Cardiovascular Stents

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Coronary Artery Disease

- Is the most common type of heart disease
- Caused by narrowing and hardening of the arteries which supply blood to the heart
- Less blood flows to the heart and as a result the heart does not receive enough blood or oxygen

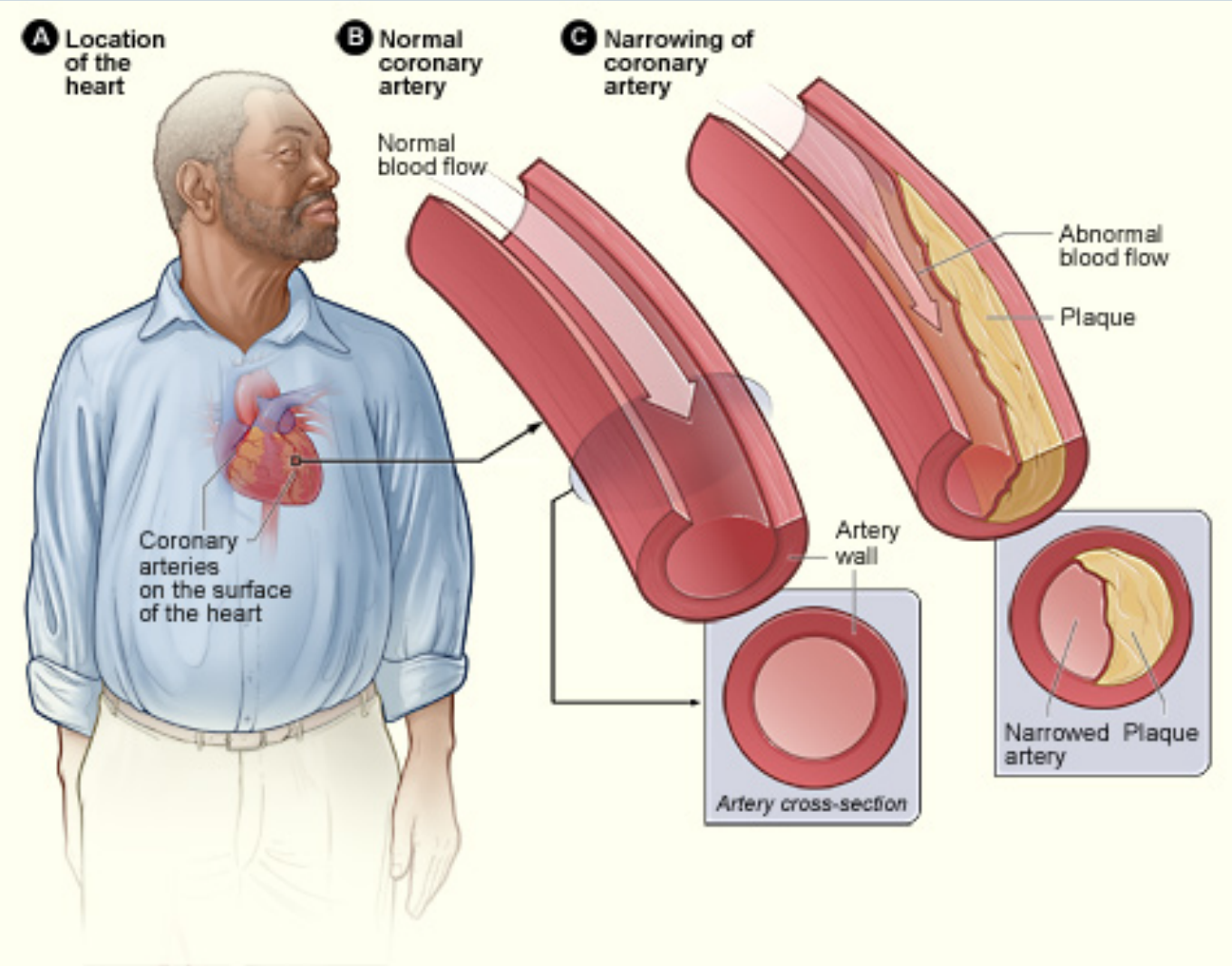
Causes

- Buildup of cholesterol (atherosclerosis)

