Administration of Sublingual Nitroglycerin for the Treatment of Angina

What is Angina?
- Angina is temporary pain (usually 5 minutes or less) that results from the heart temporarily receiving too little blood.
- Is angina an actual heart attack? NO
- Can angina be the beginning of a heart attack? YES

What Causes Angina?
- Atherosclerosis—buildup of fatty deposits called plaque
- The buildup of plaque on the inner walls of the arteries can cause angina in two ways:
  - By narrowing the artery to the point where the flow of blood is greatly reduced
  - By forming blood clots that partially or totally block the artery
- Occurs when the heart must work harder, usually during physical exertion.

What Activities Can Cause an Attack of Angina?
- Physical exertion is the MOST common cause
  - Walking uphill, climbing stairs, exercise
- Emotional excitement
- Exposure to very hot or cold temperatures
- Heavy Meals
- Smoking
- Sexual intercourse
- Cocaine

What Does Angina Feel Like?
- Pain and discomfort are the main symptoms.
- Often described as pressure, squeezing, burning, or tightness in the chest
- May feel like chest pain that spreads to the arms, shoulders, neck, jaw, throat, or back
- May feel like gas or indigestion
- May feel like having a heart attack
Signs and Symptoms of Angina

- Usually starts in the chest behind the breastbone
- Relieved by rest or angina medicine
- Usually lasts a short time (5 minutes or less)
- Repeat episodes of pain tend to be alike

Heart Damage

- Episodes of angina seldom cause permanent damage to heart muscle.
- If angina leads to a heart attack, heart muscle is permanently damaged.
- The longer the heart muscle is deprived of blood, the more it is permanently damaged.
- If deprived of blood for too long, the heart will die.

Treatment of Angina

- Prevent with lifestyle changes
- **Treatment of emergency attack with sublingual (SL) nitroglycerin (NTG)**
  - When medication doesn’t work surgery may be necessary
    - Coronary artery bypass surgery
    - Angioplasty

Sublingual Nitroglycerine

- **When do you use it?**
  - To relieve sudden angina
  - Before stressful activities that can cause angina, such as walking uphill or having sexual intercourse

Sublingual Nitroglycerin

- Sublingual means “under the tongue”
- Drug of choice for treatment of acute anginal attack
- Opens blood vessels to supply oxygen to the heart
- Relieves chest pain
- Starts working in 1 to 3 minutes
Types of Nitroglycerin
- Patch—releases medicine through the skin
- Ointment—absorbed through the skin
- Tablets—dissolve underneath your tongue
- Extended-release capsules
- Liquid—sprayed onto or underneath the tongue

Emergency vs. Daily Use
- Emergency – use fast-acting NTG to treat attacks
  - SL NTG
  - NTG spray
- Daily – use slow-acting NTG to prevent attacks
  - NTG patch
  - NTG ointment
  - NTG extended-release capsules

Nitroglycerin Administration
- Directions for use vary depending on the physician’s order
- These directions can be found in the MAR
- Some residents may keep their nitroglycerin in their room - so you may not even know they have it!

Administration of Nitroglycerin
1. Tell resident to sit or lie down to take the nitroglycerin
2. Place the tablet under the resident’s tongue
3. Tell them to let the tablet dissolve and NOT to swallow the tablet
4. If the resident accidentally swallows the tablet, give them another one

Administration of Nitroglycerin Example
- 1st Sign of Chest Pain
  - Give 1st SL NTG
  - 5 minutes
  - Relief
- No Relief
  - Give 2nd SL NTG
  - 5 minutes
  - No Relief
  - Give 3rd SL NTG
  - 5 minutes
  - No Relief
  - Call 911

No Relief
- Call 911!
Who you gonna call?!

- If a resident is having chest pain and there is no order for nitroglycerin on file, call 911 immediately.
- “When in doubt, send ‘em out”

Normal Side Effects of Nitroglycerin

- Warm and flushed feeling
- Headache
- Dizziness
- Lightheadedness
- Burning sensation under the tongue

Storage of Nitroglycerin

- Store in a dark-colored, air-tight, glass container
- Keep away from heat and moisture
- Replace tablets every 3-6 months if bottle is opened

Imperial Plaza Protocol

- If you believe it is an emergency, call 911 immediately
- You don’t need permission from anyone to call 911
- But after you call..... report it to someone- probably Angela 😊

Key Points

- “When in doubt, send ‘em out!!”
- Some residents may keep their nitroglycerin in their rooms so you may not even know they are taking it- be aware!
- If resident is having chest pain but there is no order for nitroglycerin, call 911 immediately.
- Each resident is different- remember to read the order!

References
