

# Cardiac Medications

*Information in these slides is used with  
permission from St. Mary's Cardiac Rehab*

# Background Info



- Know your meds and why you are taking them!

....

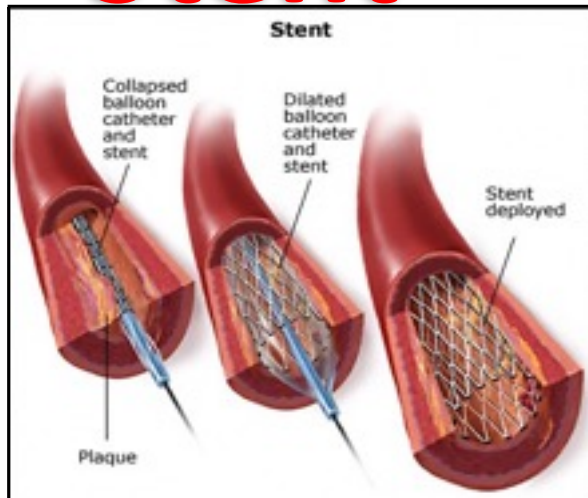
- Keep a record of all medications you are taking

- Prescription & Over-the-counter medications
- Vitamins & Herbal medicines and remedies

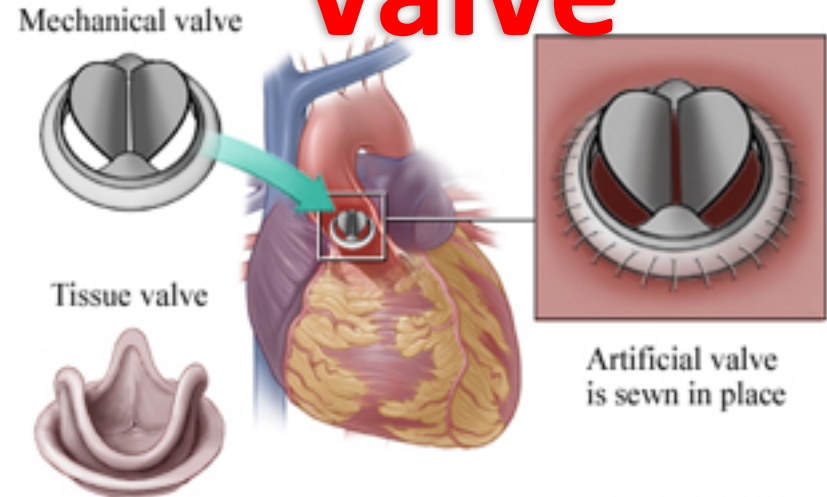


- Use the same pharmacy for consistency
- Return unused medications to your pharmacy

# Stent

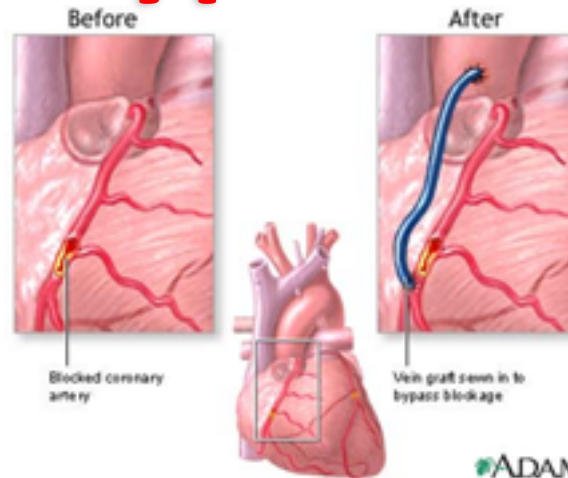


# Valve



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# Bypass



ADAM

# Preventing CLOTS (antiplatelet)

## ASA (ASPIRIN) & Clopidogrel (PLAVIX)

Proven to reduce the risk of heart attack & stroke

Clopidogrel may be used:

- If patient can not tolerate ASA due to side effects or allergy
- After stent placement (for 12 months) in combination with ASA

Side Effects:

