- weight loss
- transcutaneous electrical nerve stimulator
- NSAIDS
- antispasmodic
- Narcotics for short-term use
- epidural steroid injection
Surgical:
- Laparoscopic diskectomy
- hemilaminectomy
- total disk replacement arthroplasty
HIV and age Correct answer- - Can live beyond 50 years, but survival decreases after 45 yrs, unless tested.
- Antiretroviral meds are approved for younger than 50yrs, so older pt's need close monitoring
HIV etiology Correct answer- Africa/ Asia: heterosexually acquired
Western nations: men who have sex with men, iv drug user, congenital spread
Pathophysiology of HIV Correct answer- - HIV infects cells with CD4 receptor (macrophages, Tcells). Acute infection (high viral load) then latent (lower viral load). When CD4 is less than 200 AIDS and viral load increases again, this immunodeficiency
- HIV is chronic and prgressive:
HIV - acute retroviral syndrome, symptoms Correct answer- fever, chills
fatigue
diffuse erythematous rash
HIV test may be negative, based on how long since infection
HIV viral load increased, CD4 within normal range
HIV - latent phase Correct answer- - asymptomatic
- may have persistent lymphadenopathy
- HIV load and CD4 can variable (ultimately HIV load high, CD4 low)
Symptomatic HIV disease Correct answer- Symptoms: fever, chills, diarrhea, weight loss
- infections: candidiasis/ thrush (oral, mucocutaneous, vaginal), shingles (herpes zoster), frequent bacterial infections
AIDS, definition and diagnosis Correct answer- acquired immune deficiency syndrome
CD4 low, below 500 and infection with opportunistic organism
Or:
CD4 below 200
Common oppertunistic organism in AIDS Correct answer- Pneumocystis jiroveci
Cryptosporidium
Candida albicans
Advanced HIV infection: definition, symptoms, prognosis Correct answer- CD4 below 50
Wasting, fevers, fatigue
Poor
HIV serologic testing Correct answer- - ELISA: test for antibodies, requires seroconversion (neg to pos) which happens 3wks to 6mo after infection
- Rapid test: fast but not as sensitive as ELISA
- Confirmatory HIV test: Western blot test (HIV antibody test), used after pos with ELISA
HIV prevention Correct answer- - Condoms
- Male circumcision
- Pre-exposure prophylaxis (PrEP), for MSM sexually active men, adult iv drug users,

women with HIV pos partner who try to conceive. Give Tenofir with Emtricitabine
- Post exopsure prophylaxis (PEP), 28 day course of 3 drugs, emtricitabine, tenofovir, raltegravir
LABS for HIV + people Correct answer- CD4 count (viral load)
HIV RNA level
WBC (neutropenia, lymphopenia)
CBC (anemia)
LFT's (^liver enzymes)/ Hep A, B, C screening
TB test
Resistance testing for RX\Syphilis testing
Pap smear
xr chest
Initiation of Antiretroviral therapy (ART) Correct answer- - Start for all asymptomatic HIV infected patients to reduce viral load and risk of disease progression. Also for HIV+ peope to for prevention of transmission.
- Start for every symptomatic patient regardless of CD4count or viral load
- Pt's should understand regimen, risks, benefits and importance of adherence before commencing,
- Should be managed by HIV/ AIDS specialist
Antiretroviral therapy (ART) Correct answer- - Combination therapy, 3 or more from different drug classes
- Follow up with HIV viral load determination at 4 - 6 wks after initiation and then every 3 - 6 mo.
- Adherence is vital
- always assess drug- drug interactions/ medication reconciliation
- May make changes when CD4 exceeds evidence level
- check GFR/ creat/ BUN monthly for elderly on Tenofovir
- If deteriorating on ART (decline in CD4) then perform drug resistance testing and revision of ART
Prophylaxis against opportunistic infections - HIV Correct answer- - TB: Isoniazid with Pyridoxine
- Pneumocystis jiroveci (sudden rapid decline CD4): Trimethoprim- sulfamethoxazole neb. Stop if CD4 above 300
- Toxoplasmosis: when CD4 less than 100. Trimethoprim- sulfamethoxazole plus pyrimethamine. Dc if CD4 above 200.
- Mycobacterium avium. Cd4 below 50. Zithromax or clarithromycin
Recommended vaccines for HIV Correct answer- - Hep B, if Hep B antigen neg
- Inactivated flu vaccine (assess viral load and do not give live vaccine)
- Hep A, liver disease risk, iv drug use, MSM
- Pneumococcal vaccine
- Tdap (instead of Td)
- Varcella Zoster for elderly
Test for HIV with following infections Correct answer- - candidiasis of esophagus/ trachea/ bronchi/ lungs
- extrapulm cryptococcus
- invasive cervical ca
- cryptosporidiosis with diarrhea
- CMV
- Herpes simplex lasting longer than 1mo

