

## NCLEX Notes Week 8: Cardiovascular Medications

<b><u>Anticoagulants</u></b> Used to prevent the formation of clots	<b><u>Side Effects</u></b> <ul style="list-style-type: none"><li>• Hemorrhage</li><li>• Hematuria</li><li>• Epistaxis</li><li>• Ecchymosis</li><li>• Bleeding Gums</li><li>• Hypotension</li></ul>
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<b><u>Heparin</u></b> is used to prevent blood clots from forming in people who have certain medical conditions or who are undergoing certain medical procedures that increase the chance that clots will form.	<b><u>Side Effects</u></b> <ul style="list-style-type: none"><li>• easy bleeding</li><li>• Bruising</li><li>• Pain</li><li>• Redness and warmth</li><li>• bluish-colored skin</li></ul>
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### Blood Levels

- **aPTT:** 30 to 40 seconds
- **aPPT with Heparin:** 1.5 to 2.5 times the normal value
- **INR:** 0.81 to 1.2

### Interventions for anticoagulants

- Monitor aPPT
- Monitor platelet count
- Observes for signs of bleeding like bruises, hematuria, hematemesis, etc.

### Thrombolytic Medications

- Helps to dissolve clots

### Side Effects

- Bleeding
- Dysrhythmia
- Allergic Reactions

## **Interventions**

- Determine aPPT, PT, fibrinogen level, and hematocrit and platelet count
- Monitor Vitals
- Monitor pulses
- Monitor for bleeding and check all excretions for occult blood

## **Antihypertensives**

- Angiotensin-Converting Enzyme (ACE) Inhibitors
- Angiotensin II Receptor Blockers (ARB)
- Calcium Channel Blockers
- Alpha Adrenergic Blockers
- Centrally Acting Alpha Agonists
  - Clonidine (NO MAOIs)
- Beta-Adrenergic Blockers
- Vasodilators
- Nitrates are strongly contradicted with Viagra and Cialis

## **Angiotensin-Converting Enzyme (ACE) Inhibitors**

- Used in the treatment of hypertension and heart failure
- end in -pril
  - Ex. captopril, enalapril, lisinopril
- Side Effects
  - dry hacky cough
  - hypotension

## **Angiotensin II Receptor Blockers (ARB)**

- Used in the treatment of hypertension and heart failure
- end in “artan”
  - Ex. Losartan, Valsartan
- Side Effects

## **Calcium Channel Blockers**

- decreased blood pressure
- They are **Very Nice Drugs** - Verapamil, Nifedipine, Diltiazem
  - Verapamil and diltiazem can be used for A-fib, A-flutter, or SVT
- Side Effects
  - Constipation
  - Tachycardia
  - Edema
  - toxicity

- Interventions
  - Medication needs to be tapered off
  - Monitor heart rate and blood pressure to ensure it does not get too low

### **Alpha Adrenergic Blockers**

- peripheral arterial and venous dilation
  - Ex. Prazosin
- Side Effects
  - Dizziness
  - Syncope
- Interventions
- caution with NSAIDS
- recommend to take at bedtime

### **Alpha Agonists**

- reduce peripheral vascular resistance, heart rate, and blood pressure
  - Ex: clonidine
    - used with hypertensive crisis
- Interventions
  - Contraindicated with MAOIs.
- Side Effects
  - dry mouth
  - Drowsiness
  - black tongue
  - Leukopenia
  - Edema

### **Beta Blockers**

- decrease cardiac excitability, cardiac output, myocardial oxygen demand, lower blood pressure
- end in -olol
  - Ex. metoprolol, atenolol, labetalol
- Used in patients with...
  - hypertension
  - Angina
  - Tachydysrhythmias
  - heart failure
  - Myocardial infarction
- Contraindications
  - Bradycardia
  - Asthma
- Side Effects
  - Bradycardia
  - AV Block
  - bronchospasm

## **Vasodilators**

- vasodilation of arteries and veins, used in hypertensive emergencies, increase cardiac output and decreases blood pressure, decreases heart rate, ensure heart rate before giving the medication
  - Ex. Nitroglycerin, Nitroprusside, Hydralazine
- Side Effects
  - Headache
  - ortho hypotension.

## **Antiplatelet Medications**

- Inhibit platelets in the clotting process

## **Side Effects**

- Bruising
- Hematuria
- Gastrointestinal bleeding
- Tarry Stools

## **Cardiac glycosides – DIGOXIN**

### **Antianginal Medications**

- Antidysrhythmic Agents
  - The 3 A's
    - Adenosine
      - I go to the dentist and my heart rate goes up (Used for ventricular tachycardia)
      - heart stops
      - decreased the heart rate
      - Use to treat SVT
        - IV administration give rapid IV push, must have on cardiac monitor with defibrillator, doses: initial 6 mg followed by NS bolus then if not change in rhythm give 12 mg dose
    - Amiodarone
      - used for V-fib, V-Tach, and other dysrhythmias – monitor for bradycardia
    - Atropine
      - 0.5 with pulse
      - with no pulse 1.0
      - increased the heart rate

## **Antilipidemic Medications**

- No Grapefruit juice with statins
- changes in their stools
- monitor for GI complications

## **Cardiac Glycosides**

- HF or ineffective pumping (AFIB) therefore improves stroke volume and cardiac output, slows conduction rate and allows increased ventricular filling.
- Ex. Digoxin
  - 0.8-2.0 ng/mL
  - Toxicity Symptoms
    - Anorexia
    - nausea/vomiting,
    - Fatigue
    - Weakness
    - yellow halos
    - blurred vision
- Interventions
  - Make sure to monitor K<sup>+</sup> levels as low K<sup>+</sup> increases toxicity risk.

