

# *Women's Health Over 40*



## what you should know

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Vital information about:

- breast cancer
- osteoporosis
- heart disease
- other women's health issues

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Authors: Caroline J. Böhme, MD, FACOG; Janette C. Gosch-Weisbrodt, MEd; and Rona B. Ewart, MEd, RD, LD.

Contributing Editors: Karl Bueschenschueez, DO; Dean J. Kereiakes, MD, FACC; Paul Ribisl, PhD; and Douglas Wetherill, MS.

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# Treatment Disclaimer

This book is for education purposes, not for use in the treatment of medical conditions. It is based on skilled medical opinion as of the date of publication. However, medical science advances and changes rapidly. Furthermore, diagnosis and treatment are often complex and involve more than one disease process or medical issue to determine proper care. If you believe you may have a medical condition described in the book, consult your doctor.

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# Introduction

Women's health issues have received growing attention in the past few decades. However, there are 3 conditions that will dominate medical research and treatment in the years to come: breast cancer, osteoporosis, and heart disease.

Women, after age 40, experience an increased risk for each of these diseases. That is why this book focuses on these key topics by explaining risk factors, treatment and — most importantly — prevention.

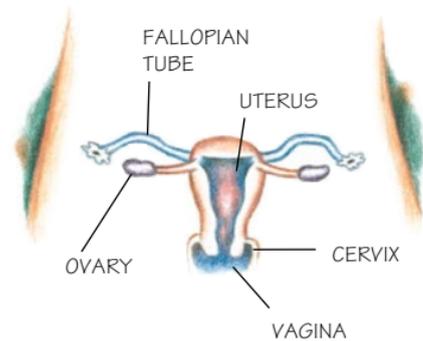
Reading this book is an important first step in educating yourself and taking an active role in your health and well-being. You and your family will benefit from the time you invest taking care of yourself.

— Caroline, Janette, and Rona

# Menopause

# Pelvic anatomy

Understanding the female anatomy is the first step to understanding what health issues specifically affect a woman. A woman has 2 **ovaries**, 2 **fallopian tubes**, a **uterus**, **cervix**, and **vagina**. The ovary is the storage house for eggs and plays a major role in the production of estrogen. The fallopian tubes are important for the transportation of eggs.



The uterus has a lining known as the **endometrium**. This lining sheds every month when a woman has a period. It also becomes the womb for pregnancy. The uterus is composed of smooth muscle known as the **myometrium**.

The cervix is the opening to the uterus and is the connection to the vagina. The cervix has an external portion and an internal portion.

## Why age 40?

The first menstrual period, known as **menarche**, is a signal that a woman's body is beginning to release eggs. The onset of menses is controlled by many different hormones, including the production of estrogen. A woman will have menstrual cycles approximately 30 to 40 years of her life.



At a certain time in a woman's life, the ovaries are no longer able to produce estrogen. At this time, menstruation ceases. **Menopause** can occur surgically by removal of the ovaries or naturally through aging. The average age for the onset of menopause is 51; it usually occurs sometime between ages 48 and 55.

# What happens during menopause?

When menopause occurs naturally, it does not happen overnight. It is a gradual process.

Physical and emotional changes can begin to occur several years before a woman reaches menopause.

These changes begin when a woman is in her 40s.

This time period is known as **perimenopause**. During perimenopause, a woman may experience mood swings, hot flashes, and a change in the cycles of her period.

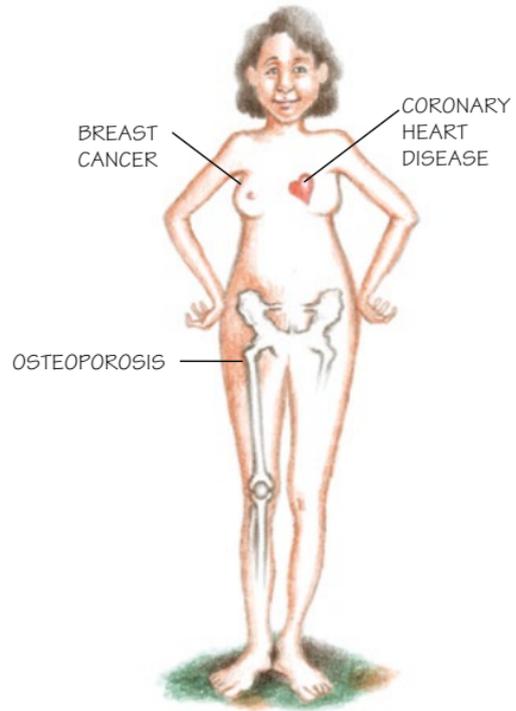
The menopausal experience is different for each woman.

