* Describe the basic pathophysiology, clinical manifestations, management, and nursing interventions of the disease processes presented
* Explain the labs that are necessary to diagnose each disease process or procedure that is mentioned in the presentation
* Expose knowledge gained of the gastrointestinal disorders presented, through an interactive case study activity at the end of the presentation

Gastroenteritis

Also known as the stomach flu

* Pathophysiology: Inflammation of the stomach and intestines that can be caused by several things including bacteria, viruses, parasites, toxins, and drugs.
* Clinical Manifestations: Vomiting, diarrhea, stomach discomfort, fever, dehydration, nausea, and cramping.
* Monitor/Labs: you are going to want to assess the stool and note things such as Appearance, volume, frequency, and the presence or absence of blood,

Monitor pH, presence or absence of reducing substances which are sugars such as glucose, galactolose, fructose and maltose. You will need draw labs that evaluate White blood cell (WBC) count, serum WBC count, serum electrolytes, urea, creatinine, amylase, and a CBC count to understand how the loss of fluids is affecting the body and what time of fluid replacement needs to be considered. Abdominal imaging studies will show how inflamed the stomach or intestines actually is.

* Medical and Nursing Management: Oral and IV rehydration, electrolyte replacement. administering antiemetic (Zofran) and antidiarrheal agents (Immodium), BRAT Diet, (Banana, Rice, Apple sauce, and toast) They are all low fiber and help feces become more firm and the bananas help replace some electrolytes they may have been lost. Probiotics can also help relieve the symptoms of gastroenteritis because they can help suppress the harmful bacteria that have caused the illness.
* Gastroenteritis usually resolves itself within a couple days. Most people don’t see a doctor for this until they have eliminated feces or vomit that contained blood or they cannot keep any liquids down for more than 24 hours. The main treatment which was previously mentioned is preventing dehydration.

PARENTERAL NUTRITION

* Define: A method of providing nutrition to the body by peripheral or central IV route
* Clinical Indications: protein calorie malnutrition, insufficient intake, lack of ability to ingest foods, postoperative requirement, and unwilling to meet intake due to mental status (e.g. Anorexia nervosa)
* Labs and procedures: Weights, intake, output, blood glucose, CBC, platelet count, chemistry panel, 24hr urine nitrogen test which just measures the amount of urea in the unine.
* Parenteral Formula: Complex admixture containing proteins, carbohydrates, fats, electrolytes, vitamins, trace minerals, sterile water
* Administration Methods: Nontunneled central catheters (Short term), peripheral inserted central catheters (PICC) (1-12 weeks), tunneled central catheters (Months to years), implanted ports(2-6 years). The nontunneled catheter is usually inserted into the internal jugular or subclavian and protrudes externally so it increases the risk for infection. Also because it is placed over the lungs, the nurse must monitor for pneumothorax. The implanted ports actually have the lowest risk for infection.
* Discontinuing Parenteral Nutrition: Gradually to allow patient to adjust to decreased glucose.

Appendicitis

* **Pathophysiology**: Significant obstruction of the appendix by a fecal matter, a tumor, or any foreign body that increases intraluminal pressure and causes the appendix to fill with puss
* **Clinical Manifestations:** progressively severe pain that becomes localized to the right lower quadrant of the abdomen which is usually accompanied by fever, nausea, vomiting, tenderness, and loss of appetite
* Labs and Assessment: Check Rovsing’s sign (when palpating left lower quadrant pain in felt in the right lower quadrant) and McBurney’s point, you will want to get a CBC, X-Ray, abdominal ultrasound, and laparoscopy to diagnose appendicitis.
* **Medical Management:** Immediate surgery to correct or prevent fluid and electrolyte imbalance, dehydration, and sepsis. Also, antibiotic prophylaxis will be used before every appendectomy to prevent infection in case the appendix was to rupture.
* **Nursing Interventions:** prepare for surgery, begin IV infusion and administration of the antibiotics. One the patient is out of surgery the nurse will encourage Fowler’s position to avoid discomfort the the incision and administer an opioid such as Vicodin or morphine sulfate to relieve pain.