## **Antianginal**

- Used for acute angina or prophylaxis
- sublingual nitroglycerin
- Ex. Nitrostat, Nitro-Bid, Nitro-Dur
- Side Effects
  - Headache
  - ortho hypotension


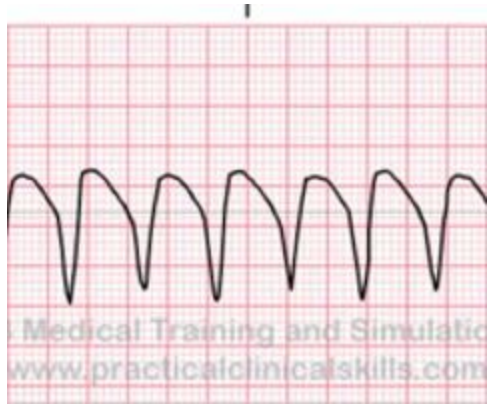
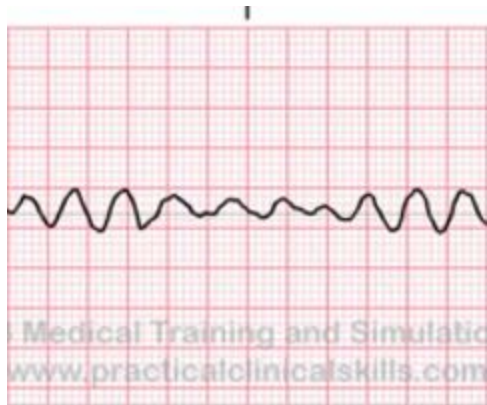
## **Atropine**

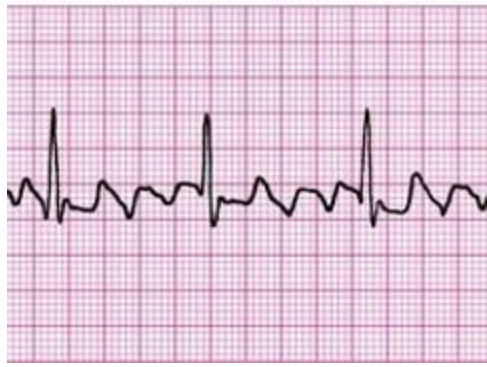


- used to treat bradycardia, reduce secretions (small doses)
  - Give 0.5 if a person is alive
  - Give 1 if dead, has no pulse
  - The maximum dosage is 3 mg

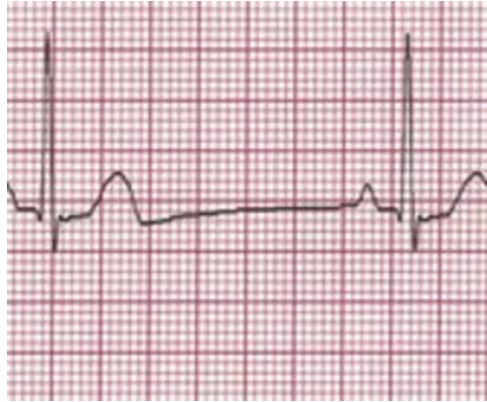
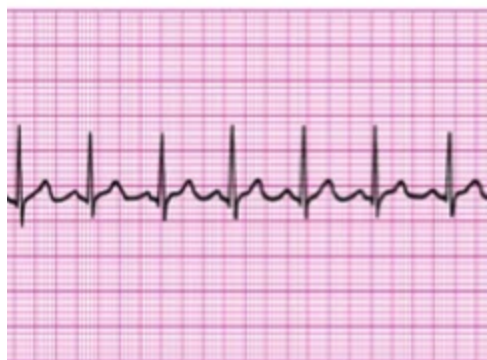
## **Antilipidemic**

- reduce cholesterol
- End in Statins
- nursing no grapefruit juice

## Rhythms

<p>AFib</p> <p><b>Treatment</b></p> <p>Amiodarone, beta blockers, calcium channel blockers, digoxin</p>	
<p>VTach</p> <p><b>Treatment</b></p> <p>No pulse, severe hypotension, fix because can go into V fib</p>	
<p>VFib</p> <p><b>Treatment</b></p> <p>Code Blue, CPR, Defibrillator, Epi, Vasopressin</p>	

<p>Atrial flutter</p> <p><b>Treatment</b> Ablation, cardioversion, amiodarone</p>	
<p>PSVT</p> <p><b>Treatment</b> Beta blockers, calcium channel blockers, cardio version, amiodarone, adenosine</p>	
<p>Sinus Tachy</p> <p><b>Treatment</b> Guided by cause, vagal maneuver, beta blockers</p>	

<p>Sinus Brady</p> <p><b>Treatment</b></p> <p>Atropine, pacemaker, stop offending drugs</p>	 <p>An ECG tracing on a standard grid showing a slow heart rate. The P waves are upright and followed by narrow QRS complexes. The rhythm is regular but the rate is significantly below the normal range.</p>
<p>Normal Sinus</p>	 <p>An ECG tracing on a standard grid showing a normal heart rate. The P waves are upright and followed by narrow QRS complexes. The rhythm is regular and the rate is within the normal range.</p>

### Medications and their Antidotes

Heparin	Protamine Sulfate
Warfarin	Vitamin K
Digoxin	Digoxin immune FAB