

### Week 10 Challenge: Understanding Your Condition

Heart disease is the number one cause of death among American men and women. Within York and Adams counties, approximately 5 of every 100 people have heart disease. In Adams and York counties, more than 34,700 adults are diagnosed with diabetes. Do you want to be part of these numbers?

Heart disease and diabetes are serious conditions. Diabetes can damage the heart, blood vessels, eyes, kidneys and nerves. Being proactive with your health includes understanding your condition. It's an important part of decreasing your health risks.

The more you educate yourself about your conditions, the better off you'll be. It will help you better understand what your health care team is saying. It can help you ask questions, so your discussions are most relevant to you.

A key part of this Challenge is helping you to become an active partner in managing your health care. This week you will read about diabetes, heart disease and diagnostic tests, and research more about your condition. Once you understand symptoms and causes, you can learn how to reduce certain risks.

#### Use These Resources to Complete Your Action Items:

- *What are CAD and CHF?*
- *What is Diabetes?*
- *Understanding Medical Terms*
- *Additional Resources for CAD/CHF and Diabetes*
- *Finding Good Websites for Health Information*

#### Your Action Items This Week

- Read the terms and make sure you have an understanding of their importance. Be sure to understand how they relate to your condition.
- Look up at least one of the additional resources and spend some time reading about your condition. Use the Internet, call the toll-free number to request information, or visit the library.
- Seek out good web sites for health information using the tips given to you.
- Refer to week 7's Medications I Take worksheet when reading week 10.

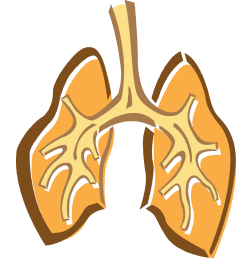
Use the Week 10 Challenge Tracker to track your progress.

*Step up to the Challenge and say, "I Can!"*

## What are CAD and CHF?

### What is CAD?

CAD, or Coronary Artery Disease, is a type of heart disease. It's caused by gradual blockage of the coronary arteries. Your heart gets oxygen and nutrients from the blood that flows through these arteries. Thick patches of fatty tissue form on the inside of the walls of the coronary arteries. These patches are called plaque. As the plaque thickens, the artery narrows and blood flow decreases – causing the heart to get less oxygen. If CAD is not taken care of, it could cause heart attacks or Congestive Heart Failure (CHF).



### Am I at risk to get CAD?

You are at risk for developing this disease if you:

- Have a relative in your close family who has CAD
- Smoke cigarettes
- Have diabetes
- Are overweight
- Have high blood pressure
- Have an inactive lifestyle
- Have high levels of blood fat (ex: cholesterol)

### What is CHF?

Congestive Heart Failure (CHF) is when the heart cannot pump the needed amount of blood to other major organs. The blood coming into the heart gets backed up and causes fluid to collect in your lungs (making it hard to breathe), your abdomen (feeling of fullness not related to overeating), and your legs (becoming swollen and heavy).

### How does CHF occur?

Heart failure may be a result of one or more of the following:

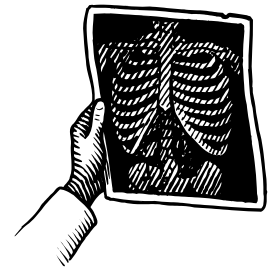
- Coronary artery disease
- A heart attack
- An infection of the heart
- High blood pressure that hasn't been treated for years
- Damage to the valves inside the heart
- Drinking too much alcohol (see week 8 for quitting)
- Sometimes no cause can be found except getting older

### How do I know if I have CAD or CHF?

It is very important to talk to your doctor about your risks, and/or symptoms.

