Heart Disease and
Early Heart Attack Care

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Presentation Outline:

- Overview
- Cardiovascular Risks Prevalence
- Gender Specific Risk Factors
- EHAC & Prevention

Heart disease includes a number of problems affecting the heart and the blood vessels in the heart.

Types of heart disease include:

- Coronary artery disease (CAD)
  - Angina
  - Heart Failure
- Heart arrhythmias
  - Heart attack

Heart Disease Definitions:

- Coronary Artery Disease (CAD): Arteries become hard and narrow

- Angina: Chest pain or discomfort that happens when the heart does not get enough blood

- Heart Attack: Occurs when an artery is severely or completely blocked, heart does not get the blood it needs for more than 20 minutes

- Heart Failure: Heart is not able to pump blood through the body (SOB, swelling in feet, ankles, legs, tiredness)

Heart Attack is the number one killer of the adult population in the United States. It has been in first place since the turn of the last century.

Heart Disease is the leading cause of death for both men and women.

About 800,000 people die of Heart Disease in the United States every year.
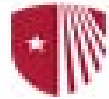

1 in every 4 deaths

Of these 800,000,….425,000 happen in people who have already had a heart attack
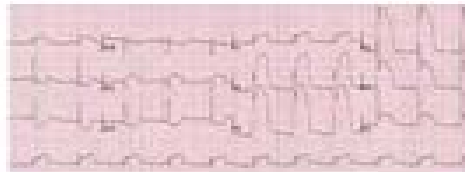
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The cost of Heart Disease in the United States is 108.9 billion dollars annually.

This total includes – Health care services, Medications, sick time and loss productivity.

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Heart Attacks can present in 3 ways
1) Cardiac Arrest
2) Severe Chest Pain
3) Mild Discomfort

Electrophysiology of the heart

- An EKG is a recording of the heart's electrical activity

- The EKG shows electrical activity not mechanical

Stony Brook Medicine transmits field 12 lead EKG's which have been determined to be a STEMI to the cardiologists' smart phones.

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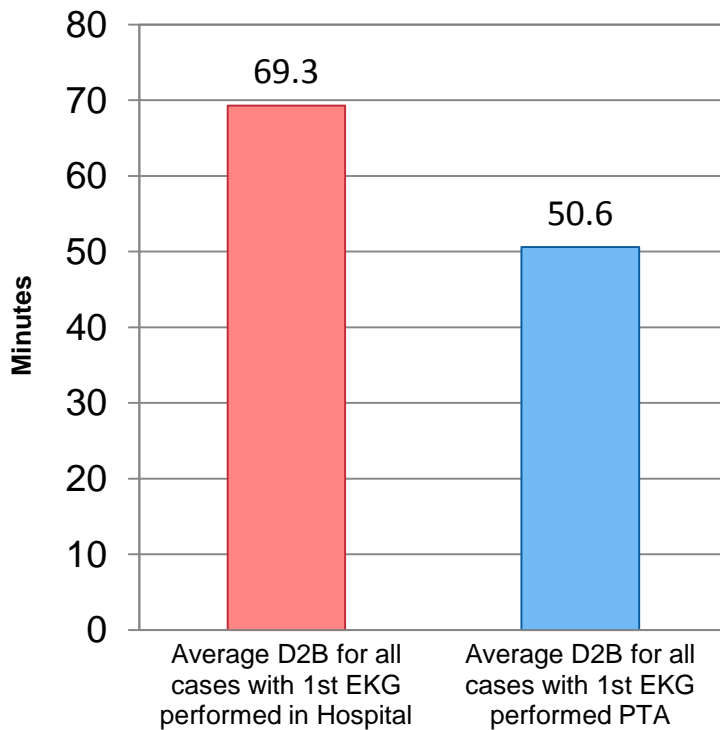Obtaining pre hospital 12 lead EKG's to reduce time between EMS arrival and STEMI patient's balloon procedure.

