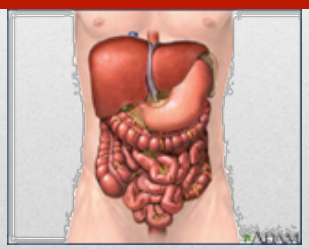
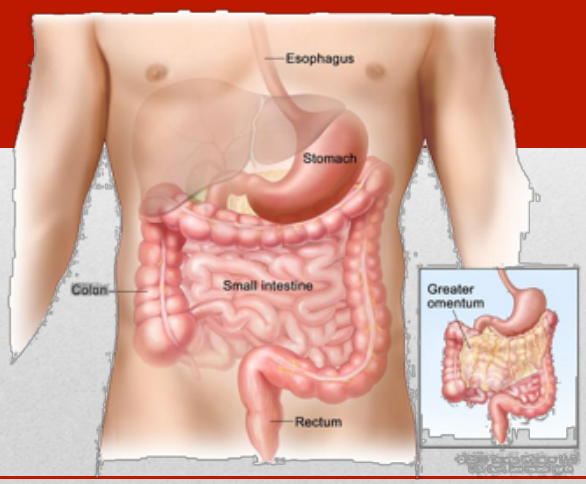
Module 22

Gastrointestinal and Genitourinary Conditions
Acute and Emergent Presentations



CANADIAN HEALTH CARE AGENCY
EXPERIENCE THE NORTH

ADULT GASTROINTESTINAL



- Assessment
  - History and Review of Systems
  - Physical exam
- Common Conditions
  - Gall bladder disease
  - Cholecystitis
- Emergency Conditions
  - Acute abdominal pain
  - GI bleeds
  - Pancreatitis
- See Appendix A for urolithiasis, OA, and incontinence

Objectives

Medical History:

- Gastro-oesophageal Reflux Disease
- Gastric/duodenal disease (gastric ulcers, diabetic gastroparesis, etc.)
- Gallbladder disease

Family History

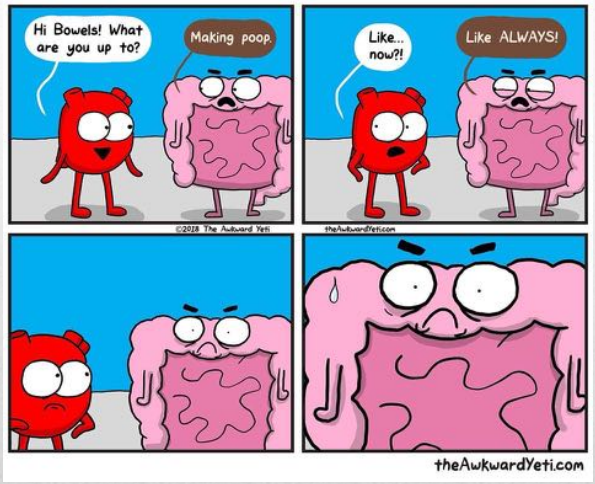
- Alcoholism
- Family contact with gastroenteritis
- Metabolic, cardiac, renal disease history

Personal and Social History

- Alcohol use
- Smoking
- Caffeine intake
- Diet

History

- Nausea and vomiting (frequency, amount, presence of bile)
- Bowel habits
- Jaundice
- Dysphagia
- Other symptoms: fever, malaise, headache, dehydration



Review of Systems

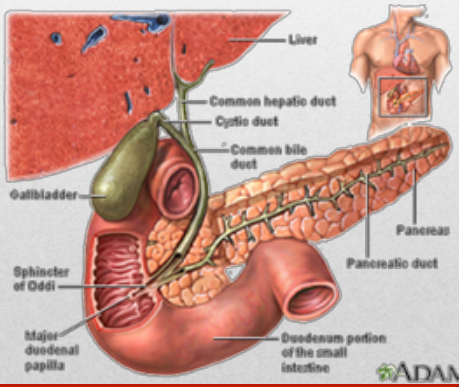
- Vital signs
- Abdominal inspection
  - Contour, symmetry, dilation of veins
- Auscultation
  - Presence, character, frequency of bowel sounds; presence of bruits
- Percussion
  - From resonant to dull areas
- Palpation
  - Tenderness, muscle guarding, rigidity
- Examine for jaundice and spider nevi
- Rectal
- Cardiopulmonary
  - Heart sounds, lungs, peripheral pulses

