lead to trunk flexion
  - Lumbar HNP /Disc herniation

- Correct Position for Opening Your Bowels https://basicknowledge101.com/pdf/toileting-positions.pdf

https://commons.wikimedia.org/wiki/File:Bubble_Blowing_06.jpg
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Blowing

Keep lips, jaw, and mouth open to facilitate relaxation of the PFM.

Increase intra abdominal pressure with an open glottis

Grunt or “blow into a balloon”

How To Push

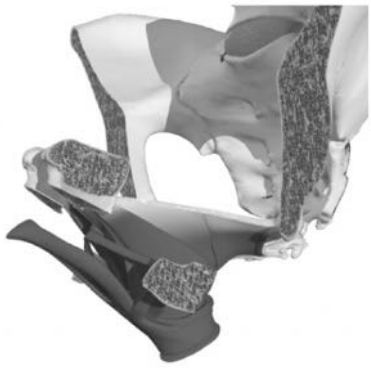
- First
  - Belly big
  - Belly hard
- Second
  - Blow
- Third
  - Gently push from the bottom- “drop and open”

Awareness of the Pelvic Floor Muscles

- ”Elevator exercise”
  - “Close the doors”: squeeze the anus shut
  - ”Elevator goes up” : pull the muscles up and in toward the head
  - “Elevator goes down” : Release the muscles away from the head
  - “Doors open” : anus relaxes

CONTINUED

Elevator exercise



Video: Primal Pictures

CONTINUED

Maintain PFM relaxation

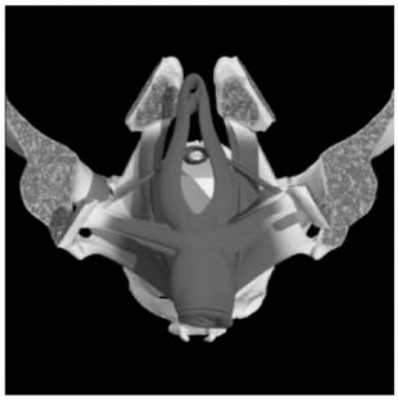
- Excessive straining often leads to "paradoxical puborectalis" contraction
- PFM contracts instead of staying relaxed
- **Referred to as a "paradoxical contraction" of the puborectalis**
- "Elevator doors closed"
- Stops peristalsis of the rectum

Q6

Motor Control Exercise for PFM Coordination

- "Elevator" exercise
- Contract 2-3 seconds
  - " Door closed, Elevator up" but not to the "penthouse"
  - "Squeeze and lift about 50% effort"
- Relax 6-10 seconds
  - "Elevator down, doors open"
  - " Drop and open"
  - Count to 10 to allow for full and complete relaxation
- 2 sets 10 reps 3 x/day for motor control exercise dosing

Elevator exercise



Video: Primal Pictures

Sit on exercise ball

- The ball is touching the perineum
- Feel the perineum move away from the ball as you contract the PFM
- Feel the perineum drop into the ball as you relax

https://commons.wikimedia.org/wiki/File:Exercise_ball.jpg
Spiralz from England / CC BY
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Diet

- Increasing fiber intake improves constipation and associated symptoms
  - (Rao 2016)

Exercise

- Exercise has significant benefits in improving the symptoms of constipation patients
  - (Gao 2019)