2012 – 65 pre hospital EKG's
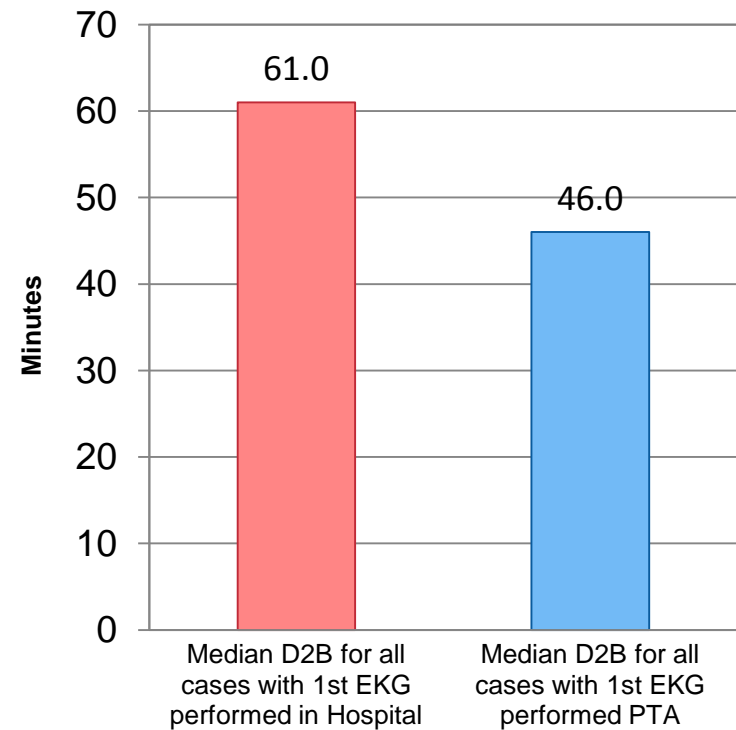
2013 – 158 pre hospital EKG's

All Code H Cases 1/1/2013 – 12/31/2013

Average D2B times

Bar chart showing Minutes: Average D2B for all cases with 1st EKG performed in Hospital = 69.3; Average D2B for all cases with 1st EKG performed PTA = 50.6

Median D2B times

Bar chart showing Minutes: Median D2B for all cases with 1st EKG performed in Hospital = 61.0; Median D2B for all cases with 1st EKG performed PTA = 46.0

Note: The difference between Average D2B with 1st EKG performed in Hospital vs. 1st EKG PTA is statistically sig.

Core Measures

Performance measurements or goals have been established by CMS (Centers for Medicare & Medicaid) / Joint Commission on accreditation of Health Care Organizations
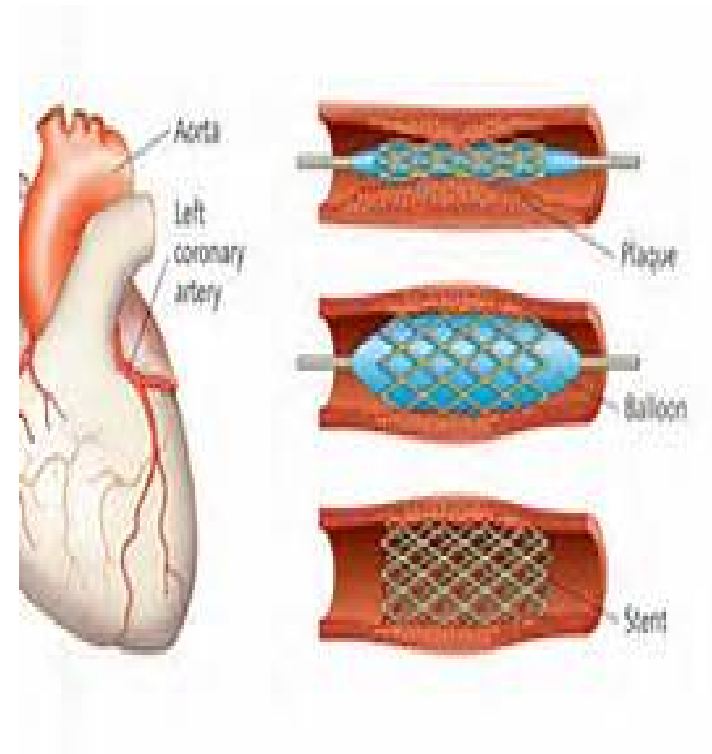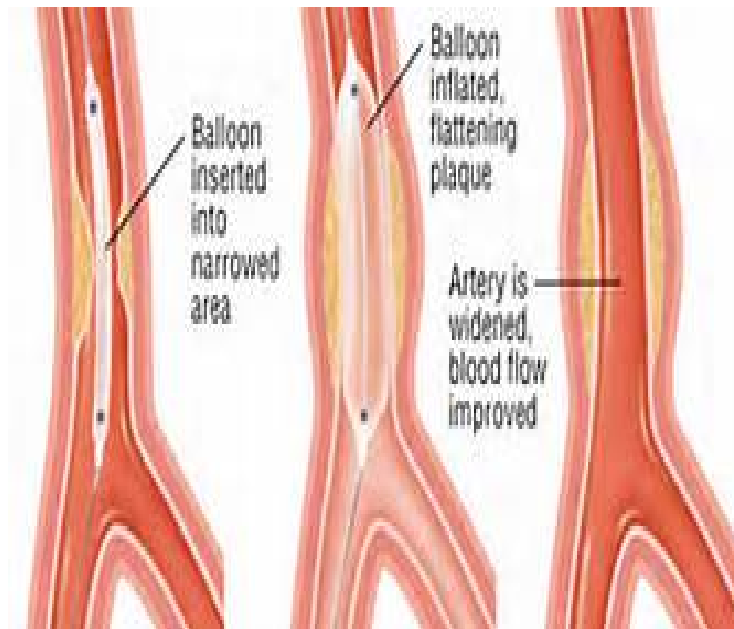
Core Measures are a variety of evidence-based, scientifically-researched standards of care which have generally been shown to result in improved clinical outcomes for patients.

