

# Bile Acid Binding Agents (BABA)

Increase elimination of bile acids, drawing more cholesterol out of liver.

## Cholestyramine

**PK Issues:** VERY high dose needed  
Alternate to statins during pregnancy

**Toxicity:** GI - dyspepsia, diarrhea, constipation, bloating, flatulence

• Reduces absorption of other drugs  
(take other 1hr before or 3 after)

# NIACIN = Vitamin B3

**MOA1:** inhibit diacylglycerol acetyltransferase and the synthesis of TGs in liver.

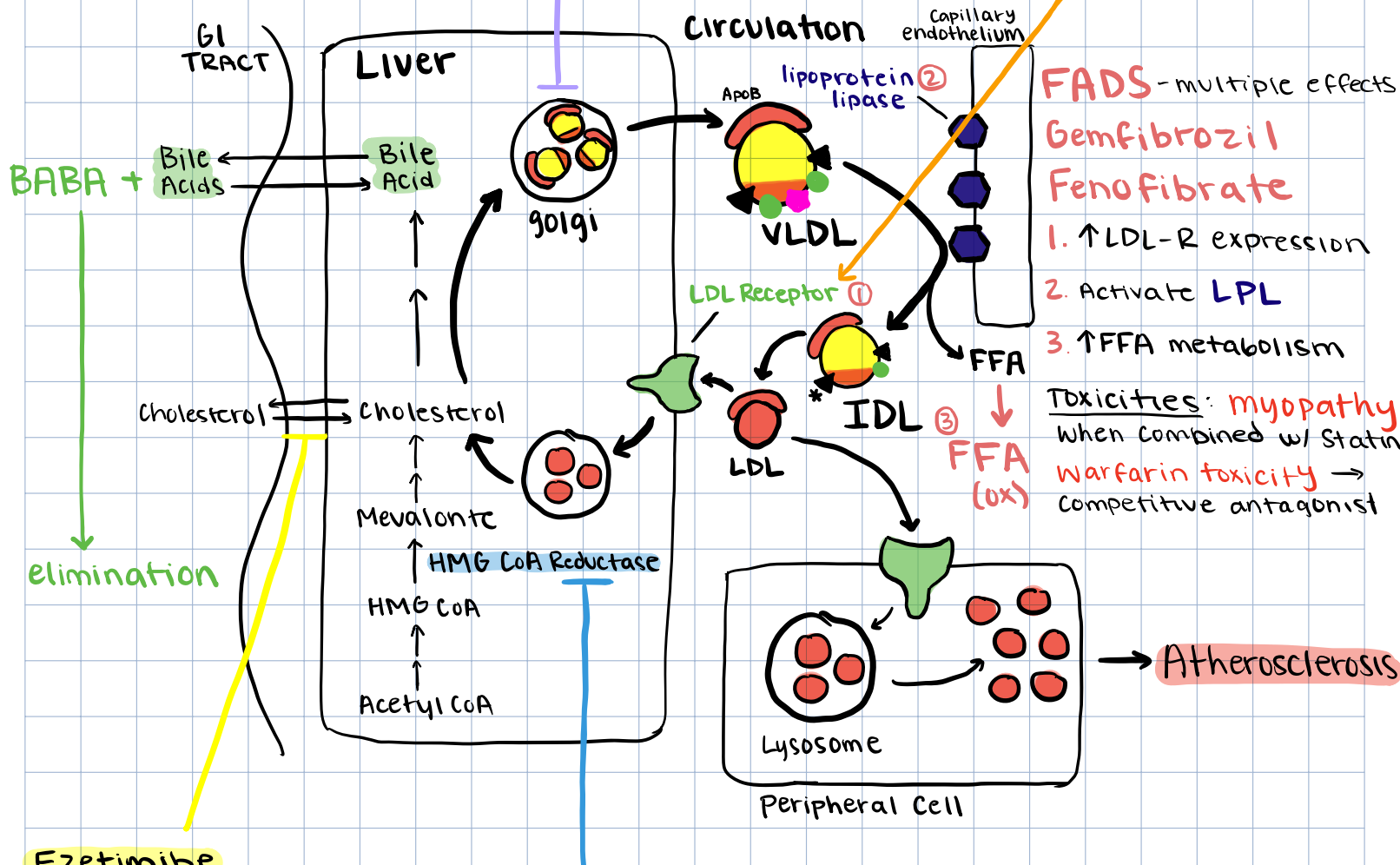
**MOA2:** inhibition of TG synthesis slows release of LDL and VLDL from hepatocytes.

**Toxicities:** pruritis, insulin resistance, hepatotoxicity

# Alirocumab

**PCSK9 inhibitors** promote the uptake of cholesterol into the liver

• PCSK9 induces LDL-R degradation  
• biweekly injection



**FADS** - multiple effects

**Gemfibrozil**  
**Fenofibrate**

1. ↑ LDL-R expression
2. Activate LPL
3. ↑ FFA metabolism

**Toxicities:** myopathy  
When combined w/ Statin  
warfarin toxicity → competitive antagonist

## Ezetimibe

**MOA:** blocks absorption of cholesterol from the intestines

• also stimulates LDL-R expression

**Target:** NPC1 cholesterol receptor

**STATINS** - HMG CoA Reductase inhibitors block the synthesis of cholesterol and increase LDL uptake.

• Liver compensates by increasing LDL-R expression.

- high intensity
- Atorvastatin
  - Rosuvastatin
  - Simvastatin
  - Pravastatin
  - Lovastatin

- Cardioprotective benefits:
- ↑ NO production → vasorelaxation
  - Stabilize plaques → ↓ thrombosis risk
  - reduce inflammation in atherogenesis
  - ↓ platelet activation and VTE risk

**Pregnancy category X**

**Toxicities:** hepatotoxicity, myopathy, drug interactions

CYP3A4 inhibitors inhibit metabolism

• amlodipine (just sim-, ator-, lo-)

Usually combined  
inhibit absorption + inhibit synthesis

# SUMMARY

	Statins	BABAs	Niacin	FADs	Ezetimibe	PCSK9 in.
↓ LDL	↓ ↓	↓	↓	↓ ↑	↓	↓ ↓ ↓
↓ TG	↓ ↓	—	↓ ↓	↓ ↓	—	—
↑ HDL	—	↑	↑ ↑	↑	—	—

↓ LDL 40-60%

↓ LDL 60%