There are many different types of tests to check for CAD and CHF. It is important that you discuss which test is better for you with your doctor. Listed below are some of the tests:

- Exercise Cardiac Stress Test (ECST): the patient does physical activity on a treadmill (or is given a drug to speed up heart rate) while nuclear images are set up to see whether the heart is receiving the right amount of blood flow.
- Electrocardiogram (EKG): measures the electrical activity of the heartbeat.
- Echocardiography: uses ultrasound waves to create images of the heart chambers, valves and surrounding structures.
- Chest X-Rays: measure size, density and shape of the heart.
- Blood Tests: check for cholesterol, sugar, proteins, and fat in the blood.
- Electron-Beam Computed Tomography: test for high calcium levels in the blood which can cause CAD and lead to CHF.
- Coronary Angiography: (the most accurate method) identifies exactly the location and severity of the disease. During the coronary angiography, there is a process called cardiac catheterization where a flexible tube is inserted in a groin or arm artery.
- Thallium Scans: use cameras to record pictures of the heart.
- Brain Natriuretic Peptide Test (BNP): measure the amount of the BNP hormone in your blood. BNP is created by the heart and tells if the heart is working properly or not. Normal results show low amounts of BNP, while high amounts of BNP your heart is working harder than normal – which may lead to heart failure.



### **What is cholesterol?**

Cholesterol is a fat-like substance in your body. It's necessary for the body to properly function, but too much cholesterol puts you at risk for heart disease. Cholesterol comes from animals, such as eggs, meat and dairy products.

There are generally two types of cholesterol, the “good” type known as HDL or High Density Lipoprotein and the “bad” type known as LDL or Low Density Lipoprotein. Your doctor will decide what your normal value is according to your risk factors, and if you have other conditions like diabetes and coronary artery disease.

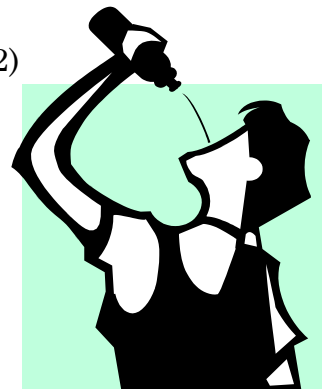
This chart can give you an idea of where you rate:

	<b>Desirable</b>	<b>At Risk</b>
<b>Total Cholesterol</b>	Less than 200	More than 240
<b>LDL</b>	Less than 100	More than 189
<b>HDL</b>	Greater than 40	Less than 40

### What are triglycerides?

Triglycerides are a type of fat found in your blood, and they give you energy. To keep you going, you need some triglycerides, but a high amount puts you at risk for heart disease. To help lower your triglycerides, you can:

- Choose lower-fat, lower-calorie foods
- Cut back on your portion size (as discussed in week 2)
- Increase intake of water and foods rich in fiber to help make you feel full without lots of calories
- Eat slowly
- If you need to lose weight, strive for slow, steady weight loss of ½ - 2 pounds per week
- Increase your physical activity (as discussed in week 4 and 9)
- Lower your cholesterol
- Eat more fish (three times a week – salmon, herring, lake trout)
- Limit or avoid processed foods
- Decrease starch intake (allow only one to two servings with every meal)
- Decrease sugar intake (use sugar-free beverages, fresh or unsweetened fruit, sugar-free jelly and syrups)



## What is Diabetes?

Insulin is a hormone and is made by an organ near the stomach called the pancreas (PAN-kree-us). Insulin helps the body use sugar from the blood for energy. Diabetes is a disease where the body fails to produce insulin, called Type 1, or stops properly using the insulin it produces, called Type 2.

Some common symptoms of diabetes are blurred vision, unusual or increased tiredness, irregular weight loss, increased irritability, increased thirst, and intense hunger.