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Q: Why is time from symptoms to catheterization important?

A: 85% of heart damage occurs within the first two (2) hours of a heart attack

Balloon inserted into narrowed area

Balloon inflated, flattening plaque

Artery is widened, blood flow improved

Aorta

Left coronary artery

Plaque

Balloon

Stent

Triage to EKG
Within 5 minutes

Door to Balloon
90 minutes or <

HEART ATTACKS HAVE BEGINNINGS

Sept 5 2013 New England Journal of Medicine :

Door to Balloon times has **DROPPED** significantly faster **however** the faster response has not improve the overall patients mortality.
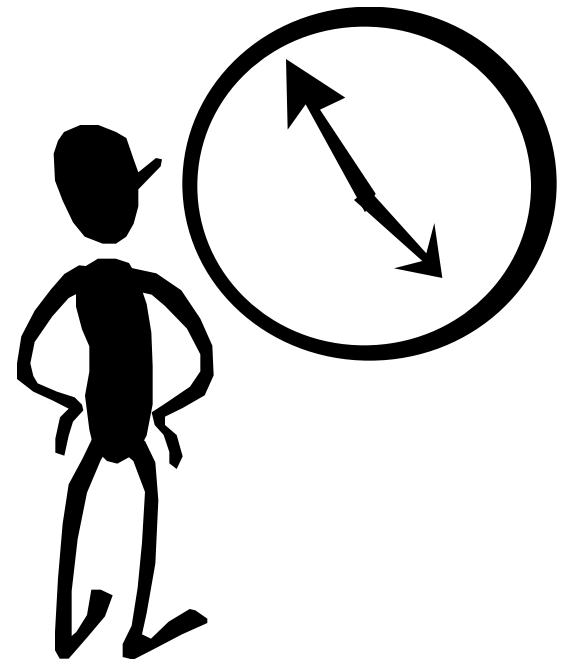
Median time MI Patients arrive in the ED after symptom onset
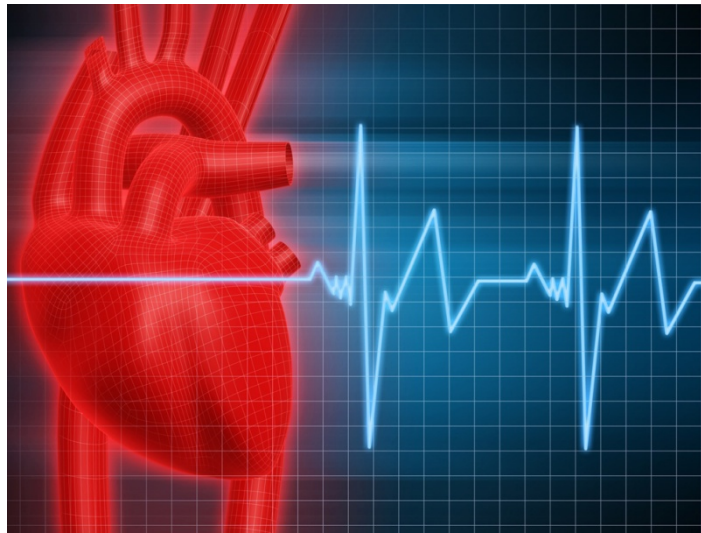
Jan. 2014 720min 31% EMS

Feb. 2014 180 min 62% EMS

- Study concluded that time between the patient's onset of symptoms and the treatment is more critical.