Physical Examination

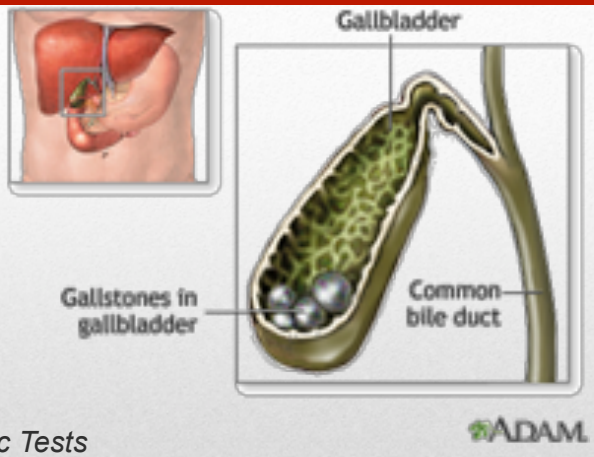
Causes
- Cholelithiasis
- Biliary colic
- Choledocholithiasis
- Cholecystitis
- Cholangitis

Physical Findings
- Tachycardia , hypotension and fever with cholangitis

Differential Diagnoses
- Appendicitis
- Acute bowel obstruction
- Ascending cholangitis
- Cholelithiasis



Gallbladder Disease



Diagnostic Tests
- CBC with differential liver function tests levels

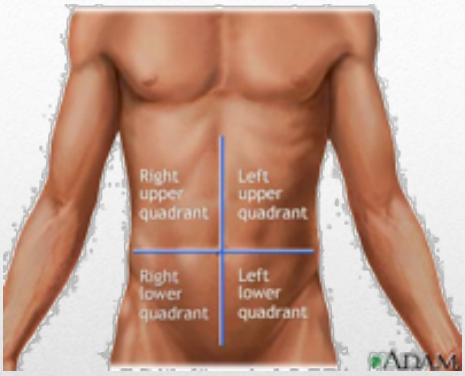
Pharmacologic Management
- NSAIDS for pain relief

Gallbladder Disease

Management

- IV therapy with normal saline
- Pain control
  - Ketorolac 30 mg IM q6h as needed (maximum 120 mg/24 hours)
- Antiemetics to relieve nausea
  - Dimenhydrinate (Gravol), 25–50 mg IM q4–6h
- Antibiotics
  - Cefazolin 1 g IV every 8 hours OR ampicillin 2 g IV every 6 hours AND metronidazole (Flagyl), 500 mg IV q12h

Cholecystitis or Cholangitis



Causes

- Appendicitis
- Gynecologic problems
- Pyelonephritis
- Peptic ulcer

Physical Examination

- Vital signs
- Inspection (contour, symmetry, location of pain)
- Auscultation
- High pitched bowel sounds – obstructive process
- Low pitched bowel sounds – ileus, obstruction
- Palpation and Percussion
- Muscle rigidity, localized tenderness, obturator sign

Acute Abdominal Pain

Differential Diagnoses

Diagnosis	Usual Location of Pain	Comments
Hepatitis, subphrenic abscess, hepatic abscess, neoplasm	RUQ; may radiate to right shoulder	Elevated liver enzymes, jaundice
Cholecystitis, cholelithiasis, cholangitis	RUQ, mid-epigastric region; radiates to back and right scapula	Sudden onset with associated nausea and/or vomiting; elderly may have minimal or no associated pain; fever with cholangitis
Pancreatitis, neoplasm	Mid-epigastric region; radiates to back	May have signs of peritonitis, nausea and vomiting, increased pain with any oral intake with pancreatitis
Duodenal ulcer or gastric ulcer	Mid-epigastric region, LUQ; radiation to back if posterior ulcer; peritoneal signs with perforation	Elderly may have minimal or no associated pain; overt GI bleeding or hemodynamic instability with perforation
Gastroenteritis	Generalized, may radiate	Crampy, nausea, vomiting and/or diarrhea
Constipation, obstipation, bowel obstruction; ileus	Generalized, may radiate	Abdominal distention, hyper-resonance, altered bowel function
Splenic hematoma or enlargement, rupture, infarct	LUQ	Hypotension and peritonitis if ruptured
Aortic aneurysm	Epigastric, periumbilical, especially into back flanks; may present as epigastric or back pain, flank or hip pain	May be colicky; hypotension if ruptured

