Heart Disease- Learn to Love Your Heart

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Goals

- Learn more about heart disease for yourself and for your students
- Learn the process of heart disease
- Become better information sources for students
- Advocate for healthier change for students
- Stimulate interest in healthy heart lifestyles for yourself and for your students
Quiz

- For leading causes of death for males, heart disease ranks ____?
  - 3\textsuperscript{rd}
  - 5\textsuperscript{th}
  - 1\textsuperscript{st}
  - 6\textsuperscript{th}
Quiz

• For leading causes of death for females, heart disease ranks ___?
  • 4th
  • 1st
  • 2nd
  • 3rd
Heart Disease

- **Over 780,000 people have their first heart attack every year**
  - Another 445,000 people have a repeat heart attack
- **Over 630,000 people die every year from heart disease**
  - >25% of all deaths
  - Number one cause of death for both men and women
  - Heart disease will cost more than $310 billion in 2010

Different Names-Same Thing

- Heart Disease = Coronary Artery Disease (CAD)
  - Arteries to heart get blocked (atherosclerosis)
    - Reduces blood flow to the heart
    - Cut down on oxygen
  ➔ Heart attack!
  Heart cells start to die from lack of blood

Anatomy of Heart

*http://www.nhlbi.nih.gov/health/dci/images/heart_interior.gif*
Young people are fine-not!

- The process of heart disease starts in young children and teenagers.
- In a study provided by Wissler looking at autopsies of young people, he found that:
  - All U.S. teenagers had fatty streaks (pre-plaque) in some segment of their arterial system.
  - Obesity, smoking and hypertension had the biggest effect on developing artery blockages (plaques) in young adults.
  - Ten percent of the individuals in this study had advanced blockages of arteries.

Common Signs of a Heart Attack

- Chest Pain
- Pain or discomfort in the jaw, neck, or back
- Feeling weak, light-headed, or faint
- Pain or discomfort in arms or shoulder
- Shortness of breath

*40% of deaf individuals in one study could not think of a single symptom of a heart attack!

Danger, danger, ahead!

• How many will die in 4 hours after their heart attack starts?

Calling 9-1-1

• For best survival, call 911 if you are experiencing symptoms of a heart attack
  – 47% of people who die of a heart attack never make it to the hospital
  – Early action is the key to saving many of them!

• Yet, 39% of deaf individuals in one study would not call 911 even if they were having symptoms of a heart attack!

Testing

- Electrocardiogram (EKG)
- Echocardiogram
- Stress tests
- Chest X-ray
- Cardiac catheterization/angiogram
EKG

*http://www.aaccweb.com/images/EKG.jpg
Treadmill Stress Test

[Image: Treadmill Stress Test]

Echocardiogram

*http://www.sads.org.uk/Echocardiogram.jpg*
Nuclear Imaging Stress Test

*http://www.jorgegomezamadormd.com/assets/images/EchoTest02.jpg
Risk Factors

• High blood pressure
• High cholesterol
• Smoking
• Obesity

• Diabetes
• No exercise
• Family History
• Increasing age
High Blood Pressure (Hypertension)

• Blood Pressure (systolic/diastolic)
• Normal ➞ 120/80 or less
• Pre-high blood pressure ➞ 130-139/80-89
• High blood pressure ➞ 140/90 or more

*High blood pressure for those who have heart failure, diabetes or kidney failure begins at 130/80
Quiz Time

• What percentage of Americans do not know they have high blood pressure?

• 31.6%
High Blood Pressure in Children

- No single cut off for blood pressure for children
  - Depends on height of child
  - Those with a blood pressure in the 95% range or higher have high blood pressure

Examples:

8 year old child who is of average height

50% in BP  95% in BP
99/59  118/78

* BP Guidelines for Children
Blood Pressure

- **Recommendations:**
  - Exercise
  - Cut back on salt in foods (goal is <2000 mg of sodium daily)
  - Eat more fresh fruits, vegetables, whole grains, low fat dairy and lean protein
  - Avoid or lose additional body weight

Ex. Campbell’s Classic Chicken Noodle Soup contains 1,780 mg of sodium

http://www.pollsb.com/photos/o/26 195-campbell_s.jpg
Follow the DASH diet to potentially lower your blood pressure.
DASH

- Heart healthy diet
- Proven in studies
- Lowers your blood pressure
DASH Diet

• Key points to the diet (servings per day)
  – Grains are encouraged to be whole grains (7-8 servings)
  – Eat more vegetables and fruits (4-5 servings of each)
  – Eat low fat or fat free dairy instead of fatty forms of dairy (2-3 servings)
  – Eat less meat
  – Eat lean or low fat protein such as fish or chicken breast (2 or less servings)
  – Nuts, beans or seeds (~1 serving daily)

• Website for DASH diet plan and information can be found at:
Cholesterol

Desired Levels (varies with those with other medical issues)

- Total cholesterol: Less than 200 mg/dL
- Low Density Lipoprotein (LDL) cholesterol ("bad" cholesterol): Less than 130 mg/dL
- High Density Lipoprotein (HDL) cholesterol ("good" cholesterol): 40 mg/dL or higher (50 mg/dL or higher for women)
- Triglycerides: Less than 150 mg/dL
Quiz

• What percentage of children aged 12-19 years old had abnormal cholesterol levels?