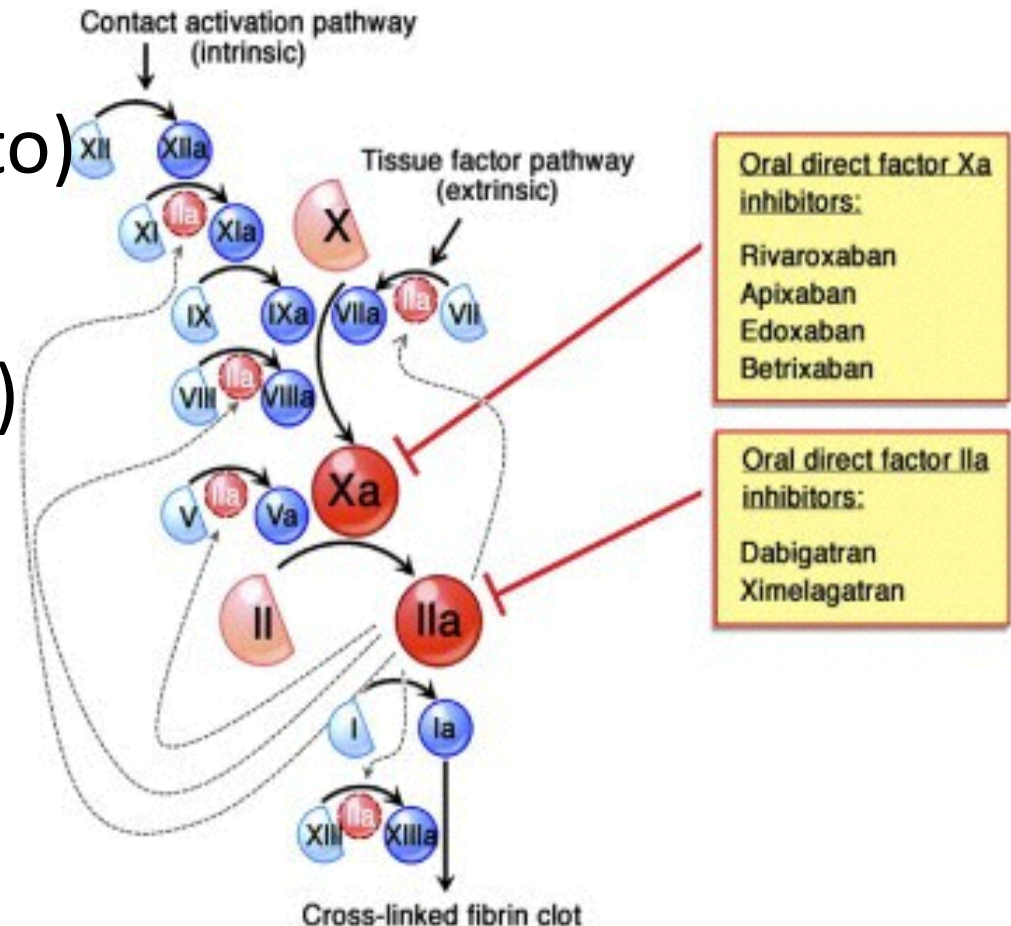
- Bruising, Minor bleeding
- Stomach upset
  - Irritation to stomach lining
  - Recommend using an enteric coated tablet to minimize risk of adverse effect example: EC ASA 325 or 81 mg tablets.
- Black tarry stools (stomach ulcer)

# Warfarin (anticoagulant)

- used in Atrial fibrillation or valve replacements
- Lengthens the time for blood to clot
- **Interactions with:**
  - Vitamin K in diet
  - Ginkgo biloba, St.John's wort, Ginseng( ↑ ↓ ), Dong guai, Danshen, Chondroitin.
  - Co-enzyme Q10
    - Interact with warfarin effect, reducing its effectiveness.