Acute Abdominal Pain

Causes

Category	Upper GI Bleeding	Lower GI Bleeding
Inflammatory	Peptic ulcer disease	Diverticulitis
	Erosive gastritis	Ulcerative or Crohn's colitis
	Erosive esophagitis	Enterocolitis
	Stress ulcer	Radiation colitis
		Ischemic colitis
Anatomical	Mallory-Weiss tear*	Anal fissure*
	Meckel's diverticulum	Diverticulosis
Vascular	Esophageal, gastric, duodenal vances	Hemorrhoids*
	Angiodysplasia, telangiectasia	Angiodysplasia, telangiectasia
		Mesenteric ischemia
Tumour	Benign/malignant	Malignant or benign polyps
Systemic	Blood dyscrasias	Blood dyscrasias

GI Bleeds

Physical Findings

- Increased HR, weak pulse, rapid respirations
- Bright red blood in vomit
- Black tarry stool or stool with blood clots

Management

- Pantoprazole (Pantoloc IV), 80 mg bolus over 30 minutes then pantoprazole (Pantoloc) 8 mg/ hour IV infusion

GI Bleeds

- GERD
- Diarrhoea
- Cholecystitis
- Diverticulitis
- Appendicitis

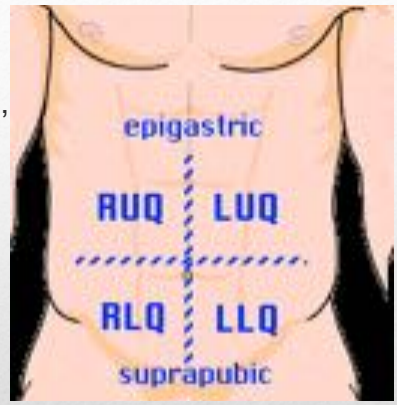
GI Differential Diagnoses

LUQ
- Gastritis, pancreatitis, MI, LLL, Pneumonia

RUQ
- Cholecystitis, acute hepatitis

LLQ
- Diverticulitis, constipation,

RLQ
- Appendicitis, ectopic pregnancy, ovarian cyst



Assessment - Quadrants

Etiology:
- Reduction of LS Tone
- Irritation of Mucosa, delayed gastric emptying

Cardinal Symptom:
- Post Prandial Pyrosis

Gastro-Esophageal Reflux Disease (GERD)

- Reduce Acid
- Diet Changes, increase head of bed,
- Trial of H_2 Receptor antagonist (Ranitidine 150mg po bi)
- If no improvement, consult for Protein Pump Inhibitor (Rabeprazole 20mg OD for 4-8 week may increase to BID for 4 weeks).
- If no improvement refer or consult & reassess

Reference: TOPs Guideline (2009)

Algorithm of Management of uncomplicated GERD

Treatment

What medications can cause GERD to increase?

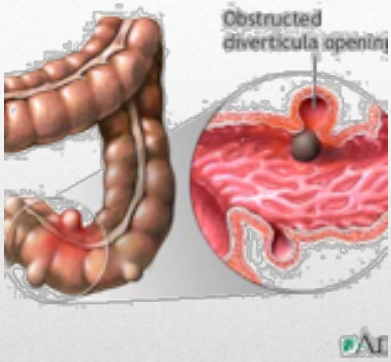
Calcium Channel Blockers

If Barrett's esophagitis is diagnosed endoscopy and biopsy is indicated to r/o cancer… how often should this be done?

1-2 years

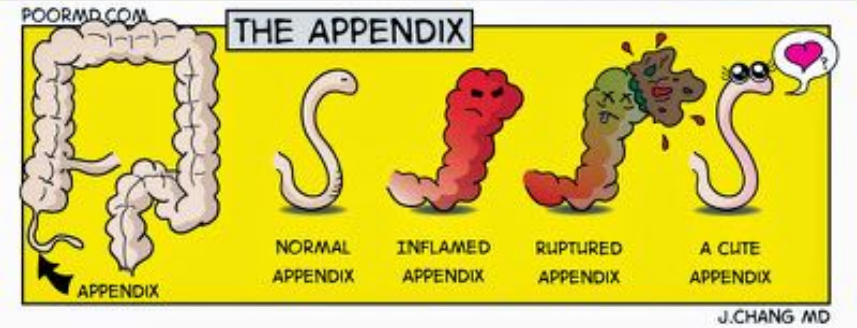
GERD

- Dx: Abd ultrasound
- Tx: Broad spectrum Antibiotics
- Increase fiber, avoid nuts
- Spasm is common, pain, diarrhea/ constipation