### Tests that you may be asked to take if you have Diabetes

Once again, there are a few tests available, so developing a relationship with your care team and asking questions about the right test for you is important. Here are some of the tests:

- The Fasting Plasma Glucose Test (FPG): you go a minimum of 8 hours without eating, and then they test your blood glucose level. Any level 99 or below is normal, 100 to 125 means a form of pre-diabetes and a risk of developing Type 2 diabetes, and anything above 126 means you have diabetes.
- The Oral Glucose Tolerance Test (OGTT): you go a minimum of 8 hours without eating and then your blood glucose level is measured. Two hours after you drink a glucose-containing beverage, it is remeasured. If the second test reports results between 140 and 199, you have pre-diabetes and you have a high risk of getting Type 2 diabetes. If the results report above 200 and are confirmed by the second test, you have diabetes.
- The Random Plasma Glucose Test: your blood glucose level is measured regardless of when you ate your last meal. A test result of over 200 means you have diabetes. This test is less accurate than the others.
- The A1C (Glycated Hemoglobin) Test: This is a blood test that gives your doctor an idea of what your average blood sugar values have been over the last 3 months. The result is given in a percentage value (%). The range found in healthy persons is about 4 - 5.9%. Those with diabetes should have glucose levels in or close to that range. An increase in your glucose percentage to 7% or higher can put you at risk for other related diseases like CAD or a heart attack.



## Understanding Medical Terms

Now that you know some of the tests that are done to check for CAD or diabetes, here are some of the words used by doctors to describe different parts of these conditions. Ask your doctor questions if you hear a word you don't understand.

- **A1C:** A test that measures how much glucose (sugar) has been sticking to the matter in red blood cells that carries oxygen to the cells of the body. It is looked at to see your average blood sugar levels over the past 2 or 3 months.
- **ACE inhibitor:** a medicine taken by mouth that lowers blood pressure; ACE stands for angiotensin (an-gee-oh-TEN-sin) converting enzyme. For people with diabetes, especially those who have protein in the urine, it also helps slow down kidney damage.
- **Adult-onset diabetes:** Type 2 diabetes.
- **ARB:** a medicine taken by mouth that lowers blood pressure; ARB stands for angiotensin (an-gee-oh-TEN-sin) receptor blocker.
- **Artery:** The upper chamber of the heart. There is a right and left atrium.
- **Blood pressure:** The pressure of the blood within the arteries which is produced by the movement of the heart muscle. The first number is the systolic (sis-TAH-lik) pressure, or the pressure when the heart pushes blood out into the arteries. The second number is the diastolic (DY-uh-STAH-lik) pressure, or the pressure when the heart rests.
- **Body Mass Index (BMI):** a measurement tool used to find a person's body weight in comparison to their height. BMI is used to find out if a person is underweight, normal weight, overweight or obese. (Refer to week 1 for more information.)
- **Bypass:** An operation in which a surgeon creates a new pathway for the movement of fluids in the body. For example, a coronary bypass is when the surgeon places a new blood vessel to get blood to the heart because the old one is clogged. Think of it as a new, faster detour.
- **Cardiac arrest:** A medical emergency when the heart stops beating.

- **Cardiovascular:** Having to do with the heart and blood vessels.
- **Cholesterol:** A waxy fat-like substance naturally found in cell walls. Too much cholesterol may stay in the arteries of the heart causing heart disease.
- **Coronary arteries:** The vessels that circle the heart. They supply the heart muscle with oxygen rich blood.
- **CT scan:** The Computerized Tomography scan is a computer program that takes data from multiple X-Ray images and creates pictures on a screen.
- **Diabetes mellitus:** Better known as diabetes, it means one has high levels of glucose (sugar) in the blood.
- **Diabetic coma:** Coma in a person with diabetes due to the buildup of ketones (substance made when the body breaks down fat for energy) in the bloodstream.
- **Diabetic retinopathy** (REH-tih-NOP-uh-thee): diabetic eye disease; damage to the small blood vessels in the retina. May result in loss of vision.
- **Glucose or dextrose:** The sugar that is the leading source of energy in the body. The body makes glucose from proteins, fats, and carbohydrates. Cells can only use glucose with the help of insulin. Insulin is like the key that lets the glucose get into the cell.
- **Glycemic index:** A measure of the ability of different types of foods that contain carbohydrates to raise the blood glucose (sugar) levels within 2 hours.
- **HDL cholesterol:** HDL cleans your blood vessels of bad cholesterol. It is considered the “good cholesterol” since the higher your HDL, the lower your risk of CAD.
- **Heart attack:** The death of the heart muscle due to the loss of blood supply, usually caused by a complete blockage of a coronary artery.
- **Heart disease:** Any disorder that affects the heart.
- **High blood pressure:** Blood pressure count exceeding 140 over 90 mmHg. Normal blood pressure is 120 over 80 or less.