# Newer Oral Anticoagulants

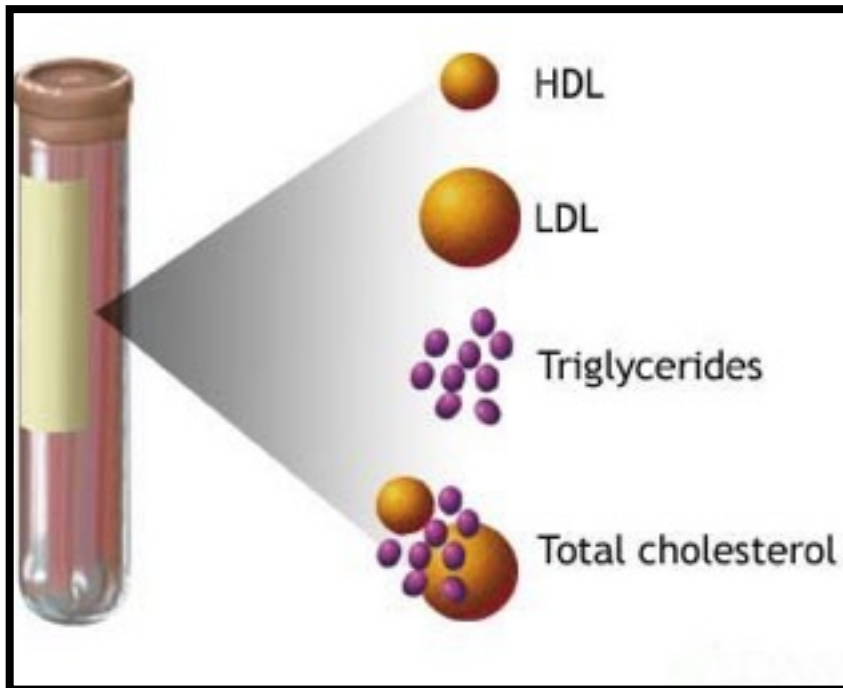
- Rivaroxaban (Xarelto)
- Apixaban (Eliquis)
- Dabigatran (Pradax)



# Cholesterol

## Know your target

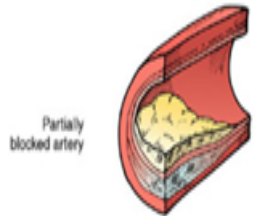
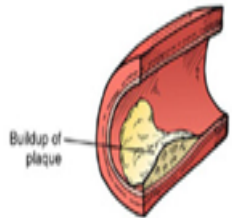
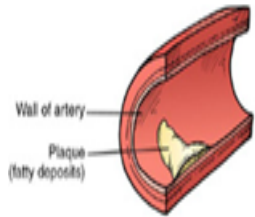
- LDL targets are seem to always be going lower – less than 2 mmol/L !



- **HDL:** more than 1.1 mmol/L (good cholesterol)
- **LDL:** less than 2 mmol/L (bad cholesterol)
- **Triglycerides:** less than 1.7mmol/L (storage-form of fat)
- **Total cholesterol/HDL ratio:** less than 4 mmol/L

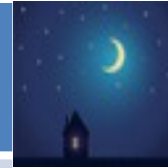
# Cholesterol Lowering Agents cont.

Plaque Buildup in Arteries

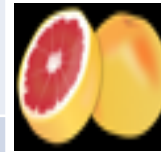


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|                     |                  |
|---------------------|------------------|
| <b>Lovastatin</b>   | <b>MEVACOR</b>   |
| <b>Atorvastatin</b> | <b>LIPITOR</b>   |
| <b>Pravastatin</b>  | <b>PRAVACHOL</b> |
| <b>Rosuvastatin</b> | <b>CRESTOR</b>   |
| <b>Fluvastatin</b>  | <b>LESCOL</b>    |
| <b>Simvastatin</b>  | <b>ZOCOR</b>     |



**Take in the evening or at bedtime**



**Grapefruit Interactions:**

**Simvastatin, Lovastatin**

(greatest effect)

Atorvastatin

**Pravastatin, Rosuvastatin**

(unaffected)



**Adverse Effects:**

Gastrointestinal, Dizziness

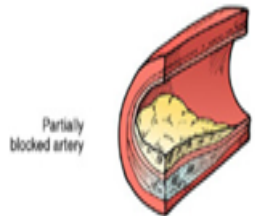
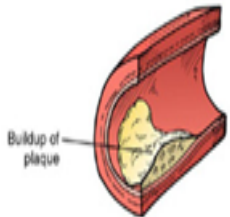
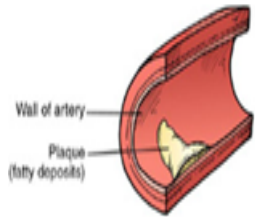
Muscle Pain (see your doctor if last 4-5 days)

Increased Liver Enzymes



# Cholesterol Lowering Agents cont.

Plaque Buildup in Arteries



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| <b>FIBRATES</b>      |              |
|----------------------|--------------|
| Fenofibrate          | Gemfibrozil  |
| <b>Gemfibrozil</b>   | <b>Lopid</b> |
| <b>MISCELLANEOUS</b> |              |
| Ezetimibe            | Ezetrol      |
| Orlistat             | Xenical      |

Can be used in combination with statins.

