Hyperlipidemia
An increase of cholesterol of above 240 mg/dl and triglyceride level above 150 mg/dl

They are not water souluable and must be bound to lipid containing protiens (lipoproteins)

HDL: good cholesterol, from peripheral cells to the liver to be metabolized protects against heart disease.

LDL: bad cholesterol

Risk Factors for heart disease
Gender: men older than 45, women after menopause

Family History: father brother before 55, mother/sister before 65

Controllable risk factors
Diet: saturated fat and cholesterols increase ldI

Weight: obeisity can increase LDL and decrease HDL

Physical activity: decreased physical activity increases LDL and decreases HDL

The main goal of an anti hyperlipidemia drug is to decrease LDL levels to also lower the risk of heart disease. Initially you may be asked to make therapeutic lifestyle changes before being placed on a drug regamin to get you to target LDL of 130 mg/dl.
**HMG-COA Reductase inhibitors**

**MOA:** typically referred to as statin drugs, an enzyme that acts as a catalyst to produce cholesterol. By inhibiting the enzyme we can decrease the serum levels of LDL or Triglycerides.

**Uses:** Treatment of hyperlipidemia, prevention of coronary events, secondary prevention of cardiovascular events.

**Common Adverse Reactions:** usually well tolerated. Headache, dizziness, insomnia, memory and cognitive impairment. Flatulence, abdominal cramping, abdominal pain, hyperglycemia in non-diabetic patients.

**Contraindications:** hypersensitivity, serious liver disorders, and during pregnancy.

**Precaution:** hx of alcohol abuse, non-alcohol related liver disease, acute infection, hypotension, trauma, endocrine disorders, myopathy, visual disturbances.

**NURSING ALERT**

Rosuvastatin is linked to muscle toxicity when given in high doses. This includes patients taking cyclosporines, Asian patients, and severe renal insufficiency, a 5mg start dose is available to see tolerance.

**Interactions**

**Macrolides:** increased risk of myopathy and rhabdomyosis (clindamycin, erythromycin)

**Amidrone:** increased risk of myopathy

**Niacin:** increased risk of myopathy and rhabdomyosis

**Protease inhibitors:** elevated plasma levels of statins

**Verapamil:** increased risk of myopathy

**Warfarin:** increased anti-coagulant effect
**HMG-COA Reductase inhibitors**

**Atrovastatin**: Lipitor  
**Uses**: reduce risk of coronary heart disease, hyperlipidemia, familial hypercholesterolemia  
**Adverse Reactions**: Sinus itis, headache, diarrhea

**Pravastatin**: pravachol  
**Uses**: Reduce risk of CHD, hyperlipidemia, familial hypercholesterolemia  
**Adverse Reactions**: Localized pain, cold symptoms, N.V.D headache

**Rosuvastatin**: Crestor  
**Uses**: Hyperlipidemia  
**Adverse Reactions**: Headache

**Simvastatin**: Zocor  
**Uses**: Reduce risk of CHD, hyperlipidemia, familial hypercholesterolemia  
**Adverse Reactions**: constipation
**Bile Acid Resins**

Bile is secreted by the liver and stored in the gallbladder, emulsified fats and lipids as they proceed through the intestines. Bile acts as resin to from non adorable substance when bound together (poop) with increase loss of bile acids cholesterol decreases

**Uses:** hyperlipidemia, puritis associated with partial biliary obstruction

**Adverse Reactions:** constipation, aggravation of hemorrhoids, increased bleeding due to loss of vitamin K and Vitamin A and D.

**Contraindications:** hypersensitivity, complete bile obstruction

**Precaution:** Liver and kidney disease, pregnancy and lactation

**INTERACTIONS**

**Anticoagulants:** Increased effect of anticoagulant

**Thyroid hormone:** Loss of efficaci of thyroid, hypothyroidism

**Fat solvable vitaimines (K A D E) and folic acid:** reduced absorption of vitamins

**Cholestyramine:** Prevalite

**Bile Acid Resin**

**Uses:** hyperlipidemia, puritis from partial biliary obstruction

**Adverse Reactions:** constipation, exacerbation of hemorrhoid, abdominal pain/di stention, cramping, nausea, bleeding r/t malabsorption of Vit. K A D E.
Fabric Acid Derivatives

A.K.A fibrates, and work more than one way.

Fenofibrate reduces LDL and catabolizes triglyceride rich proteins and lower the serum triglyceride level.

Gemfibrozil: increases the cholesterol excretion in the feces and reduces the production of triglycerides. Used to treat people with very high serum triglycerides who are at risk for abdominal pain and pancreatitis

ADVERSE REACTIONS
Nausea, vomiting, GI upset, cholelithiasis (if found PCP may discontinue the drug)

Contraindications
Hypersensitivity, significant renal or hepatic impairment, or primary biliary cirrhosis

Precautions
Pregnancy, lactation, peptic ulcer diseases, diabetes

INTERACTIONS
Anticoagulants: Enhanced effect of anticoagulant
Cyclosporine: Decreased effect of cyclosporine
Hmg-coa reductase: Increased risk of rhabdomyolysis
Sulfonylureas: Increase hypoglycemic effects.
Fabric acid derivatives

Fenofibrate: Tricor, triglide, antara, lipofen
Uses: hyperlipidemia, hypertriglyceridemia
Adverse Reactions: abnormal liver fx test, respiratory problems, abdominal pain

Gemfibrozil: loped
Uses: Reduced risk CHD, hypertriglyceridemia
Adverse Reactions: dyspepsia, abdominal pain, fatigue N.V.D

Misc. preparation.

Niacin lowers blood lipid levels. Ezetimibe inhibits the abs portion of cholesterol in the small intestine leading to a decrease in cholesterol in the liver

Uses: NIACIN is used as an adjunct to lower very high Triglyceride levels Ezetimibe is used in combinations with other antihyperlipiemics.

Adverse reactions: nausea vomiting, abdominal pain, diarrhea. Severe flushing sensation of tingling warmth, severe itching

Contraindication
Hypersensitivity, peptic ulcers, hepatic dysfunction, arterial bleeding,

Precaution
Alcohol consumption, pregnancy, lactation, hepatic/ renal dysfunction, unstable angina and gout
Pregnant women should not use ezetimbe.

Misc. Prep Drugs

Niacin: niaspan, niacor
Uses: Adjunct tmt for hyperlipidemia
Adverse Reactions: generalized flushing, severe tingling/itching nausea vomiting abdominal pain.

Ezetimbe: Zetia
Uses: primary cholesterolemia
Adverse reactions: Diarrhea, sinusitis, back pain, abdominal pain, arthralgia, coughing, fatigue,

Combo preps

Niacin/lovastatin: advisor
Uses: primary hypercholesterolemia
Adverse reactions: see individual drugs

Ezetimbe/simvastatin: vyotrin
Uses: Primary/ familial hypercholesterolemia
Adverse Reactions: see individual drugs

Niacin/simvastatin: simcor
Uses: hyperlipidemia / hypertriglyceridemia
Adverse reactions: see individual drugs