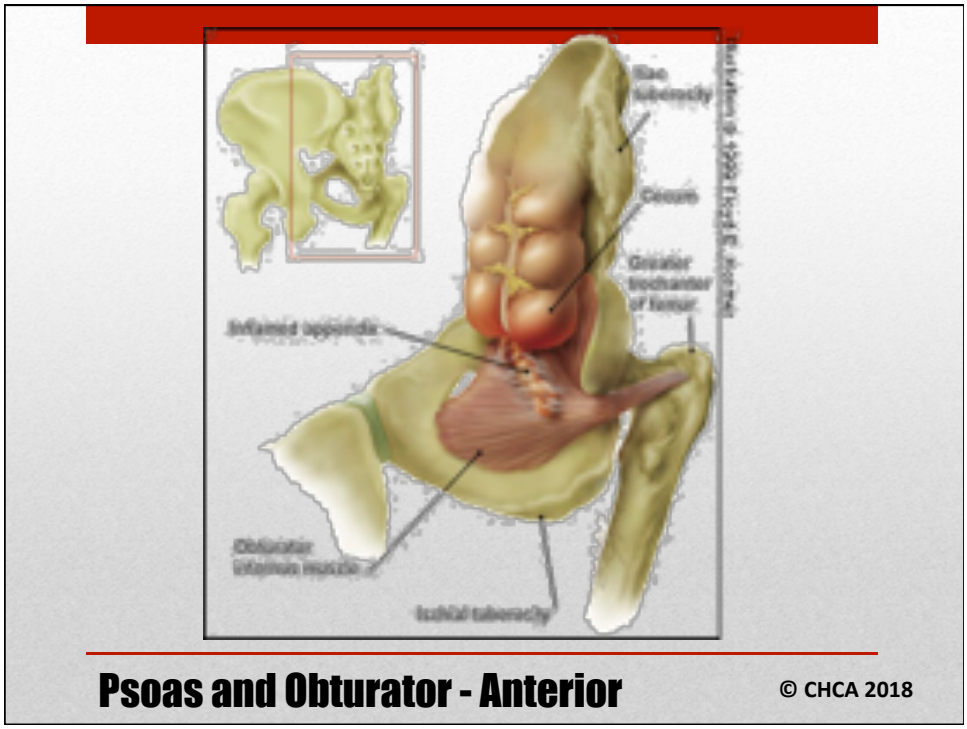


Diverticulitis

- Pain localizes at McBurney's point
- No appetite
- Signs or rupture include acute abdominal signs: guarding, rebound tenderness, board-like rigidity
- Psoas and obturator signs are positive