**FIBRATES:**

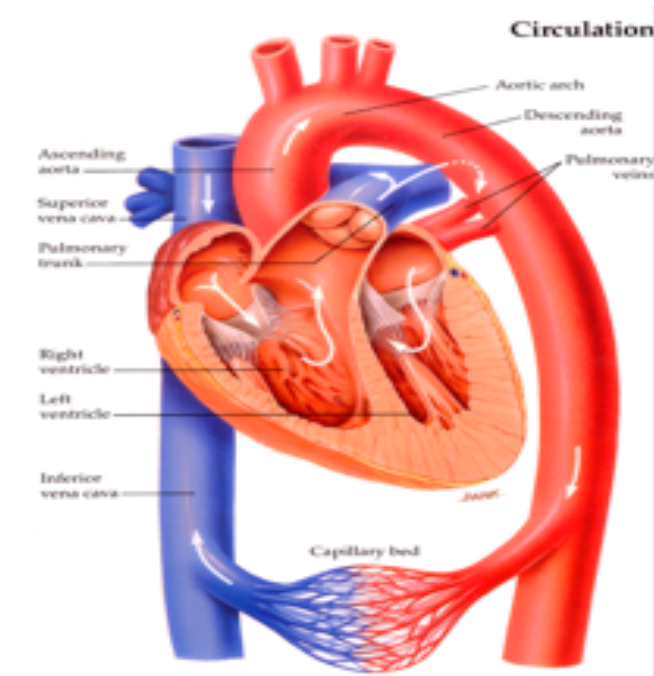
Main use is to lower triglycerides and total cholesterol

**Adverse Effects:**

- Gastrointestinal, Dizziness
- Muscle Pain (see your doctor if last 4-5 days)
- Increased Liver Enzymes

Orlistat: oily stools

# Blood Pressure Medications



## ACE Inhibitors

- Ramipril, enalapril, perindopril, cilazapril
- ↓ BP & workload of heart
- Protect diabetic kidneys
- **Cardioprotective**

## Adverse Effects

- Cough reported in 1-10 % of patients (dry, continuous)
- Metallic or sour taste
- Rash or throat swelling are likely allergic reactions – please report these adverse effects.
- Low blood pressure
  - Be careful when getting up from a sitting or lying position.
  - If experiencing dizzy spells throughout the day, ask about taking your ACE I at bedtime.