Trunk Vascularization Exercises

To improve blood flow to the torso and mobility of the organs

Perform first thing in the morning

Lower trunk rotation 10-20x

Image courtesy of Physiotec

Alternating knee to chest 10x each

Image courtesy of Physiotec

CONTINUED

Side lying thoracic rotation 5-10x B

Image courtesy of Physiotec

CONTINUED

Prone on elbows 10x

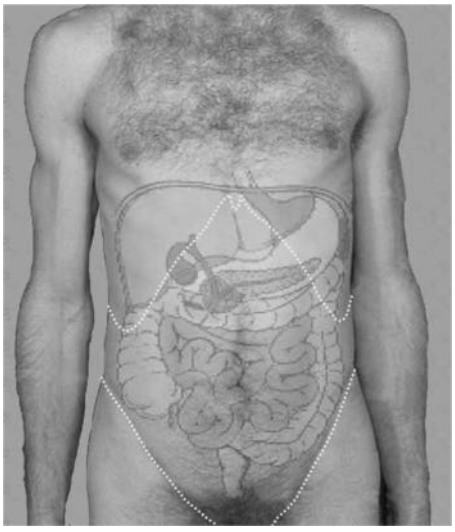
Image courtesy of Physiotec

CONTINUED

Abdominal Massage

Purpose: to stimulate colonic motility

Q10



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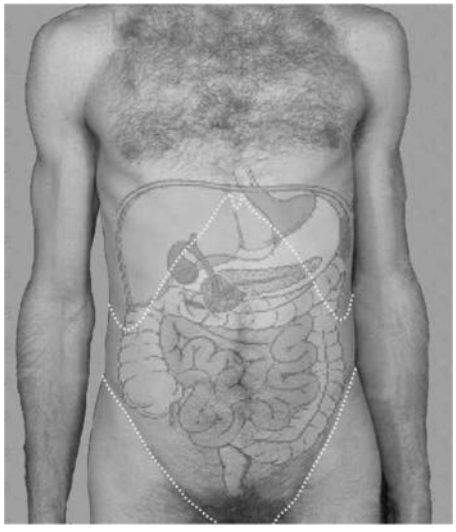
http://www.wesnorman.com/abdomen1.htm

"I,L,U Massage"

- Start by using gentle sweeping strokes 10 -20 gentle strokes for each letter.
  - I = from left rib cage down left side of abdomen to left iliac in the shape of the letter "I"
    - Open up descending colon
  - L = from right upper abdomen, across lop of abdomen (below rib cage) to left upper abdomen, then down left side of abdomen (as in "I")in the shape of the letter "L"
    - Open up transverse and descending colons
  - U = from light lower abdomen, up right side of abdomen, then across from right to left upper abdomen and then down left side of abdomen; in the shape of the letter "U"



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http://www.wesnorman.com/abdomen1.htm

“Colon massage”

- Next perform small circles with consistent pressure al each point along the colon clockwise and counterclockwise at 5 spots along the colon
- As you get more comfortable, you may press more deeply with all of these strokes OR you may remain light handed- what ever feels best!
- Complete the massage by performing the "U" massage 10-20 more times

Digestion Education

- Video

Abdominal massage

- Video

Basic Dietary Advice

- Water
- Fiber

Avoid Foods That Thicken Stools…….“Brat” diet

- Bananas
- Rice
- Apples with skin
- Toast
- …
- AND
- Creamy peanut butter
- Cheese

Steve Hopson, www.stevehopson.com / CC BY-SA (https://creativecommons.org/licenses/by-sa/2.5)

Q5

Foods that loosen stools

- Prunes (dried plums) and prune juice
- Yogurt
- Fish oil
- Kombucha (fermented black tea)

https://commons.wikimedia.org/wiki/File:Kombucha_Mature.jpg
Mgarten at the English Wikipedia / CC BY-SA (http://creativecommons.org/licenses/by-sa/3.0/)

Bowel Training

- Control fecal consistency – diet
  - Avoid BRAT
  - Add fiber slowly
- Encourage regular evacuation
  - Eat regular meals at a similar time each day
  - Hydrate with a few ounces several times per day
  - Sit on the toilet for 10 to 20 minutes about 20 to 30 minutes after breakfast
  - Sit in “potty posture” and RELAX
  - Do not strain excessively –gentle belly big
- Develop a bowel ROUTINE

Q8

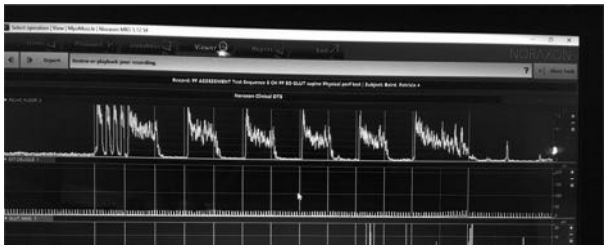
No Luck?

- Refer to a Pelvic PT!

Pelvic Physical Therapy

- Pelvic floor musculoskeletal examination
  - How are the PFMs functioning?
- Treatment
  - PFM re-training, education and awareness, bowel and bladder log and analysis, advice re: medication management, perineal sEMG , ultrasound imaging biofeedback, internal rectal balloon sensitivity training, neuromuscular reeducation, NMES, myofascial release, visceral mobilization, coccyx mobilization…..
  - Archambault-Ezenwa L 2015, Rao 2016, vanWunnik BPW 2011,Prichard 2018

Biofeedback training



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Maintain relaxation

- During sEMG perineal biofeedback training for constipation, the therapist asks the patient to "bulge" the PFM or "push out" like passing gas.
- During this activity, the EMG readings of the patient's pelvic floor should **show no activity or decreased activity**

Q7

Find a Pelvic PT

- SOWH PT Locator
- Pelvic Guru
- Herman-Wallace

Questions?

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