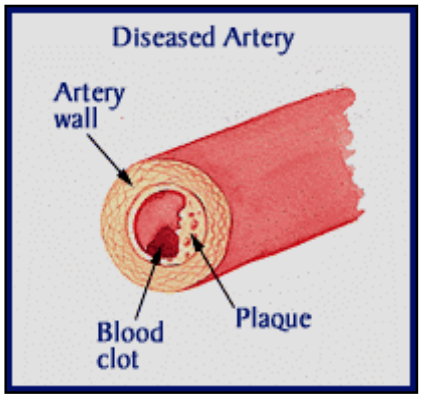
The Effects of Heart Disease – Especially on Firefighters

We all are at risk for heart disease.

Through no fault of AristaTek, Inc., it seems our customers are at particular risk for heart attacks. It isn't that harmful negative vibrations are being emitted from your PPC where PEAC is loaded, but more likely the nature of your job mixed with health issues. The leading cause of death for structural firefighters is heart attacks or myocardial infarction, according to U.S. Fire Administration (USFA) data that was analyzed by the Center for Disease Control (CDC). Not to mention heart disease is the leading cause of death to American men and women; just because you are not a firefighter doesn't exclude you from risk. Why are firefighters and emergency workers at such a high risk? Their work can be physically and mentally stressful. Yet, other parts of their work can be relatively inactive, in terms of just waiting around for an emergency call at the station. These two factors contribute to heart problems.

So maybe I've been sitting around eating too many hot wings…

The Applied Exercise Science Laboratory at Texas A&M University constructed a study to look at the inactivity of firemen and women while on duty. The study linked sedentary duty time with being overweight and poor cholesterol levels. Heart problems arise when the heart has to work overtime. Being overweight means the heart must pump more blood because there is extra body mass. Cholesterol is normal and necessary in our bodies, but we make what we need and excessive amounts from our diet can be harmful. The bad cholesterol "LDL" is suspected to be one culprit in forming plaque along the artery walls. This is called atherosclerosis. The most widely accepted theory on the cause of heart attacks is when a plaque filed artery forms a blood clot this completely shuts off bodily blood flow. This theory regards the amount of plaque buildup as the most critical.



The February 2007 issue of the National Geographic brings a new theory about the correlation between plaque and heart attacks. It states that the type of plaque is critical but not necessarily the amount. Immature, softer plaques may be more likely to rupture and break away from the artery wall, causing damage to the artery. Researchers can agree that plaque, indiscriminant of what type, is unwanted. Cholesterol is a component of plaque so it is important to keep those levels down.

One misconception is that being skinny means you are not at risk for high cholesterol or heart disease. That's wrong! Thin people must check their cholesterol, as well, because it reflects excessive saturated fat in diets or, just as possible, genetic susceptibility to high cholesterol. As one doctor pointed out in

the Nat. Geographic (Feb. 2007) that a person's heart attack risk is "50 percent genetic and 50 percent cheeseburger." Some individuals leading a healthy life may still have high cholesterol levels due to family genetics.

Risk Factors We Can Thank Our Parents For…

Age, gender and heredity are risk factors that cannot be altered. According to the CDC these factors are used to indicate a health heart or a heart at risk. Knowing if you are at risk is a good start. Most heart attacks happen around age 65 or older (but can happen at younger ages). Men are at a greater risk then women. Heredity, that includes race, is an indicator. If your parents had a form of heart disease, consider yourself warned! African Americans, Mexican Americans, American Indians, native Hawaiians and some Asian Americans are at higher risk for heart disease possible due to blood pressure, obesity or diabetes. If you fall into several of these categories then it is realistic to be worried about your heart. Diseases of the heart and circulatory system or cardiovascular disease is the leading cause of death to American men and women. So unfortunately we all are at risk.

Heart Disease and Women

Heart disease is not just a man's illness. Heart disease is the number one killer of American women. Part of the problem is the misconception that its not affecting women. Here are some numbers to tell the story. In 2003 483,842 women died from heart disease and 267,902 women died from all different cancers combined (according to the American Heart Assoc.). This is a shocking number and wake up call to all women and the people who love them. Minority women are at even at greater risk then white women. The recommendations for diet, exercise, quitting smoking, and regular checkups apply to all, men and women.