Acute Appendicitis


Psoas and Obturator - Anterior
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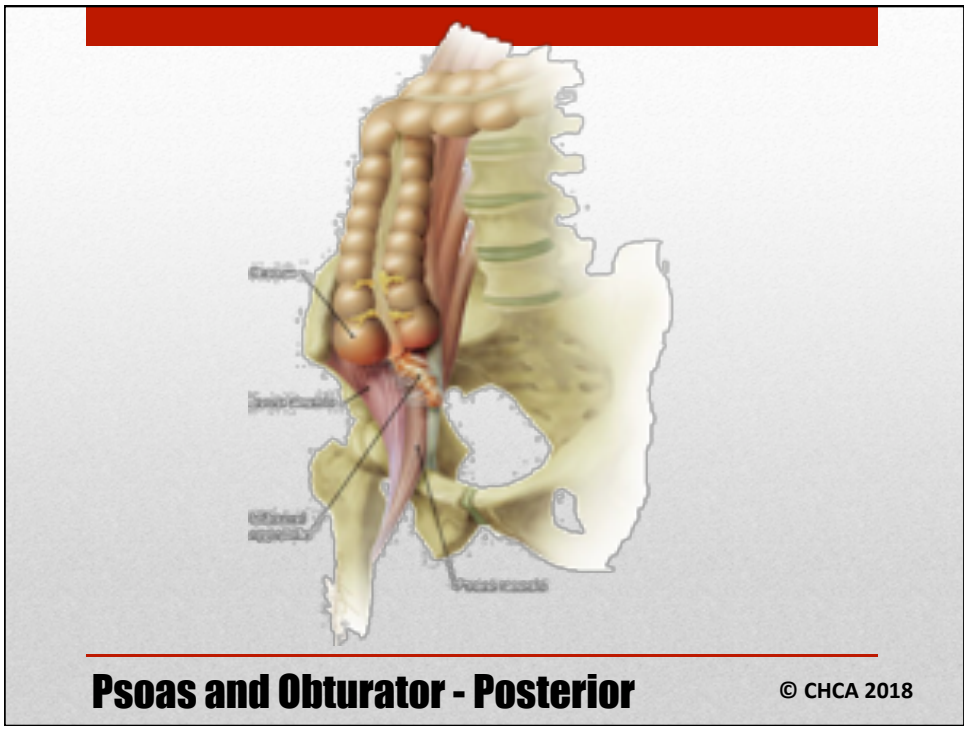
Psoas and Obturator - Posterior
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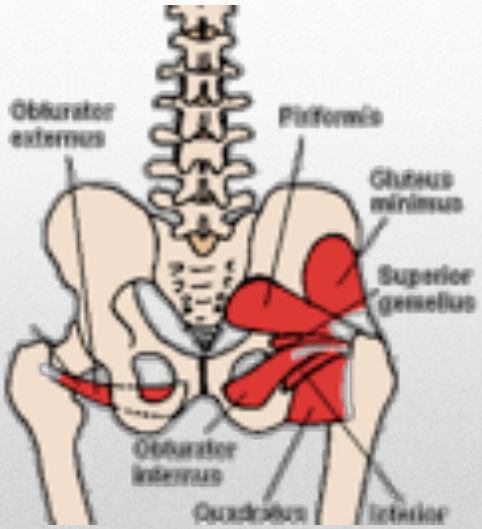
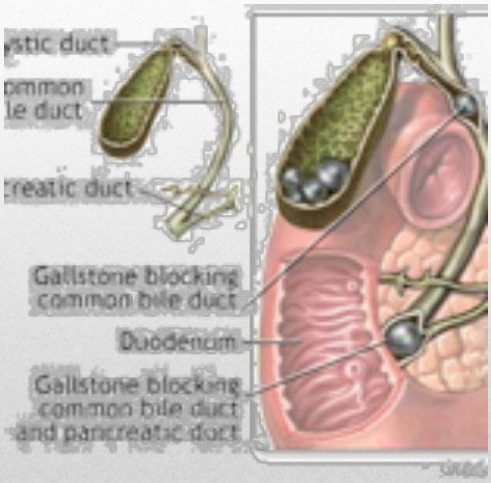
Obturator Sign:

- The patient lies on her/his back with the hip and knee both flexed at ninety degrees.
- The examiner holds the patient's ankle with one hand and knee with the other hand.
- The examiner rotates the hip by moving the patient's ankle away from the patient's body while allowing the knee to move only inward.
- This is flexion and internal rotation of the hip.



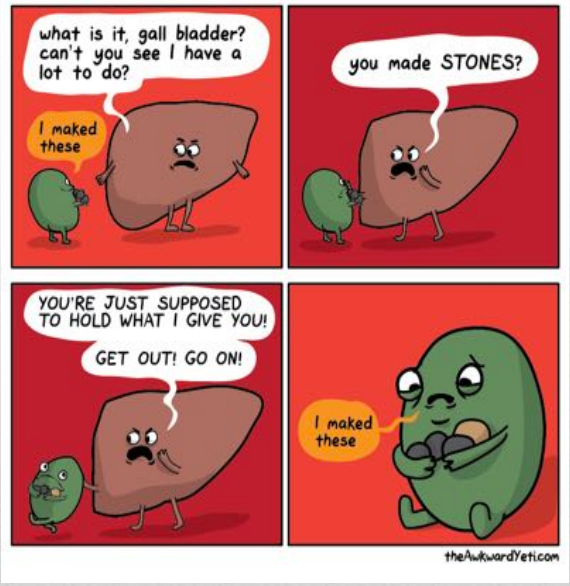
Appendicitis



- Amylase and lipase
- Bilirubin
- Complete blood count (CBC) -- may show a higher than normal white blood cell count
- Liver function tests

Acute Cholecystitis

- Marked by low grade inflammation
- Gas, nausea, discomfort post meal
- Chronic diarrhea