## Post-menopausal concerns

The time after menopause is known as the **post-menopausal** period. Women who are post-menopausal have many health issues to consider.

If women understand the important health issues of menopause at an earlier age, they can make the transition into menopause more easily. Also, by understanding these issues, a woman may be able to identify her risks and possibly prevent disease.

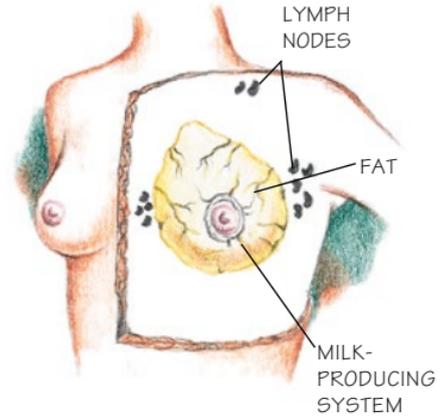
Among the most important health issues for women over 40 to understand are: **breast cancer**, **osteoporosis**, and **coronary heart disease**.

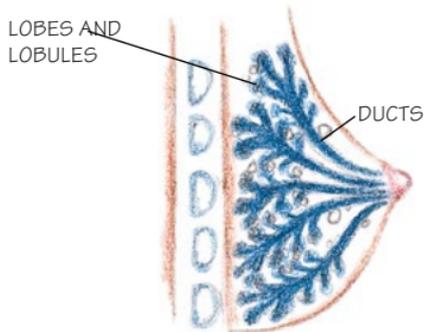


# Breast Cancer

# Anatomy of the breast

Women's ribs are covered with chest muscles. A lining covers these muscles. The breast itself is composed of **fat, lymph vessels, blood vessels,** and the **milk-producing system.** The lymph vessels lead to **lymph nodes** under the arm, above the collarbone, and in the chest. The lymph system is the “fighter” system in our bodies.

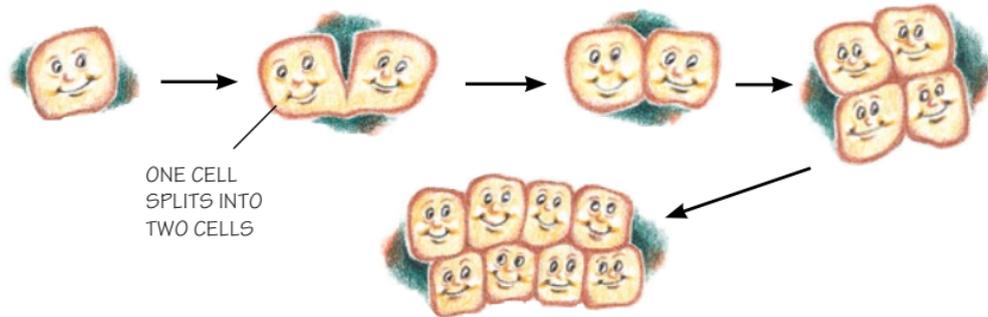




Each breast has about 20 sections that are called **lobes**. Each lobe ends in milk-producing glands or **lobules**. Thin tubes called **ducts** connect the lobules to the **nipple** to allow for the passage of milk.

# What is cancer?

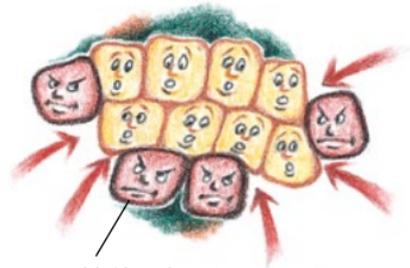
Our bodies reproduce cells through cell division. Cells go through **cell differentiation**, which determines which cells will perform each specialized function within the body. Life is like a puzzle. The cells in our bodies grow and fit together in a very particular way ...



Cancerous cells lack control and pattern. They undergo cell division rapidly without stopping. The result is a crowding of the normal cells. This crowding robs the healthy cells of available nutrients and eventually leads to the death of healthy cells. The puzzle or network of normal cells becomes damaged or interrupted.