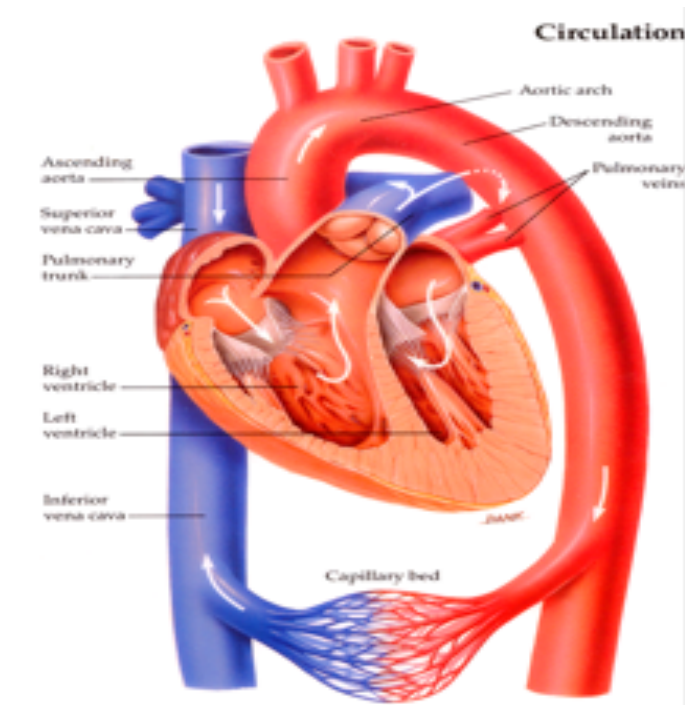
# Blood Pressure Medications

## Angiotension Receptor Blockers

- Valsartan, Candesartan, Irbesartan
- ↓ BP & workload of heart

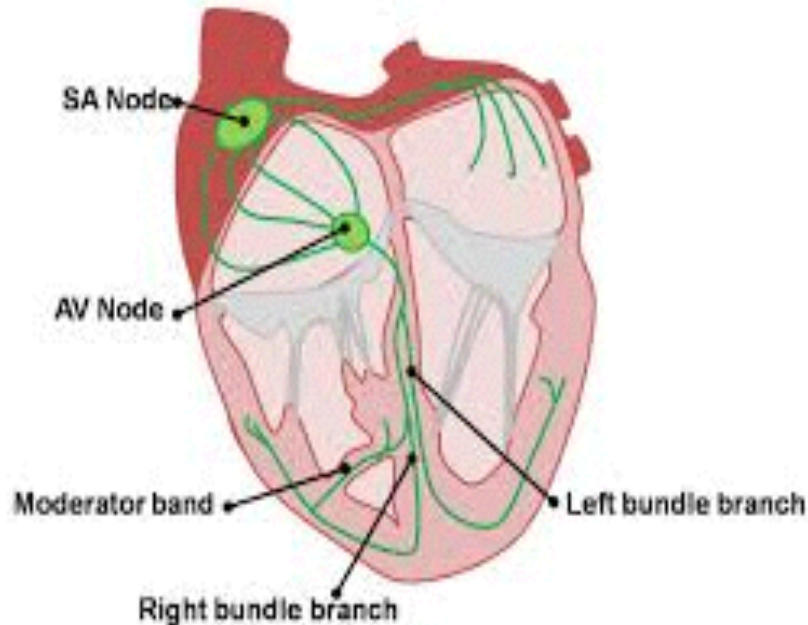
## Adverse Effects

- Low blood pressure
  - Be careful when getting up from a sitting or lying position.
  - If experiencing dizzy spells throughout the day, ask about taking your ACE I at bedtime.



# Beta-Blockers(selective)

Cardiac Conduction System



**Metoprolol, Bisoprolol,  
Carvedilol**

↓ Heart Rate, BP & Workload of heart  
Used in Hypertension, Angina, Heart  
Failure & irregular Heart Rates

**Cardioprotective**

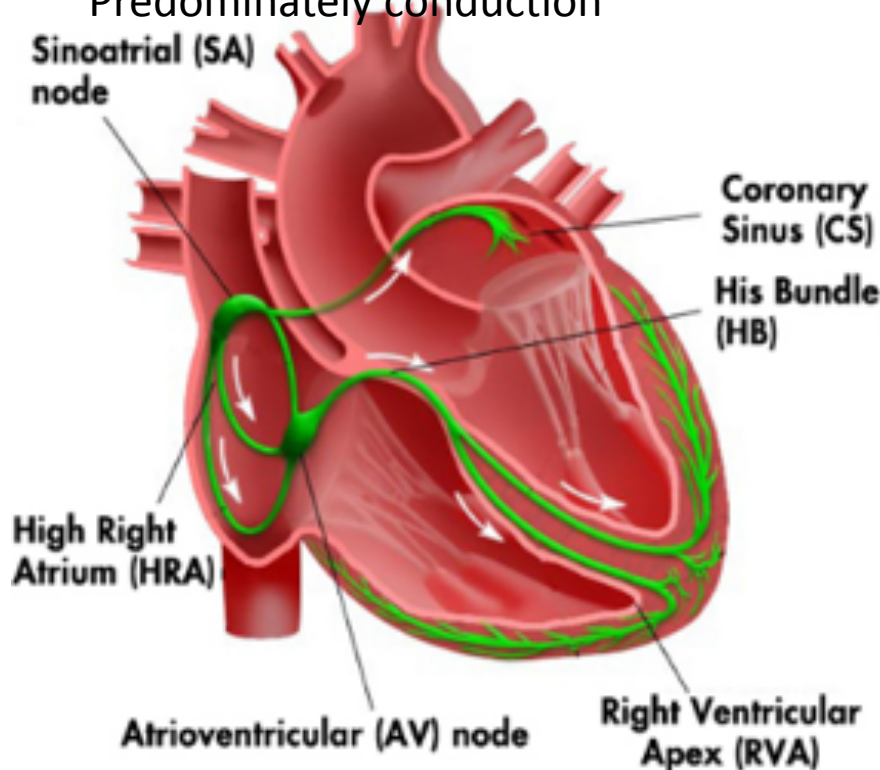
**Adverse Effects**

- Tiredness, fatigue
- Nausea, vomiting
- Stomach upset
- May worsen asthma or COPD
- May mask signs and symptoms of low blood sugar levels