Early heart attack Care

Early Heart Attack Care:
A Campaign to

Educate the community to
be responsible not only for themselves, but for those around them who maybe experiencing Early Heart Attack symptoms and to help them obtain immediate treatment by calling 911.

The Cardiovascular Society has accredited more than 900 hospitals

Stony Brook Medicine has maintained accreditation since 2005

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Do you know the Symbols of
Early Heart Attack Care?
Save a life. Learn more.

Welcome to Deputy Heart Attack, the official
website that spreads the message that
EHAC can save lives. Join us and:
• Take the Deputy Heart Attack course
• Understand the symptoms
• Spread the word

Heart Attacks
have
beginnings...

The Deputy Badge

EARLY RECOGNITION
CHEST PAIN CENTER
AND RESPONSE

**The Good Samaritan
Buddy Badge**

Dr. Raymond Bahr

SCPC accredited hospitals pass rigorous testing and process improvement to become an elite facility with a staff that understands how to treat cardiovascular patients.

WWW.SCPCP.ORG

Click on the map to find the location of your nearest center of excellence.

A recent survey performed by the CDC (Centers for Disease Control & Prevention) showed:

92% surveyed recognized Chest Pain as a symptom of a Heart Attack

ONLY 27% surveyed recognized other types of symptoms as a Heart Attack

and MORE IMPORTANTLY…knew to call 911

47% of Sudden Cardiac Deaths occur outside a hospital

This 47% indicates …….People with heart disease do not act on early warning signs.

These "Beginnings" occur in over 50% of patients.

Most importantly….if identified in time these "Beginnings" can be treated before the heart is damaged.

Since 1984 the number of deaths attributed to cardiovascular disease has been reported as being greater for females then males.

Heart disease is the number one killer for women over the age of 65.

The average age of men to have a heart attack is 66. Average cholesterol level 121.

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47% of Sudden Cardiac Deaths occur outside a hospital

This 47% indicates…..People with heart disease do not act on early warning signs.

Early Heart Attack Care is a campaign to educate the community to be responsible not only for themselves, but for those around them.
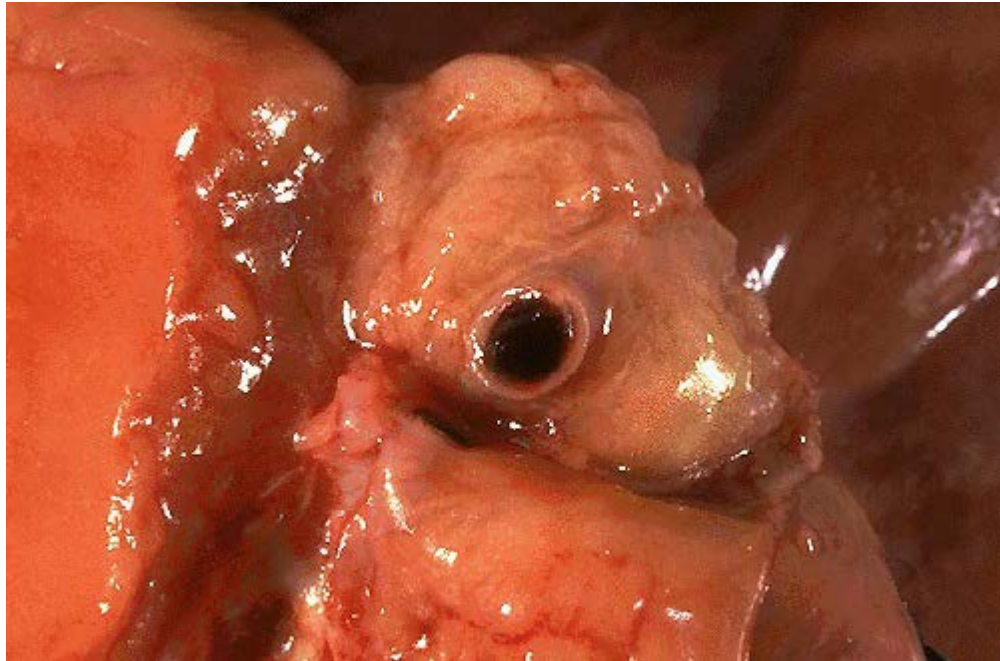
Why are these Early Heart Attack symptoms occurring?