such as alcoholism or medication. No fibrosis (scarring of liver which can lead to cirrhosis).
Obesity, DM, dyslipidemia risk factors
Serum aminotransferase and CT/ MRI for initial screening
Liver biopsy: hepatic inflammation or fibrosis?
- Lifestyle changes: weight loss, exercises
- Medications:
Vit E (for non DM)
- Bariatric surgery
- May require transplant, if liver cirrhosis
Diagnose NASH Correct answer- Obese people!
ALT higher than AST
Diagnosis of exclusion
NAFLD (non-alcoholic fatty liver disease) fibrosis score Correct answer- less than 1.455: no fibrosis
greater than 0.676: advanced fibrosis
Primary biliary cirrhosis: what, etiology, findings, management Correct answerAutoimmune disease
From environment and genetics
LFT's up
Immunoglobulins present
Pos Antimitochondrial antibodies
Hyperbilirubinemia
Ursodiol
May require liver transplant
Diagnosing primary biliary cirrhosis Correct answer- Common in middle aged women, causes fatigue and itching.
Tired, itching woman
Positive anti mitochondrial antibodies (liver biopsy)
Alk phos elevated
Portal granumolas (intrahepatic biliary ducts destruction)
Increased cholesterol
Bilirubin up late in disease
Diagnosing Primary sclerosing cholangitis Correct answer- Intra en extra hepatic flow is blocked.
Associated with ulcerative colitis
Fibrosis of biliary duct seen on cholangiography)
Alk Phos elevated
Total bili elevated
Primary sclerosing cholangitis: what, etiology, findings, management Correct answerChronic cholestatic (bileflow from liver is blocked) liver disease: inflammation and fibrosis of bile ducts in and out of liver, bile strictures. Often leads to cirrhosis.
Often asymptomatic
Often also have Crohn's or ulcerative colitis
Gold standard: endoscopic cholangiopancreatography or MRI
Open biliary obstruction with endoscopy
May need liver transplant
Hereditary Hemochromatosis: what, etiology, findings, management Correct answerInappropriate absorption of dietary iron, that can lead to cirrhosis, hepatocellular ca, diabetes, heart disease

Caucasian/ Northern European/ Celtic
Elevated iron ferritin
Hemochromatosis gene detection
Iron overload? Then phlebotomy with goal of ferritin 50 - 100
No Vit C and iron
No dietary restrictions
Family screening
Diagnose hemochromatosis Correct answer- Men (women don't store iron because they have periods)
ALT and AST equally elevated
Ferritin level will be very high
Bronze diabetes: pituitary problems, CHF, diabetes (diabetes with a bronze look)
diagnose wilson's disease Correct answer- Young, movement disorder and psychiatric disease.
Kayser-Fleisher rings in eyes
Increased ALT and AST
Low cerumplasmin (copper sucked up)
Diagnose alpha1 -antitrypsin deficiency Correct answer- COPD (later in life, while early smoker), asthma
Pas + granules in liver
alpha1 antitrypsin level pos
Alcoholic liver disease: etiology, findings, management Correct answer- Most common cause of cirrhosis
Women twice as sensitive to alcohol toxicity then men
Binge drinking
High mortality rate
Diagnosis on report of alcohol intake, evidence of liver disease, lab abnormalities
AST and ALT often higher than 2
Score for mortality: Maddreys' score
- Abstinence
- MDF score greater than 32: prednisone for 4 wks
- May require liver transplant
Wilson's: what, etiology, findings, management Correct answer- Familial autosomal recessive disease with neurological symptoms, by chronic liver disease, leading to cirrhosis. can be lethal. Caused by a lack of a certain gene that causes diminished excretion of copper into bile. Thus copper injury.
Any pt between 3 and 55 with liver disease without clear cause.
Abnormal aminotransferase
Ceruloplasmin low (less than 50)
24-hr uriary copper: copper greater than 40.
Liver biopsy to measure copper
high bilirubin to alkaline phosphatase ratio greater than 2
D-penicillamine, initial ansd maintenance
Zinc, blocks absorption of copper
Avoid food and water with copper
May need liver transplant when cirrhosis is present
Family screening
Fulminant liver failure/ acute liver failure: what, etiology Correct answer- - sudden impairment of liver cell function

