

AU InforMed

Volume 9 Number 2 (Issue 237)

Tuesday, February 1, 2011

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Key Inforbits

- About heart disease
- Women and heart disease
- Heart disease risk factors
- Ways to decrease your risk
- The scoop on supplements
- Heart disease in the literature

February is...

National Heart Month



About Heart Disease:

As the leading cause of death in the US, an American will have a coronary event about every 25 seconds with death occurring approximately every minute. Heart disease is a group of conditions affecting the structure and functions of the heart, with many causes. The most common cause is coronary artery disease (CAD), which can lead to heart attack, angina, heart failure and arrhythmias. CAD occurs when plaque builds up in the arteries supplying blood to the heart, causing arteries to narrow from atherosclerosis. This buildup can cause angina, the most common symptom of CAD, characterized by chest pain or discomfort as the heart muscle doesn't receive enough blood. Over time, this can weaken the heart muscle, potentially leading to complications such as heart failure or arrhythmias. In some instances, the first sign of CAD is a heart attack, occurring when a plaque completely blocks an artery carrying blood to the heart or when a deposit breaks off and clots a coronary artery. In any case, the effects of heart disease are dangerous and potentially deadly.

1. Heart Disease [Internet]. Atlanta: Centers for Disease Control and Prevention. c2009 [cited 2011 Jan 24]. Available from: <http://www.cdc.gov/heartdisease/index.htm>.
2. American Heart Association-Learn and Live [Internet]. Dallas: American Heart Association. c2010 [cited 2011 Jan 24]. Available from: <http://www.heart.org/HEARTORG/>.

Women and Heart Disease:

- ♥ Heart disease is the #1 killer of women in the US.
- ♥ Ladies and gentlemen, think of your girlfriends, mothers, sisters and aunts. Statistics say that *1 in 3 will die from heart disease*.
- ♥ 90% of women have at least 1 risk factor for heart disease...having only 1 risk factor *doubles* the risk of heart disease.
- ♥ Prevention IS the best medicine. Following a healthy diet, maintaining a healthy weight, participating in regular physical activity, and not smoking can reduce the risk of heart disease by as much as 82%.
- ♥ February 4, 2011 is **National Red Wear Day**[®] to raise awareness for heart disease in women so don your red tie, dress, sweater, or shoes to show your support!



1. American Heart Association [Internet]. "Make It Your Mission to Fight Heart Disease in Women." C2010 [cited 2011 Jan 24]. Available from: <http://www.goredforwomen.org/wearredday/resources/documents/DS-4177KnowledgeKitMaster.pdf>.
2. National Heart Lung and Blood Institute [Internet]. Bethesda: National Heart, Lung, and Blood Institute; c2011 [cited 2011 Jan 24]. Available from: <http://www.nhlbi.nih.gov/educational/hearttruth/>.

Risk Factors for Heart Disease:

- ♥ High LDL (“bad”) cholesterol or low HDL (“good”) cholesterol
- ♥ High blood pressure
- ♥ Diabetes mellitus
- ♥ Diet high in saturated fat, cholesterol & sodium
- ♥ Tobacco use
- ♥ Physical inactivity
- ♥ Obesity
- ♥ Excessive alcohol use

1. Heart Disease [Internet]. Atlanta: Centers for Disease Control and Prevention. c2009 [cited 2011 Jan 24]. Available from: <http://www.cdc.gov/heartdisease/index.htm>.
2. American Heart Association-Learn and Live [Internet]. Dallas: American Heart Association. c2010 [cited 2011 Jan 24]. Available from: <http://www.heart.org/HEARTORG/>.

Ways to Reduce Your Risk: “Life’s Simple 7”:

These health and behavior factors impact health and quality of life, potentially adding years to your life.

1. Avoid smoking



Smoking is the most important preventable cause of premature death in the US. Smoking decreases your tolerance for physical activity, increases the tendency for blood to clot, and decreases “good” cholesterol. In effect, smokers have a higher risk of developing many chronic disorders, including atherosclerosis (the buildup of fatty substances in the arteries), which can lead to coronary heart disease, heart attack, and stroke. Bottom line: smoking blows. If you don’t smoke, don’t start. If you do smoke, discuss the MANY benefits of quitting with your pharmacist and form an action plan when you feel ready.

2. Maintain a healthy weight

Among Americans age 20 and older, 145 million are overweight or obese...ugh! This number is greatly concerning as obesity is now recognized as a major, independent risk factor for disease. Those with excessive fat have an increased risk for high blood pressure, high blood cholesterol, and diabetes. By losing weight (and keeping it off!) you can reduce your risk. A healthy “diet” plan should focus on balancing healthy eating with a healthy level of exercise.