# Calcium Channel Blockers

## Verapamil

Predominately conduction



## Diltiazem

(Cardizem/Tiazac)

## Adverse Effects

Dizziness  
Tiredness, fatigue  
Peripheral edema

**Grapefruit juice** interactions with felodipine, nifedipine, verapamil

## Amlodipine

(Norvasc)

## Nifedipine

(Adalat)

# Nitrates

Nitroglycerin

Patch, Sublingual  
Tabs  
Spray, IV

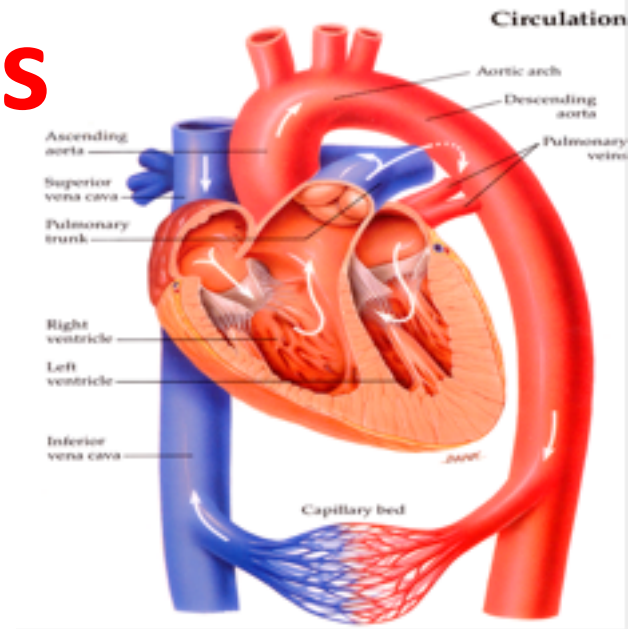
## Nitroglycerin

- dilates blood vessels.  
Increases blood flow to heart and  
lowers the heart's workload.

Relieves angina quickly if taken under the  
tongue.

Nitroglycerin patches help prevent angina  
(chest pain)

After bypass surgery, nitroglycerin  
patches are used for 4-6 months  
to protect the artery taken from the arm  
(prevents it from closing)



## ADVERSE EFFECTS

Headache (alleviate with Tylenol)  
Dizziness, Flushing

Inform physician if on  
VIAGRA, LEVITRA, CIALIS  
may further lower blood  
pressure in addition to the  
nitroglycerin's blood pressure  
lowering effect (fainting)

# Nitroglycerin Spray & Angina

1. Sit down. Spray 1 spray nitro under tongue. Hold Saliva in mouth then swallow
1. Wait 5 min.  
If still pain, repeat nitro.
2. If after 3 doses, still have pain, come to ER.
  - The spray may need to be primed by pushing button away from you for at least one spray.



# Diuretics

| Furosemide                         | LASIX   |
|------------------------------------|---|
| Hydrochlorothiazide<br>(HCT, HCTZ) | HYDRODIURIL<br>DYAZIDE<br>(combo)<br>MODURET<br>(combo) |
| Spironolactone                     | ALDACTONE   |
| Metolazone                         | ZAROXYLN  |

Decrease the amount of water in the body by increasing urine output.

## Uses:

1. High blood pressure
2. Symptoms of congestive heart failure.

## **ADVERSE EFFECTS**

Plan bathroom breaks!

May need to take a potassium supplement.

Low potassium

Muscle weakness, cramps.



# Cardiac Medications Summary



- Aspirin (ASA) and Anti-clotting
  - prevents clotting and thins blood
- Beta blockers
  - lowers blood pressure
- ACE inhibitors
  - Blood pressure & protects kidney
- Statins
  - lowers blood cholesterol
- Nitroglycerin
  - opens blood vessels



# Cough & Cold Season

- Avoid pseudoephedrine (SUDAFED) based products (some contain as much as 120 mg)
- Nasal decongestants can cause rebound congestion
- **Double-check all OTC selections** with pharmacist