Generally, these symptoms will occur if there is a narrowing of 1 or more arteries that lead to the heart causing interruption of the heart's blood supply.
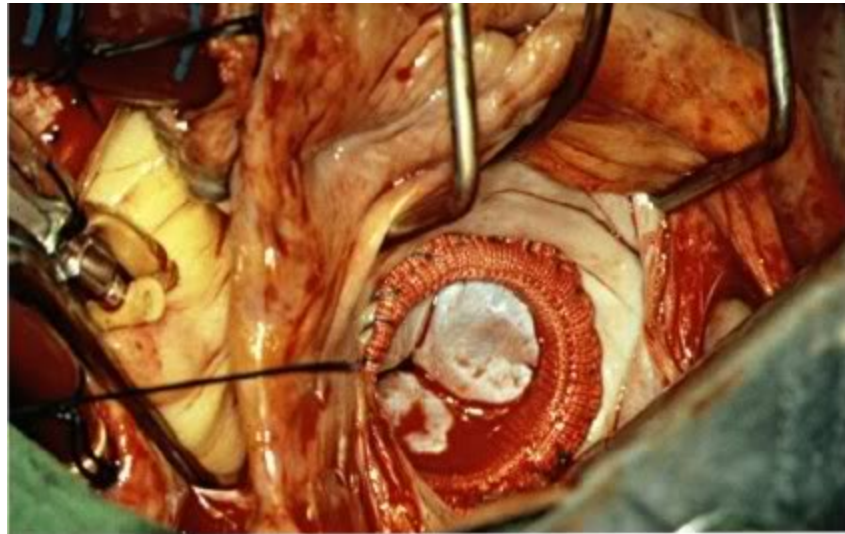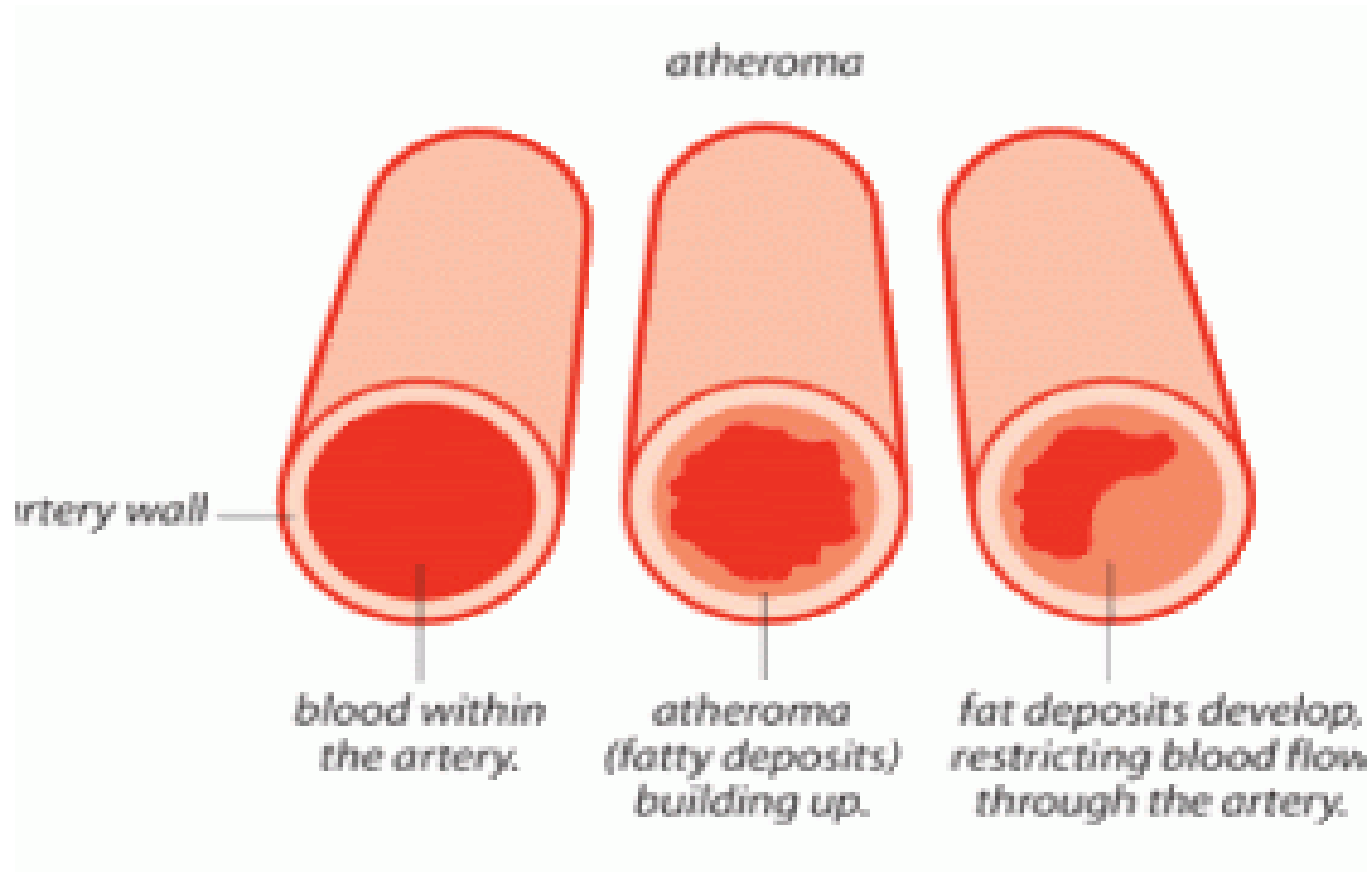
The clot is completely imbedded in the artery.