Effects

- Chest pain
- Heart attack
- Damage to the heart

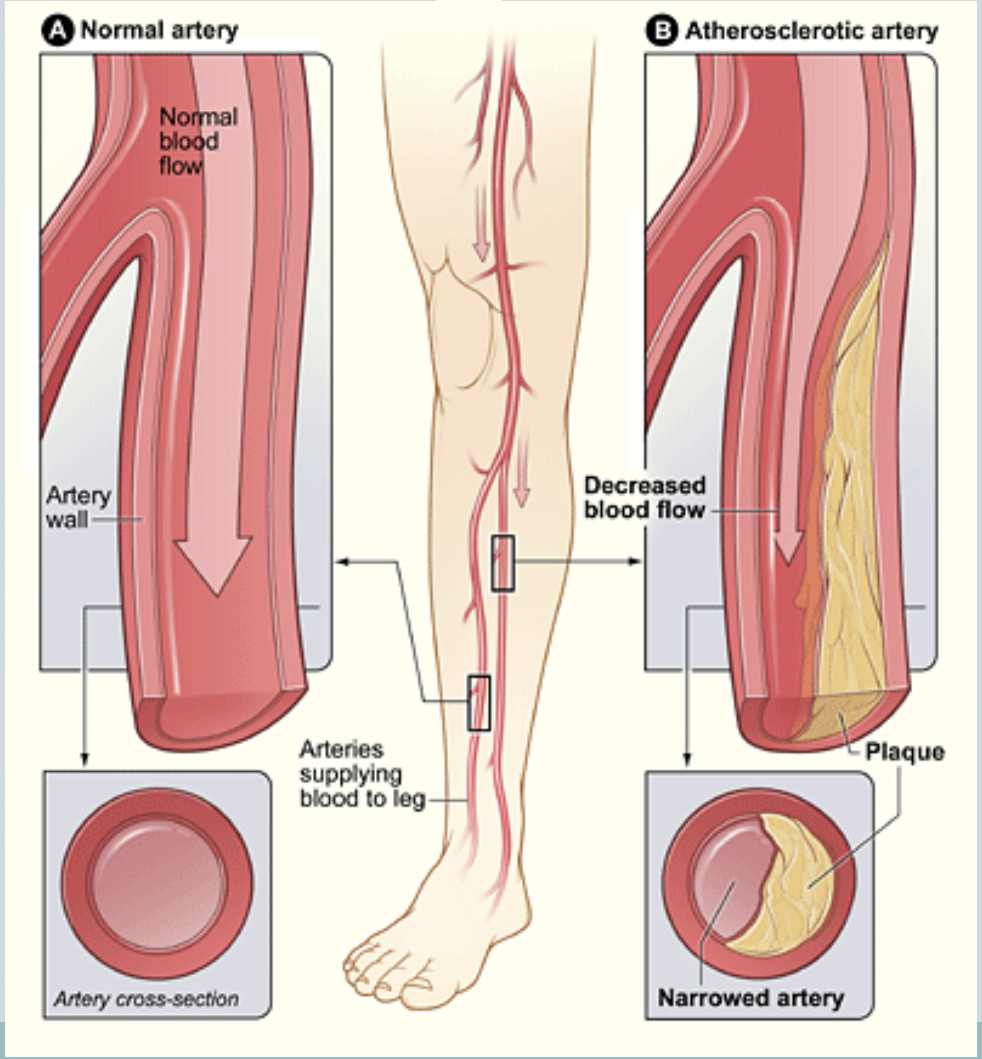
Coronary Artery Disease



Peripheral Vascular Disease

- Occurs when narrowed arteries reduce blood flow to your limbs
- Caused by plaque buildup and cholesterol (atherosclerosis)
- It deals with your limbs, therefore, you might have leg pain when walking because there is not enough blood flow to keep up with your limbs' demands

Peripheral Vascular Disease



Treatments

Lifestyle changes

- Quit smoking
- Eat healthy foods
- Exercise regularly
- Lose excess weight
- Reduce stress

Drugs

- cholesterol modifying medications

Procedures

- ***stent placement***

Stents

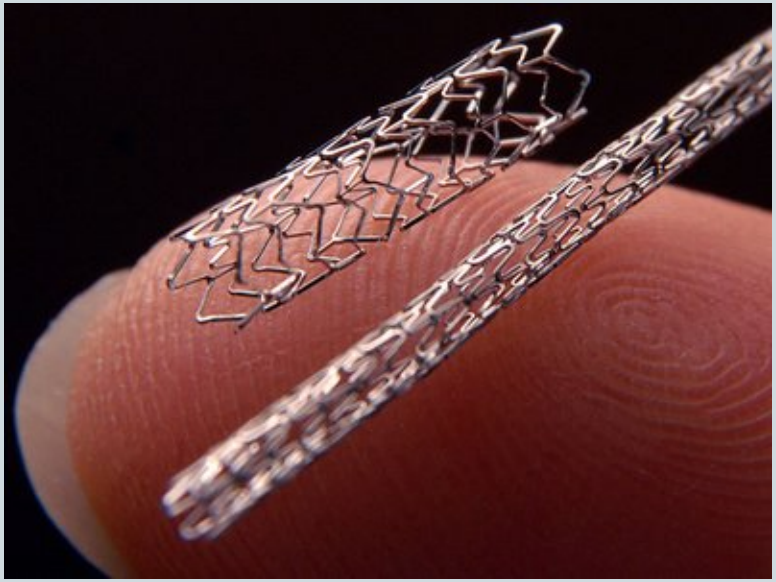
- A stent can be placed into the vessels that are narrowed in order to enlarge them
- It is a scaffolding of wire mesh which is expanded to increase blood flow in the narrowed vessel
- Stents can be made of different materials such as metal mesh or fabric

