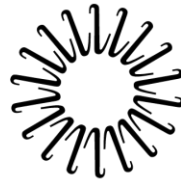


Cardiac Medications



Lifespan Cardiovascular Institute

**Rhode Island Hospital • The Miriam Hospital
Newport Hospital**

Delivering health with care.®

**Center For Cardiac Fitness
Cardiac Rehab Program
The Miriam Hospital**

Four Major Groupings

- Anti-anginals/hypertensives
 - Beta blockers
 - Calcium channel blockers
 - Nitrates
 - ACE/ARB
- Cholesterol
 - Statins
 - Fibrates
 - Binders, absorption blockers

Four Major Groupings

- Anti-coagulants
 - Coumadin
 - Lovenox
- Anti-platelets
 - Aspirin
 - Clopidogrel (Plavix[®]), Ticlopidine (Ticlid[®])
 - Prasugrel (Effient[®])

Beta-blockers

- OL's
 - Metoprolol, atenolol, timolol, propranolol, carvedilol, bisoprolol, nebivolol
 - Slows heart rate
 - Decreases blood pressure
 - Relaxes blood vessel wall
 - Can sometimes cause fatigue, memory loss, sexual dysfunction, depressed mood

Calcium Channel Blockers

- Three major types
- Affect heart rate or blood pressure or both
- Verapamil (Verelan[®], Calan[®])
 - Primarily decreases heart rate
- Nifedipine (Procardia[®], Norvasc[®])
 - Primarily decreases BP – relaxes blood vessels
- Diltiazem (Cardizem[®], Cartia[®], Tiazac[®])
 - A little bit of both

Nitrates

- Dilate blood vessels
- Increase blood flow to heart
- Decrease workload to the heart
- Many delivery forms
 - Patches
 - Pills
 - Long acting
 - Short acting
 - Ultra-short
- Tolerance

ACE/ARB's

- ACE (-prils)
 - Lisinopril, Captopril, Enalapril
 - Decrease blood pressure
 - Kidney protective in diabetics
 - Cough is a common side effect
- ARB (-sartan)
 - Valsartan (Diovan[®]), Losartan (Cozaar[®]), Telmisartan (Micardis[®]), Irbesartan (Avapro[®]), Candesartan (Atacand[®])
 - Similar action/benefits
 - Fewer side effects (less or no cough)

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 - Fibrates/binders
 - Absorption blockers, niacin

Statins

- Lovastatin (Mevacor[®]), Pravastatin (Pravachol[®]), Simvastatin (Zocor[®]), Atorvastatin (Lipitor[®]), Rosuvastatin (Crestor[®])
- Block metabolism of cholesterol into LDL
- 20-50% decrease in LDL
- No major effect in HDL
- Side effects – muscle aches, liver enzymes

Fibrates

- Gemfibrozil, Clofibrate
- Lowers triglycerides
- Modest effect on LDL
- Raises HDL (good cholesterol)
- Not recommended for use with statins (increase side effect of statins)

Resin Binders

- Colestipol
- Binds cholesterol from the gut
- Excrete cholesterol in stool
- Less effective than statins
- Usually no positive HDL effect
- GI side effects – cramping, gas

Absorption blockers, Niacin

- Ezetimibe (Zetia[®])
 - Absorption blocker
 - Combination with statins very effective
 - Vytorin – Zocor +Zetia
- Niacin (or niaspan – long-acting)
 - Need Rx – health food solution less effective
 - Lowers LDL, Raises HDL
 - Flushing and decreased BP
 - Aspirin prevents this

Anticoagulation

- “Blood thinners”
- Multiple pathways
 - Platelets (aspirin, plavix, prasugrel)
 - Clotting protein cascade (coumadin, dabigatran, apixaban)
- Intervention based on type of risk
 - Acute
 - “Chronic”

Acute Clot

- Immediate – heart attack
 - Heparin
 - Anti-platelet medications
- Long term after acute event
 - Anti-platelet drugs – How long?
 - Aspirin (81 vs 325 mg)
 - Clopidogrel (Plavix®)
 - Ticlopidine (Ticlid®)
 - Prasugrel (Effient®)

Chronic Clot

- Blood pooling
 - Atrial fibrillation
 - Anterior wall heart attack
 - Deep vein clot
 - Valvular surgery
 - Blood clot in lung
- Warfarin (Coumadin[®])
- Apixaban (Eliquis[®]), Dabigatran (Pradaxa[®])

Warfarin (Coumadin[®])

- Consistency is the key
- Diet, alcohol, medications
 - Leafy green vegetables (Vitamin K)
 - Metabolized in Liver
 - Antibiotics
 - Acetaminophen (Tylenol[®])

Warfarin (Coumadin[®])

- Monitoring
 - INR
 - Same time/same lab
 - Frequency depending on prior dose and result
- Administering
 - Take same time of day
 - Late in day to allow adjustment on days you check bloodwork

Dabigatran, Apixaban

- Apixaban (Eliquis®), Dabigatran (Pradaxa®)
- Novel anticoagulants
- No blood draws
- No dietary restrictions
- Depends on kidney function
- Not proven in mechanical valves