One Drink a Day May Keep Heart Disease Away!

Changes can be made to lifestyles to reduce risk. Some of the ways are through diet, exercise, quitting smoking and lowering stress levels. One fun statistic reported in the journal Archives of Internal Medicine (July 24, 2006 issue) is that low to moderate alcohol consumption may contribute to a longer life and lower occurrence of a cardiac event. Moderate drinking is one to seven drinks a week or less then one beverage, be it 12oz of beer or 4oz of wine, a day. Several studies have reported these findings. However, one should not start drinking to lower risk for heart disease, because alcohol consumption is associated with certain cancers and high blood pressure. Scientists in the study suggest alcohol reduces inflammatory factors, but it is still unclear. The results indicate that we shouldn't feel too guilty about that glass of pinot noir at the end of the day.

The #1 Recommendation

Here is the big one. The time consuming one and the one we all know we should be doing, because we know the real solution to reducing heart attacks is not sitting around drinking wine. Exercise is key - especially for firefighters! The job is intertwined with being in shape so that they are physically capable of emergency situations and controlling fires. Exercise will ensure that not only their muscles are ready to pull hose, fight fires and help with motor vehicle accidents but also the most important muscle, the heart, is ready to keep up with the action. If only the heart was a "beach muscle" (the kind we show off tanning in the sun) maybe people would understand its importance and beauty. Exercise will control weight and obesity factors, which is now considered a "major, independent risk factor for heart disease" according to the American Heart Association.

Good news about exercise: any is better than none. Go dancing, walk to work, play rugby, do yard work yourself, install a wood-burning stove so you will have to lug firewood in everyday (plus you could save money by not buying heating fuel!). All of these things count. It does not strictly mean going to the gym and using the workout equipment, but that isn't a bad idea either. Some suggestions for workout times and capacities are 30-60 minutes and at about 50-80 percent of your maximum capacity, done everyday. Again these are optimal numbers and they can be discouraging, because people feel they must either do the optimal or nothing. This is one instance that anything you do is better then the couch eating more hot wings.

Food, Food, Food

Eating can be like taking life saving drugs, if done right. The key is the right foods at the right amounts. Heart healthy diet guidelines can be found on the American Heart Association's web site (www.americanheart.org), along with lots of good information on exercise, warning signs, and more information on disease and conditions. A good diet must include foods that are low in saturated fats, because those fats will increase cholesterol. The best foods to eat are fruits, vegetables, whole grains and meats that are low in fat.
Diet should include essential fatty acids. These fatty acids are incorporated through diet because our bodies cannot build them. A popular fatty acid that has been in the media considerably is omega-3 fatty acid. Some studies find that the consumption of omega-3 fatty acids can lower cholesterol and blood pressure levels, both contributing factors to heart disease. They also counter plaque buildup by inhibiting formation in arteries as reported by the University of

Maryland Medical Center. Foods high in omega-3 fatty acids are oily fish (for example: wild salmon, mackerel, cod and anchovies), flaxseed oil, and walnuts. Supplements for fish oil are also available. Scientists agree that omega-3 fatty acids are necessary and have beneficial effects. They tend to disagree on how large of an effect omega-3 fatty acids have on heart disease and if people with current heart problems benefit from them.

Be aware of trans fats that come from partially hydrogenated oils. They are derived from plant oils, which are unsaturated fats and normally better for the heart. The problem arises with the mechanism of partially hydrogenating the oil, which turns the molecule's characteristics to more like saturated fats. Remember saturated fats are correlated with plaque formation in the arteries, which leads to heart disease. Trans fats can raise LDL ("bad") cholesterol and lower HDL ("good") cholesterol levels. The LDL/HDL ratio becomes double that of the effect of saturated fats. Trans fats have no necessary or beneficial health value as reported by the Institute of Medicine of the National Academies in 2005. Industry uses trans fats for their reduced rancidity and therefore longer shelf-life. Some people are taking action against trans fat. In places like New York City they are phasing out, by law, the use of trans fats in food establishments.