The clogged artery inhibits blood flow.

What are the SYMPTOMS of EARLY Heart Disease for Men & Women?

- Most frequent…"feels like heartburn" or "indigestion"

- Slight discomfort/pressure in chest

- Burning sensation/aching/squeezing "feeling" in the chest, back, shoulder, arms, neck & jaw.

As the Early Heart Disease worsens…

Shortness of breath, dizziness, nausea, lack of energy, or a fluttering/irregular heart beat can be experienced.

Some people complain of a cold sweat and a "feeling of fullness"

These are called Non-specific Heart Attack Symptoms

Women's Symptoms…can be atypical

This is because smaller arteries may be blocked in women whereas men often have blockage in the main arteries.

Although men & women can experience chest pressure, the classic symptom of a Heart Attack, women can report slightly unusual symptoms.

Another reason why women's symptoms are different from men is the brain.

Men use 1 hemisphere at a time – logical thinking

Women use both hemispheres simultaneously – right brain = emotions, intuition, music

More neuronal connection betweenheart/brain

So women have a greater neurological as well as emotional connection to her heart then men.

Given the difference in their brain - heart connections

Women with heart problems have different

symptoms then men.

Women Early Heart Attack Symptom Survey

- Unusual Fatigue – 71%
- Sleep Disturbance – 48%
- Shortness of Breath – 42
- Indigestion – 39%
- Anxiety – 35%

An Oregon Study, which researchers gathered information about the symptoms and health history of men 35 to 65 years old who had out-of-hospital cardiac arrests in 2002 – 12 found 53% had symptoms prior to the cardiac arrest.

- 56% had chest pain
- 13% had SOB
- 4% had dizziness, fainting or palpitations

Almost 80 percent of the symptoms occurred between four weeks and one hour before the sudden cardiac arrest.

(Most men had coronary artery disease, but only about half had been tested for it before their cardiac arrest).
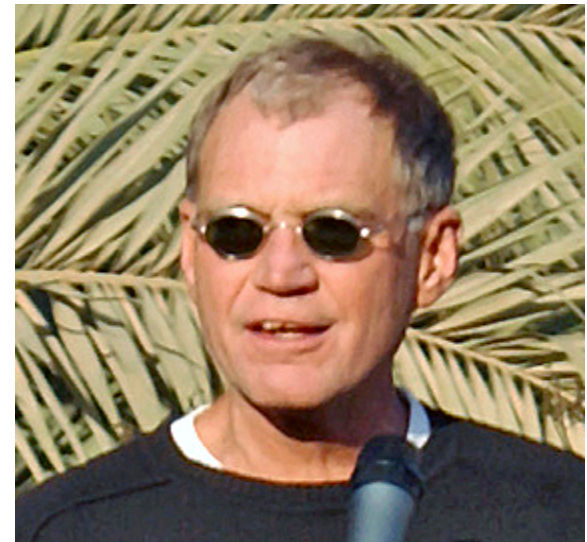
As the Early Heart Disease worsens….