- **Hypercholesterolemia:** There is too much cholesterol in your blood.
- **Hyperglycemia:** There is too much sugar in your blood.
- **Hypertension:** High blood pressure. Repeated high blood pressure level.
- **Hypoglycemia:** There is not enough sugar in your blood.
- **Insulin:** A natural hormone produced by the pancreas that controls the level of the sugar/glucose in the blood. Cells can only use glucose as energy if the insulin helps to move the glucose into the cell. Cells can only produce energy if they are assisted by insulin.
- **Ketone:** a chemical produced when there is a shortage of insulin in the blood and the body breaks down body fat for energy. High levels of ketones can lead to diabetic ketoacidosis and coma. Sometimes referred to as ketone bodies.
- **LDL Cholesterol:** Considered the “bad” cholesterol. It builds up on the walls of your blood vessels making them too narrow for blood to get through.
- **Lipid:** Another name for fat.
- **Myocardial Infarction:** Another term for a heart attack. This occurs when a blood vessel (an artery) to the heart is blocked.
- **Nephropathy** (neh-FROP-uh-thee): Disease of the kidneys. Hyperglycemia and hypertension can damage the kidney. When the kidneys are damaged, protein leaks out of the kidneys into the urine. Damaged kidneys can no longer remove waste and extra fluids from the bloodstream.
- **Neuropathy** (ne-ROP-uh-thee): Disease of the nervous system. The three major forms in people with diabetes are peripheral neuropathy, autonomic neuropathy, and mononeuropathy. The most common form is peripheral neuropathy, which affects mainly the legs and feet.
- **Obstruction:** The blockage of a passageway.
- **Palpitations :** Feelings of irregular and or strong beating of the heart.
- **Postprandial blood glucose** (post-PRAN-dee-ul): The blood glucose level taken 1 to 2 hours after eating.

- **Preprandial blood glucose** (pree-PRAN-dee-ul): The blood glucose level taken before eating.
- **Self-management:** In diabetes, the ongoing process of managing diabetes. Includes meal planning, planned physical activity, blood glucose monitoring, taking diabetes medicines, handling episodes of illness and of low and high blood glucose, managing diabetes when traveling, and more. The person with diabetes designs his or her own self-management treatment plan in consultation with a variety of health care professionals such as doctors, nurses, dietitians, pharmacists, and others.
- **Stent:** A tube placed into a vessel or passageway to keep it open.
- **Stroke:** The sudden death of some brain cells due to a lack of oxygen when the blood flow to the brain is blocked by a clogging of the artery to the brain.
- **Vein:** A blood vessel that carries blood that is low in oxygen from the body back to the heart.
- **Ventricle:** The lower chamber of the heart – there is a right and left ventricle.
- **Vessel:** A tube in the body that carries fluids.

## Additional Resources for CAD/CHF and Diabetes

If you would like to learn more about diabetes or CAD, please use these additional resources for more information.