Quit smoking already…

As Mark Twain said, "Quitting smoking is easy. I've done it a thousand times." People know and the message is everywhere; smoking is horrible for a person. It is equally bad for your heart and is a major contributing factor for heart disease. Smoking is a chemical and physical addiction and its not going to be easy to quit. But it is by far the best thing you could do for your health. Unlike genetic factors, age or gender, you control smoking. Increase your quality of life, be able to breathe again; quit smoking.

Preventative Maintenance

Annual doctor checkups or visiting your local health fair are a great way to receive wellness screenings. State health fairs usually do blood test for substantially less money then other labs. The screenings, whether done at a doctors office or at a state health fair will draw blood and test for irregularities in bodily function. Some of the tests done are for fats (lipids) like, triglycerides, HDL (good) cholesterol and LDL (bad) cholesterol. Other tests include glucose levels to screen for diabetes, liver function tests to check for healthy working liver, and also heart and kidney function test. A relatively new screening for risk of heart disease is done through the C-reactive protein (CRP) test. CRP is an inflammatory marker that is released by the body due to inflammation. High CRP levels could expose a possible unhealthy heart screaming for help. This type of preventative screening should be done once a year. If a screening is performed at a local health fair then it is a good idea to consult your doctor concerning the results, especially if they are irregular.

What if Community Members View Exercising a Waste of Their Money?

In an article by Janet Wilmoth, the editorial director for the Fire Chief's Command Post, she addressed the problem of the public's view of spending time and money on physical fitness. In her article she wrote about a public donation that went to a fire department, which they used to purchase some fitness equipment. The organization was upset and sued for their money back because they felt their money wasn't legitimately spent. This kind of thinking is dangerous and unfortunate. Fitness equipment and being paid to use it should be viewed as logically as buying safety equipment to decrease injuries. Knowing that firefighters' lives can be saved with exercise and some life adjustments we should support fire stations buying and using fitness equipment. As put by Janet Wilmoth, "Which is cheaper? Exercise bands and equipment, or payouts for disability and line-of-duty death benefits?"

Here at AristaTek, Inc. we want to help shed light on chemical spills and weapons of mass destruction with our products, for a better outcome on humanity. We realize that heart attacks will although many more people then, for example, a chlorine spill. This is just a way for us to remind you to lead a heart health life. Eat right, exercise, quit smoking and have a drink on us (of course just ONE as the scientists say)!

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Artery: Copyright ©2006 Vascular Associates

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http://www.caes.uga.edu/topics/disasters/winterstorm/images/firewood.jpg

Emily B. Parsons, a little bio:

Hello! I am the latest addition to AristaTek, Inc. here in Wyoming. I was born in Vermont and subsequently raised as a Vermonter. Hardworking, flexible, used to the bitter cold and draw pleasure from small town, rural life. I have done some wondering away from my beloved Vermont. I lived in South America, in Chile, as a Rotary exchange student for a year. I tried my skills at learning Spanish and living abroad. It was difficult but here started my love affair with the Spanish language. I returned to the United States to attend college at American University in Washington DC. I quickly learned that "city living" was difficult and weird, similar to a foreign country, when all I knew was tractors, firewood and dirt roads. I learned a lot in my two years in DC. I played rugby, went to embassies, a presidential inauguration, and meet people from lots of places. I decided it was time to escape the city and transferred to the University of Montana to study

geology. Montana was more my speed. I played more rugby, started skiing again and pursued a degree in science. Science is fun (my favorite radio show is science Friday on NPR)! I graduated with a degree in microbiology (no, not what I had planned…) and moved to Wyoming to work for the U.S. forest service as a wildland fire fighter. I received rides in helicopters, boats, fire engines and single unit support vehicles (SUSV's). It was anything but boring. My work as a firefighter brought me to Laramie and finally here to AristaTek, Inc.