3. Engage in regular physical activity

Regular physical activity helps lower blood pressure, increase HDL “good” cholesterol, control blood sugar by improving how your body uses insulin, reduce stress, control body weight and improve self-image. The American Heart Association recommends at least 150 minutes per week of moderate exercise or 75 minutes per week of vigorous exercise. Need some easy tricks to get started with?

- ♥ Park further away from your destination.
- ♥ Take short walks throughout the workday.
- ♥ Try active-play video games with your friends and family.

4. Take charge of cholesterol

Cholesterol is an important part of a healthy body—it is a necessary component of cell membranes and some hormones. However, too much LDL or “bad” cholesterol in the blood can clog arteries, increasing the risk of heart attack and stroke. The good news is, you can lower your cholesterol and reduce your risk. The American Heart Association recommends scheduling a cholesterol screening, eating foods low in cholesterol and saturated fat and free of trans fat, maintaining a healthy weight, and staying physically active.

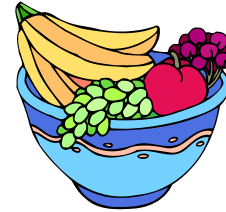
5. Keep blood sugar at healthy levels

Adults with diabetes are 2-4 times more likely to have heart disease or a stroke. In fact, most people with diabetes die of some form of heart or blood vessel disease! Diabetes can cause blood sugar to rise to dangerous levels, which may lead to serious cardiovascular complications. Keep your blood sugar in check by watching what you eat, controlling your weight, exercising regularly and following regular check-ups with your physician.

6. Eat a healthy diet

A healthy diet is one of the best weapons to fight cardiovascular disease. The American Heart Association recommends eating a wide variety of nutritious foods daily.

- ♥ **Fruits and vegetables:** At least 4.5 cups a day
- ♥ **Fish (preferably oily fish):** At least two 3.5-ounce servings a week
- ♥ **Fiber-rich whole grains:** At least three 1-ounce-equivalent servings a day
- ♥ **Sodium:** Less than 1,500 mg a day
- ♥ **Sugar-sweetened beverages:** No more than 450 calories (36 ounces) a week
- ♥ **Nuts, legumes and seeds:** At least 4 servings a week
- ♥ **Processed meats:** No more than 2 servings a week
- ♥ **Saturated fat:** Less than 7% of total energy intake



7. Manage blood pressure

Hypertension is the single most significant risk factor for heart disease. Hypertension causes blockages and blood clots which means less blood is able to reach vital organs and the tissue dies, leading to stroke, heart attack, kidney failure and even heart failure. What can you do for your blood pressure? Eat a heart-healthy diet, incorporate regular physical activity, maintain a healthy weight, manage stress, limit alcohol and avoid tobacco smoke.

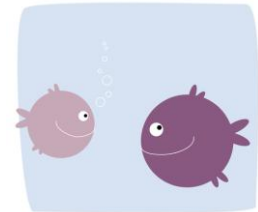
1. American Heart Association-Learn and Live [Internet]. Dallas: American Heart Association. c2010 [cited 2011 Jan 24]. Available from: <http://www.heart.org/HEARTORG/>.
2. Heart Disease [Internet]. Atlanta: Centers for Disease Control and Prevention. c2009 [cited 2011 Jan 24]. Available from: <http://www.cdc.gov/heartdisease/index.htm>.

The Scoop on Supplements:

In addition to diet and exercise, many people rely on dietary supplements to keep their heart healthy. Here is some useful information about some common supplements that are marketed to improve cardiovascular health. Always check with your healthcare provider before taking any over-the-counter medication.

♥ Fish Oil (Omega-3 Fatty Acids):

Fish oil supplements contain two very important omega-3 fatty acids-eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)-that have shown efficacy in lowering the risk of CAD. Though the exact mechanism is unknown, fish oil has shown to slow the progression of atherosclerosis, mildly improve blood pressure and reduce ventricular arrhythmias in addition to its primary effects on triglycerides. DHA and EPA are abundant in coldwater fish such as sardines, salmon, and mackerel. Also, fish oil supplementation can contain adequate amounts of EPA and DHA and may be a more convenient and sensible approach. There is not a clear dose for fish oil supplements, but it has been most studied at doses of 0.4-2 g of EPA/DHA per day. Fish oil at normal doses is generally well tolerated, with the most common side effects being “fishy” aftertaste, nausea, and diarrhea.



♥ CoEnzyme Q-10:

CoEnzyme Q-10 (CoQ10) is an enzyme produced by the human body that is necessary for basic cell functions. CoQ10 levels are reported to decrease with age and to be lower in patients with chronic conditions, such as cardiovascular disease and Parkinson’s disease. Therefore, in theory, patients with a history of CV complications could benefit from CoQ10 supplements. While CoQ10 may have applications in CV disease, clinical evidence has not established a mortality benefit from the addition of CoQ10 supplementation. Due to the lack of clear evidence, the American Heart Association (AHA) does not support the use of CoQ10 in CV disease.