Large bowel obstruction: management Correct answer- Fluid resuscitation
AB's
NG for vomiting
Surgery. Surgical emergency for closed loop obstruction, bowel ischemia, volvulus
Mesenteric ischemia: what, etiology Correct answer- Not enough O2 and nutrients to intestine, due to thrombus or no physical occlusion
- Acute arterial occlusion, from embolism or thrombus (older than 60)
- mesenteric venous thrombosis (younger than 50)
- Non-occlusiev (CHF, aortic stenosis, shock)
Mesenteric ischemia: findings/ diagnostics Correct answer- - severe cramping and abd pain
- possible rectal bleeding
- Hypotension/ abd distention with infarction
Leukocytosis
Lactic acidosis (with infarction)
Duplex US: bowel spasm and fluid filled intestinal lumen
CT angio: emboli, thrombus
CT abd: acute mesenteric ischemia
Mesenteric ischemia: management Correct answer- Occlusive:
NPO
Embolectomy
Fluids
TPN
Non-occlusive:
Correct hypovolemia
Treat underlying cause
Vasopressors: dopamine, dobutamine
NG
AB for peritonitis
Pain control
Esophageal varices: what, etiology Correct answer- Submucosal veins that can results in GI bleeding when rupturing. 60% mortality.
- Cirrhosis
- Portal hypertension
- aspirin / NSAID
Esophageal varices: Findings/ diagnostics Correct answer- Hematemesis
melena
abd pain
Hypovolemic shock
Gold standard: EGD
CBC: hgb wnl then low because volume resuscitation
prolonged PT and PTT
Hypokalemia
Hyponatremia
Hyperglycemia
Lactic acidosis
Esophageal varices: management Correct answer- - LR/ NS till blood transfusion
- Blood transfusion
- NPO

- Octreotide, bolus then continuous
- Emergent endoscopy
Prevention of re-bleeding:
- Follow up endoscopy (screening endoscopy when cirrhosis)
- TIPS (stent)
Upper GI bleed: what, etiology Correct answer- Bleed between upper esophagus and duodenum
Peptic ulcer disease
esophageal varices
Cancer
Upper GI bleed: findings/ diagnostics Correct answer- - Abd pain
- Hematemesis
- melena
- Hypovolemic shock
- pale
- bloody NG aspirate
- low Hgb, though not clear representation
- Blood transfusion: RBC and plasma and vit K for elevated INR. platelets for low platelets.
- check ECG to make sure not arrhythmic due to anemia
- endoscopy: diagnostic and therapeutic
- IV PPI (protonix)
- surgery of two endoscopy's have failed
- TIPS (stent)
- AB prophylaxis
Lower GI bleed: what, etiology Correct answer- Bleeding in small intestine or colon
- divericulosis
- cancer
- IBD
- anorectal blood loss
- ischemic colitis
Lower GI bleed: findings/ diagnostics Correct answer- - Hematochezia (blood from anus)
- melena
- pallor
- shock
- hypotension
- NG - rules out UGI
- anemia
- fecal occult blood test
- sigmoidscopy/ colonoscopy
Lower GI bleed: management Correct answer- -Resuscitate hemodynamically unstable: blood transfusion
- dc aspirin and NSAIDS
- IV cont PPI (Protonix)
Peptic ulcer disease: what, types, etiology, risk factors Correct answer- Chronic disorder with lifelong tendency to develop mucosal ulcers at sites exposed to peptic juice (acid and pepsin). Gastric ulcer: loss of surface epithelium.
- Duodenal ulcers: most common, Peak incidence: 30-35yrs, in first portion of