### CAD/CHF

- The American Heart Association, [www.americanheart.org](http://www.americanheart.org), 1.800.AHA.USA.1
- The Heart Library, [www.heartlibrary.com](http://www.heartlibrary.com).
- The National Women's Health Information Center, [www.womenshealth.gov](http://www.womenshealth.gov), 1.800.994.9662
- The Department of Health and Human Services, [www.cdc.gov/heartdisease/](http://www.cdc.gov/heartdisease/), 770.488.2424
- The National Coalition for Women with Heart Disease, [www.womensheart.org](http://www.womensheart.org)

### Diabetes

- American Diabetes Association, [www.diabetes.org](http://www.diabetes.org), 1.800.DIABETES
- National Diabetes Information Clearinghouse, [www.diabetes.niddk.nih.gov](http://www.diabetes.niddk.nih.gov), 1.800.860.8747
- WebMD, [www.diabetes.webmd.com](http://www.diabetes.webmd.com)
- [http://effectivehealthcare.ahrq.gov/repFiles/Insulin\\_Consumer\\_Web.pdf](http://effectivehealthcare.ahrq.gov/repFiles/Insulin_Consumer_Web.pdf)

## Finding Good Websites for Health Information



There is a lot of health information available on the Internet. However, there are no restrictions on who can create a Web site or what they include on it. Therefore, it is important to make sure the information you find online is accurate. Here are a few tips for finding credible Web sites.

- It should be easy to tell who is running the site. You can find more information by looking at the “About Us” section.
- Look at the purpose of the site. Are they trying to sell you something? Do they have a “miracle cure?”
- Look for good sites that end in:

.gov: sites are run by the government such as the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov))

.edu: sites are run by universities or medical centers such as Penn State University ([www.psu.edu](http://www.psu.edu))

.org: sites that run by non-profit organizations such as the American Diabetes Association ([www.diabetes.org](http://www.diabetes.org))

**Note:** .com sites are commercial and are not always accurate

- Look at the site for a current date for updated information.
- There should always be a “Contact Us” section listed.
- Sites that show a HON (Health on the Net) Code like WellSpan Health ([www.wellspan.org](http://www.wellspan.org)) must carry out specific standards for medical excellence.



## More tips to access online health information safely:

- Web sites provided by your government or recognized institutions (public hospitals, universities, etc.) are offered for your benefit only and usually contain lots of practical and reliable information and tips.
- If possible, ask your health care team for a list of reliable health web sites to visit.
- Always use more than one web site to receive balanced information and to check information.
- Upon visiting any web site, check the source of the information provided (Who has written the health information? Is that person qualified to give this information? If not, have the references from which he/she obtained this information, been provided?)
- Check the privacy policy of a web site to know what information about you (non-personal) is collected by them and if you provide any personal information, what they do with this. (Some sites may share your email addresses with others for advertising.)
- Many reliable web sites have a seal of certification from a trusted accrediting organization like the Health On the Net Foundation. This certification certifies that the site provides transparency regarding the authority, authorship, confidentiality, funding, is up-to-date, honest about advertising and provides clear distinction between advertisement and editorial content. Always click to make sure that certification is still valid.
- The status of certification of a web site can be confirmed using the HON code Toolbar which can be downloaded at: <http://www.hon.ch/HONcode/Plugin/Plugins.html>. Please remember that as a web page may change at any time, HON cannot verify and assure the content, and for any doubt, a health professional should be contacted.
- Always be careful. DO NOT believe claims or promises of miraculous cures, wonder drugs and other extreme statements unless there is proof to these claims.
- NEVER regard information found on the Internet, in a book or anywhere else as medical advice. Only a medical professional can give you medical advice after consulting with you and gaining knowledge about your specific condition.



- Those ordering drugs from online pharmacies based outside their country of residence should make sure that there are no legal laws against doing this. (Some countries do not allow medications from other countries into their own.)
- Quite a few online pharmacies have been involved in various scams. Thus you should be careful when accessing such sites. Many US online pharmacy sites have the seal of certification 'VIPPS' (Verified Internet Pharmacy Practice Sites) developed by the National Association of Boards of Pharmacy. These sites are usually reliable.