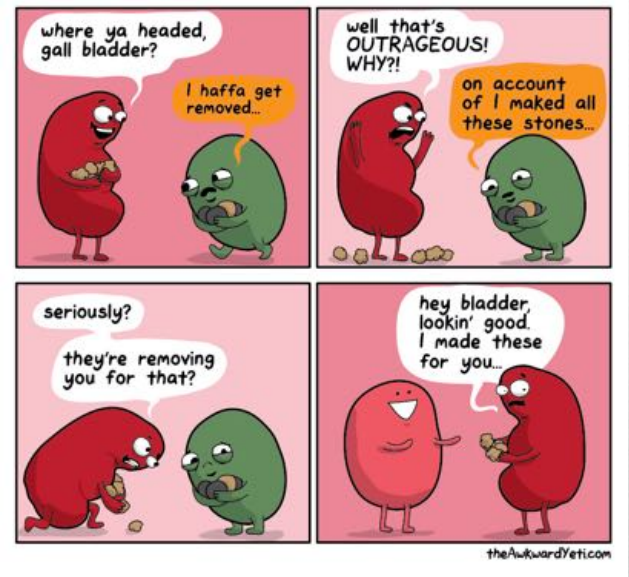
Chronic Cholecystitis

- Complicated UTIs include:
  - patients with spinal cord injury,
  - indwelling catheters,
  - obstruction or structural or functional genitourinary abnormalities
- **Causes:** E. Coli (80-90%) and Klebsiella, Pseudomonas, Group B Strep, Streptococcus, Proteus mirabilis, fungi.
- **Findings:** No Costo-vertebral (CVA) tenderness or flank pain, prostate may be enlarged, mild to moderate suprapubic tenderness, leukocytes and nitrates on urine dip.

Urinary Tract Infection

- UTI in pregnancy Tx =Macrobid 100mg PO BID x 7 days
  - **But contraindicated in women at 36-42 weeks**
  - **Increased resistance to Amoxicillin.**

Example: Pregnancy Female

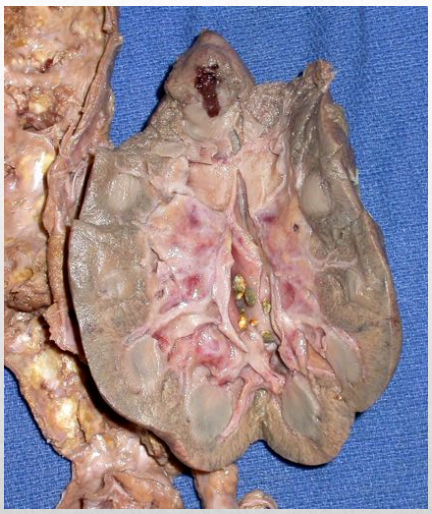


- UTI
- Nephro/ Urolithiasis
- OAB
- Urinary Incontinence
- Acute Pyelonephritis

Urology

Kidney Stones

- To prevent additional renal damage, which may lead to loss of renal parenchyma
- To manage pain associated current stone(s)
- To expedite passage or removal of any stones present
- To prevent new stones from forming.
- Management may include medical approaches, surgical interventions, and dietary modification.



Urolithiasis

- Urgency
- History
- Stress
- Physical Exam

Over Active Bladder (OAB)

- What activities bring on an incontinence episode?
- Quantify severity in pads/day
- Incontinence episodes/day
- Trips to bathroom/day
- Nocturia

History

- Voiding diary
  - Time
  - Leak with urge or activity
  - Voided volume
  - Pad or clothes change
  - +/- fluid intake

History

Pharmacotherapy

- Oxybutynin
- Tolterodine (Detrol)

Surgical therapy

- Suburethral sling
  - 75-90% satisfaction
  - Outpatient surgery
  - Limited complications

Treatment – Stress Incontinence

Pharmacotherapy

- Anticholinergic medications
  - Only modestly better than placebo
  - Costly
  - Concern about side effects
  - Non-compliance

Physical therapy/ Behavioral interventions

- weight loss, limit activity, wear pads
- modify diet and fluid intake
- biofeedback
- strategies
- pelvic floor muscle id. and strengthening
  - consistent and persistent will improve 80%

Treatment – Urgency

- Infection of the kidney involving the renal pelvis, tubules, or interstitial tissue.
- Costovertebral Angle (CVA) Tenderness
- Patient appears moderately to to acutely ill
  - **Uncomplicated**: Non pregnant female with no structural or functional abnormalities, no immuno compromise, no vomiting and no fever or sepsis
  - **Complicated:** All others
  - **Causes**: E-Coli, Enterobacter, Klebsiella, Pseudomonas, Proteus

Pyelonephritis, Acute

- Septra DS (TMP/ SMX) - 1 tabs BID po for 14 days if pathogen known
- Ciprofloxacin 500 mg po bid x 7 days

FOLLOW UP

- If no clinical improvement within 2 days.
- Investigations for renal infection or urinary obstruction

Treatment