♥ Chocolate:

Most people don’t think of chocolate as being beneficial for your heart, but emerging literature suggests that certain ingredients in chocolate can reduce the risk of CAD. The benefits of chocolate in reducing the risk of heart disease appear to be associated with the high content of flavonoids, a type of antioxidant found in cocoa. Flavonoids are thought to increase the effects of nitric oxide leading to protective effects on the vascular, decreased blood pressure, and improved platelet function. Dark chocolate has the highest amount of flavonoids, making it the preferred chocolate.

♥ Phytosterols (Plant Sterols):

Plant sterols are derived from plant-based foods and are used to enrich margarine, yogurts, and other foods. Clinical studies have shown that foods enriched with plant sterols lower total cholesterol and LDL-cholesterol. One particular study in adults with moderately high cholesterol showed a 9.5% reduction in LDL levels after three weeks of consuming two servings of sterol-enriched low fat milk daily. Also, the addition of a plant sterol supplement to a “statin” regimen can decrease LDL by 20%. Plant sterols have not been shown to affect triglycerides or HDLs. The recommended daily intake of sterols is 1.5-3 g. These supplements are also available in a powdered form, which may be more convenient and easier to incorporate in your diet.

1. WebMD [internet]. Supplementing Your Heart Health: Omega-3, Plant Sterols, and More. [updated Jan 7 2010] [accessed Jan 26 2010] [about 6 pages] Available from: <http://www.webmd.com/vitamins-and-supplements/lifestyle-guide-11/supplementing-your-heart-health-omega-3-plant-sterols?page=1>
2. Mayo Clinic [Internet]. Omega-3 fatty acids, fish oil, alpha-linolenic acid. [updated Dec 1 2010] [accessed Jan 25 2010] [about 7 pages]. Coenzyme Q10 [updated Dec 1 2010] [accessed Jan 25 2010] [about 7 pages]. Available from : <http://www.mayoclinic.com/>
3. DerMarderosian A, Beutler JA, ed. The Review of Natural Products, 6th edition. St. Louis: Facts and Comparisons. 2010, pgs. 165-167, 542-548, 1449-1452.
4. MedicineNet.com [Internet] Nibble on Chocolate for a Healthier Heart. [updated Mar 31 2010] [accessed Jan 28 2010] [1 page]. Available from: <http://www.medicinenet.com/script/main/art.asp?articlekey=114863>

From the Medical Literature

A new therapy for atherosclerosis?

Like high levels of low-density lipoprotein (LDL) and triglycerides and low levels of high-density lipoprotein (HDL), lipoprotein-associated phospholipase-A₂ (Lp-PLA₂) has been implicated in atherosclerotic disease. Lp-PLA₂ is involved in the regulation of lipid metabolism and inflammation. It accumulates in the arterial wall along with LDL where it releases substances that attract macrophages to the site. This leads to the formation of foam cells and plaque instability. High levels of Lp-PLA₂ have been associated with increased risk of myocardial infarction and stroke. Darapladib, a Lp-PLA₂ inhibitor, has demonstrated efficacy in reducing Lp-PLA₂ and serum c-reactive protein (CRP) in phase II trials. Phase III trials now underway should demonstrate whether or not darapladib will reduce incidence of stroke, myocardial infarction, and cardiovascular death associated with atherosclerotic disease.

1. Corson M. Darapladib: an emerging therapy for atherosclerosis: future prospects for darapladib. *Ther Adv Cardiovasc Dis.* 2010; 4(4): 241-248.

ACCELERATE Trial: Combination Therapy Beats Monotherapy for Hypertension

Investigators of the ACCELERATE (Aliskiren and the Calcium-Channel Blocker Amlodipine Combination as an Initial Treatment Strategy for Hypertension) trial report that patients initiated on combination therapy for high blood pressure (BP) have more effective BP lowering versus patients initiated on monotherapy. In the study of over 1,000 adults with systolic blood pressure between 150 and 180 mm Hg, combination therapy lowered blood pressure by 25% more than monotherapy over six months *with no increased incidence of adverse drug reactions*. Investigators believe their results could support a change in the current “start low, go slow” approach to treatment of hypertension. Read more about the ACCELERATE trial at <http://www.medscape.com/viewarticle/735729>.

1. Brown MJ, McInnes GT, Papst CC, Zhang J, MacDonald TM. Aliskiren and the calcium channel blocker amlodipine combination as an initial treatment strategy for hypertension (ACCELERATE). *Lancet.* 2011; 377(9762):312-20.



The last “dose” ...

**If you haven't got any charity in your heart,
you have the worst kind of heart trouble.**

-Bob Hope [May 29, 1903 - July 27, 2003]

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