A. 5%
B. 10%
C. 20%
D. 50%

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5902a1.htm?s_cid=mm5902a1_e
Cholesterol

• Obese or overweight children should have their cholesterol checked
  – May help capture early cases of high cholesterol
  – May encourage a healthier lifestyle

• For adults, a cholesterol test is recommended every 5 years if healthy
Improve Cholesterol Numbers

- Exercise
- Lose weight
- Limit animal fats and protein
- Use healthy oil for cooking (canola or olive)

*Avoid trans-fats!*

– Includes partially hydrogenated or hydrogenated oils
Quiz

- Smoking cigarettes can increase your risk for heart disease by ____?
  A. 25%
  B. 75%
  C. 400%
  D. 1,000%

http://www.cdc.gov/tobacco/
Smoking

- Increases blood pressure (nicotine)
- Increases clots in the blood
- Increases clogging of arteries (atherosclerosis)
- Increases carbon monoxide (decreases oxygen to heart)

* Risks can still happen if your family or friends smoke around you!
Smoking

- Not smoking is the biggest thing you can do to protect your heart!
- For those who smoke, by stopping, your heart risk go down quickly afterwards.

Call 1-866-NY-QUITS
(1-866-697-8487)

http://www.nysmokefree.com/newweb/default.aspx
Obesity Epidemic

In 1998, only 7 states had obesity rates of higher than 20%.

In 2008, 6 states had obesity rates of higher than 30%!

http://www.cdc.gov/obesity/data/trends.html
Obesity is an epidemic for children too!

- Child obesity is increasing fast
- 1/3 of all children are obese or overweight
- For first time in recent history, today’s children will likely live shorter than parents due to weight issues

AAP: http://www.aacap.org/cs/root/facts_for_families/obesity_in_children_and_teens
Quiz

• What percentage of obesity in children is caused by a medical condition or illness?

A. 1%
B. 10%
C. 25%
D. 50%

AAP: http://www.aacap.org/cs/root/facts_for_families/obesity_in_children_and_teens
Common childhood obesity causes

- Poor eating habits or food choices
- Overeating
- Not enough exercise (i.e. couch potato)
- Family history of obesity
- Medications (i.e. psychiatric medications)
- Stressful life events or changes (i.e. parent’s divorce or abuse)
- Family and peer problems
- Low self-esteem

AAP: http://www.aacap.org/cs/root/facts_for_families/obesity_in_children_and_teens
Dangers of Obesity

- Lowers HDL (good cholesterol)
- Raises triglycerides (fatty parts of the blood)
- Raises risk of diabetes
- Raises LDL (bad cholesterol)
- Raises blood pressure
Am I obese?

- **Body Mass Index (BMI)** - Measurement tool to see how fat a person is by using their weight and height
  - Calculation: \[ \text{weight (kilograms)} / [\text{height (meters)}]^2 \]

<table>
<thead>
<tr>
<th>Body Mass Index</th>
<th>Weight Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 18.5</td>
<td>Underweight</td>
</tr>
<tr>
<td>18.5 to 24.9</td>
<td>Normal Weight</td>
</tr>
<tr>
<td>25.0 to 29.9</td>
<td>Overweight</td>
</tr>
<tr>
<td>Above 30</td>
<td>Obese</td>
</tr>
</tbody>
</table>
Obesity

- Eat smaller portions
- Don’t skip meals (especially breakfast!)
- Exercise
- Avoid sweet drinks (soda, juice, sweet tea)
- Avoid fast foods or processed foods
What to do?

• Make slow changes to diet so it is easier to change
• Plan ahead to eat better (bad choices are usually due to eating at the spur of the moment)
• Avoid the “clean plate club”
  – Eat only to stop hunger not to feel full
• Make your calories worth it!
  – Eat nutritionally rich foods not nutritionally poor low calorie foods
• Get moving!!!
  – Walk more and start a fun physical activity
What to do?

- Rethink what your family and child eats at school
- Eat together as a family (instead of while watching television or at the computer)
- Avoid food as a reward or punishment
- Snacks should be small and healthy
- If necessary, consider a support group (e.g., Weight Watchers)
Other Important Info

- First degree relatives (mother, father, brother(s) or sister(s) with heart disease
  - Second degree relatives

- History of Premature Heart Disease in Family:
  - Men (less than 55 years old)
  - Women (less than 65 years old)

*Learn about your family history so you and your doctor can be aware to protect yourself.*
Prevention of Heart Disease for Children

- Children should be taught to eat healthy
- Create passion about healthy foods!
  – Jamie Oliver’s Food Revolution
- Implement healthy choices in school areas
- Start gardening clubs
- Demonstrate different types of foods by cooking displays
Prevention of Heart Disease for Children

- Set up health clubs (similar to science or robot clubs)
- Encourage every child to become involved in sports or physical activity
- Keep physical education and recess as a daily school event

— John Ratney, MD - *Spark*

  - Encourages physical activity to boost brain power of students in a school
Questions?

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Email: michael_mckee@urmc.rochester.edu
References

- http://www.cdc.gov/HeartDisease/prevention.htm
- http://www.cdc.gov/DHDSP/library/fs_cholesterol.htm
- http://www.cdc.gov/alcohol/
Exercise

- Over 50% of American adults do not get enough physical activity to provide health benefits.
- Over 25% of adults are not active at all in their leisure time.

* Recommendation is that all adults should accumulate at least 30 minutes of moderate-intensity physical activity on five or more days of the week.
Alcohol

- Raises triglycerides (fatty parts of blood)
- Raises blood pressure
- Heavy alcohol use:
  - Men: more than two drinks per day on average
  - Women: more than one drink per day on average for women
  - Binge drinking
- 5% of population drink heavy every day while 15% of population binge drink