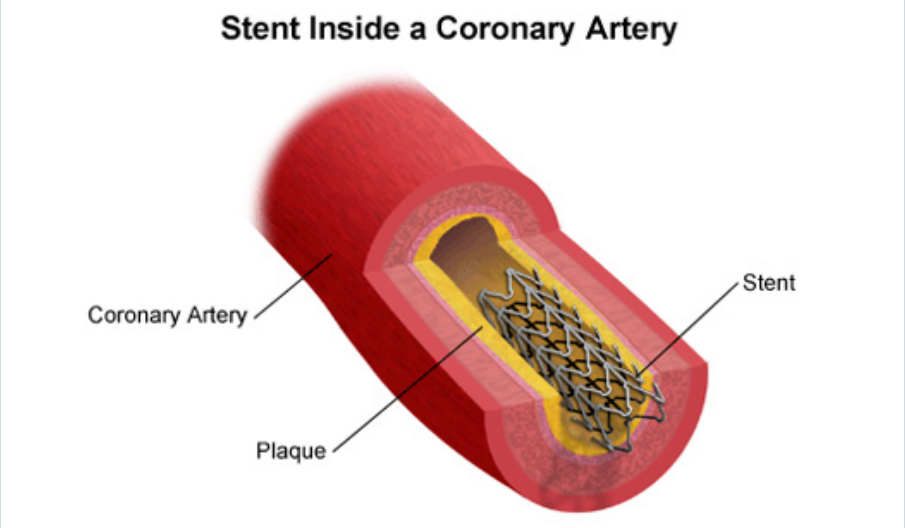
Stents

- A stent is placed in an artery as part of a procedure called angioplasty

- Angioplasty restores blood flow through narrow or blocked arteries. A stent helps support the inner wall of the artery in the months or years after angioplasty.

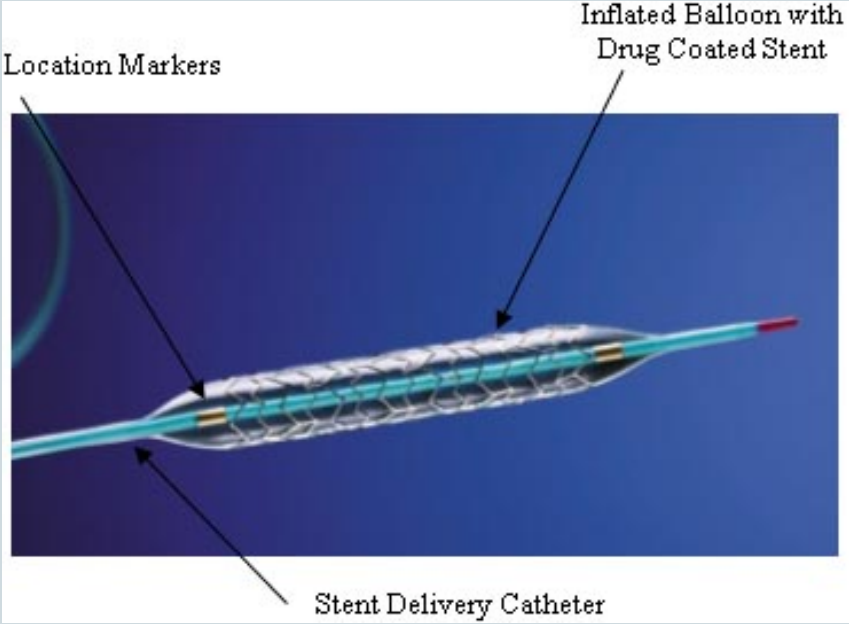
Stents




Stent Inside a Coronary Artery
Coronary Artery
Stent
Plaque

Drug –Eluting Stent

- A stent can be covered with medicine when placed into the vessel
- The medicine is slowly and continuously released which helps to prevent the artery from becoming blocked again



Taxus Stent

- Was invented at The University of Akron
- Polymers created by UA are used in the TAXUS drug-eluting cardiovascular stent system
- The TAXUS stent releases the drug (paclitaxel) in a controlled manner from the UA polymer to prevent coronary artery tissue from reclogging the stent following implantation in the coronary artery

How a Stent Works

- http://www.youtube.com/watch?v=gvRtP3wl_AY

Create a Stent