You may begin to experience a Shortness of Breath, Dizziness, Nausea, Lack of Energy, or a Fluttering/ Irregular Heart Beat.

Some people complain of a Cold Sweat and a "Feeling of Fullness".

It's important to remember that both men and women may not experience any or all of these symptoms.

- Men and Women may not experience same symptoms.

- Diabetic patients (both men and women) may not experience typical symptoms
  - Diabetic Patients may have more subtle signs/symptoms

- Have higher risk for heart attacks due to insulin resistance

- Insulin resistance is associated with:

  ➢ Hypercoagulability

  ➢ Hypertension

  ➢ Hyperlipidemia

- Diabetic patients can experience classic symptoms during an M.I but are at a much higher risk for "silent" M.I.

  – Symptoms are often mistaken for poorly controlled diabetes symptoms

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Typical Symptoms	Atypical Symptoms
Heartburn	Nausea
Jaw/Chest/Back/Shoulder Pain Pain Traveling down one or both arms	Fatigue
Chest Pressure/Pain/Ache	Anxiety
Chest Squeezing/Burning	Feeling of Fullness
May not be associated with shortness of breath	Shortness of Breath
Cold Sweat	Not Feeling Right

Now that you have learned the signs…..

Don't ignore the symptoms…..

Seek medical attention immediately

Calling 911 is the fastest way to get lifesaving treatment.

Minutes Matters!

Don't wait more than 5 minutes to call 911

EMS (Emergency Medical Services Staff)

- Begin treatment as soon as they arrive
- Rapid transport to the ER
- Trained to revive someone whose heart has stopped.

THE OATH:

"I understand that heart attacks have beginnings that may include chest discomfort, shortness of breath, arm pain, and weakness.

These may occur hours or weeks before the actual heart attack. I solemnly swear that if it happens to me or anyone I know, I will call 911…because every heart matters!"
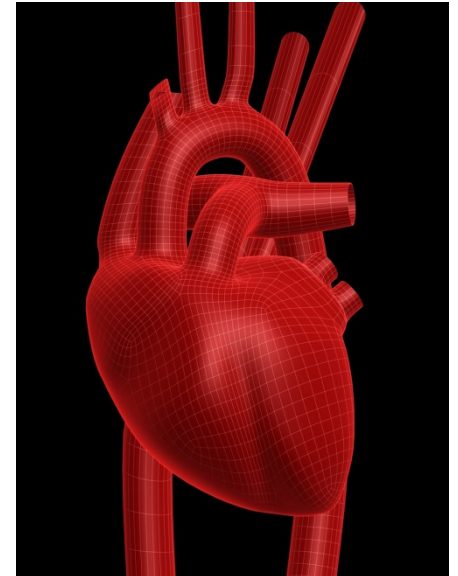
So what do I do to prevent heart disease?

Heart Disease is preventable:

- Schedule an appointment with your healthcare provider to learn about your personal risk for heart disease
- Quit smoking
- Start an exercise program
- Modify diet

- Know your blood pressure. Years of high blood pressure can lead to heart disease. People with high blood pressure often have no symptoms, so have your blood pressure checked.

- Don't smoke. If you smoke, try to quit. If you're having trouble quitting, there are products to help.

- Nicotine patches and gums

- Support groups programs to help you stop.

- Get tested for diabetes. High glucose levels often have no symptoms, so have your blood glucose checked. Having diabetes raises your chances of getting heart disease.

- Get your cholesterol and triglyceride levels tested. High blood cholesterol can clog your arteries and keep your heart from getting the blood it needs. If your levels are high often you have no symptoms.

- Get tested for chronic inflammation: C/reactive protein (CRP)

Chronic inflammation is bad for the heart; it contributes to plaque buildup in arteries. When your immune system is always in "attack" mode, one of its target, is cholesterol burrowed in arterial walls. This can cause larger, more unstable plaque deposits.

Maintain a healthy weight. Healthy food choices and physical activity are important. Each week aim to get at least 2 hours and 30 minutes of physical activity.

If you drink alcohol, limit it to no more than one drink a day.

- Find healthy ways to cope with stress
- Make small changes and be happy!

The Heart was build to beat and to last for a very old age.

References:

http://www.deputyheartattack.org/

http://www.scpcp.org

http://www.cnn.com/2013/04/10/10/health/expert -heart-attacks/index.html?hpt=hp