Peritonitis

* **Pathophysiology:** Inflammation of the peritoneum caused by leakage of contents from abdominal organs into the abdominal cavity as a result of inflammation, infection, ischemia, trauma, or tumor perforation.
* **Clinical Manifestations:** constant and localized pain, with a tender and distended abdomen. It will be accompanied by nausea, vomiting, fever, increased WBC, decreased HCT and Hgb would be seen when the peritonitis was caused from trauma and it was blood leaking into the abdominal cavity. Rebound tenderness and paralytic ileus may also be present.
* **Lab Test and Procedures:** ABG’s, CBC, X-ray, CT Scan, and Culture studies of the fluid obtained from the peritoneal
* **Medical Management:** Fluid, colloid and electrolyte replacement, analgesics for pain, antiemetic for nausea and vomiting, NG tube with an XRAY to ensure proper placement, antibiotics therapy, and possible surgery to remove infection with potential fecal diversion.
* **Nursing Management:** Monitor BP, pain, IV fluid response, GI functioning, and bladder pressure. Enforce side-lying position for the patient with knees flexed to avoid muscle use, and provide oxygen therapy for respiratory distress

Inflamatory Bowel Disease

Chrons Disease

* **Pathophysiology:** subacute and chronic inflammation of the GI tract wall.
* **Manifestations:** Unrelieved LRQ abdominal pain, cramps, tenderness, and spasms. Weight loss and malnutrition frequently occur. Abscess, fistulas, and fissures are common.
* **Labs and Procedures:** Proctosigmoidoscopy which is just an internal examination of the bowl, stool examination, barium study, x-ray, endoscopy, colonoscopy, intestinal biopsies, barium enema, CT scan, ABG’s, and a CBC.
* Complications: Intestinal obstruction, perianal disease, fluid and electrolyte imbalances, malnutrition, fistula and abscess formation. Also increases the risk of colon cancer therefore you need to educate your patients on the importance of getting tested.

Ulcerative Colitis

* **Pathophysiology:** superficial mucosa of the colon and rectum is affected and results in multiple ulcerations, diffuse inflammations, and desquamation or shedding of the colonic epithelium.
* **Manifestations:** Diarrhea, LLQ pain, intermittent tenesmus which is just a fancy word for strainging to defecate. Then you may also see rectal bleeding, hypocalcemia, anemia, tachycardia, hypertension, fever, and pallor.
* **Labs and Procedures:** CBC, occult stool test, X-ray, sigmoidoscopy, colonoscopy, barium enema, CT, MRI, Ultrasound, ABG’s, and a stool examination to test for Cdiff because its very common with ulcerative colitis.
* Complications: Toxic megacolon (life threating widening of the colon), perforation, bleeding, vascular engorgement, and highly vascular granulation tissue. Also, patients have an increased risk of osteoporosis fractures and decreased bone density.

With this condition, patients have long periods of well being that are interrupted with short periods of the illness therefore,

* Medical Management: aimed at reducing inflammation, suppressing inappropriate immune responses, providing rest for a diseased bowel, and preventing or minimizing complications.
  + Oral fluids, high protein, high calorie diet with supplemental vitamins and iron replacement are prescribed to these patients.
  + 30% of patients require surgery and the surgery used to Remove the affected are of the bowel is Laparoscopic-guide strictureplasty
* Nursing Management- Manage IV therapy and medications prescribed by the doctor to control electrolyte imbalances and promote a better quality of life. Administer sedatives, antidiarrheal, antiperistalsis to allow the inflamed bowel to rest. the aminosalicylates such as sulfasalazine are typically used to prevent reoccurrence of the inflammation. Corticosteroids (prednisone), and immunomodulators may also be passed to the patient to try and alter the immune response.
  + Prepare patient for surgery and provide wound care for the incision if the condition cannot be controlled with medications.

Acute Pancreatitis

* **Pathophysiology**: inflammation of the pancreas due to the pancreatic duct becoming obstructed and releasing excess trypsin. This can lead to vasodilation, inflammation, increased vascular permeability, necrosis erosion, and hemorrhage. This is Typically seen with patients who abuse alcohol.
* **Clinical Manifestations**: Midepigastrium pain, abdominal distention, decreased peristalsis, nausea, vomiting, fever, jaundice, hypotension, tachycardia, cyanosis, increased WBC, fluid and electrolyte imbalances, shock, and respiratory distress.
* **Labs and Procedures**: Serum amylase and lipase levels will be elevated and blood will need to be drawn for a CBC. Ultrasounds and CT scans can be used to visually diagnose the condition.
* Medical Management: managed toward relieving symptoms and presenting complications. Pain management, IV fluids to maintain intravascular volume, and antibiotic therapy if appropriate.
* Nursing Management: it will be the nurses job to Relieve pain and discomfort, improve breathing pattern, nutritional status, skin integrity and monitoring and managing potential complications. The nurse will also be coordinating home and community based care and educating the patient on nutritional changes. The may also need a referral to Alcoholics Anonymous or another type of rehabilitation therapy