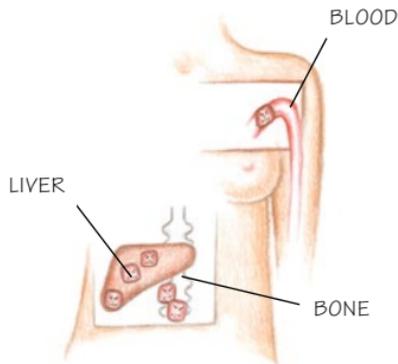
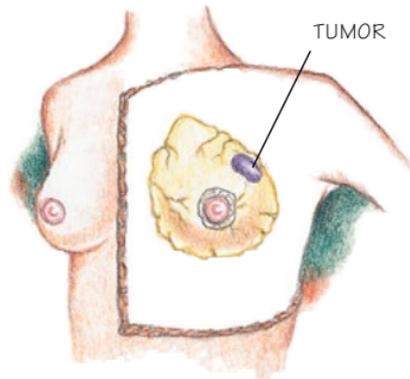


CANCER CELL



CANCER CELLS  
CROWDING  
NORMAL CELLS

The mass of cancerous cells becomes a tumor. These masses can continue to grow and destroy neighboring healthy tissue.



Tumors can also spread, or **metastasize**, to other parts of the body through the blood or lymph system.

## Why is screening for cancer so important?

Early detection is the best protection. Cancer may occur in almost any organ of the body, and each type of cancer has its own growth rate. Diagnosis is important to determine the type, location, and extent to which the cancer has spread. The earlier the cancer is diagnosed, the better the woman's chances for survival.

## What causes cancer?

Cancer may be caused by multiple factors.

**External** factors include chemicals, radiation, viruses, and the environment. **Internal** factors include hormones, heredity (family history of cancer in a mother or sister), immune system, and metabolic conditions. No single factor explains why cancer growth occurs.

## What are the risk factors for breast cancer?

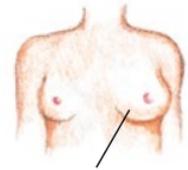
Just because you have 1 or more of the following risk factors does not mean you will eventually develop breast cancer. It means you must be especially aware of your body and have routine screenings for breast cancer.

## **Certain risk factors may increase your chances of developing breast cancer:**

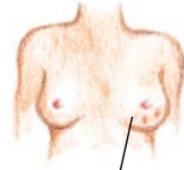
- Significant family history, especially mother or sister
- Failure to ovulate or release an egg regularly (irregular periods)
- Age at menopause older than 55
- Obesity, diabetes, high-fat diet
- Never having children
- Having your first child after age 30
- Unusual cells found in a breast lump
- Excessive alcohol consumption
- Early menarche

# Signs and symptoms of breast cancer

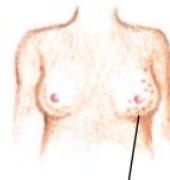
These include a lump in the breast, discharge from a nipple — especially green or red, change in the shape of 1 or both breasts, indentation of breast skin or “peau de orange” that resembles dimpling, or redness of breast skin.



ENLARGED BREAST



DIMPLING OF THE BREAST



REDNESS OF BREAST SKIN

Routine screening for breast cancer is very important. It begins with self-examination starting at age 21. **Every woman should check her breasts monthly.** The best

time for this is a week after your period begins. If you no longer menstruate, you should pick the same time every month.

Your doctor should examine your breasts every year.



A breast self-exam is performed using your fingertips. You should start feeling **under your arm** and go around your breast in a circular motion. You should feel from under your collarbone to your breastbone. This should be done on both sides.



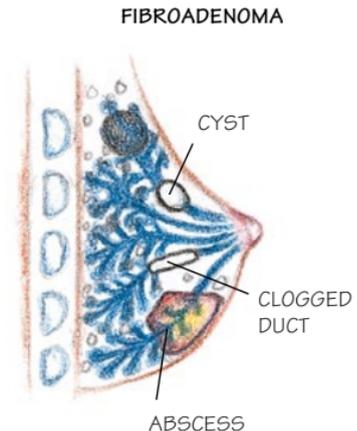
A convenient time to do a self-examination may be when you are taking a shower.

Always look at your breasts in the mirror. You should also squeeze your breasts from the bottom to check for discharge from your nipples. If discharge arises from your nipple, you should contact your doctor.

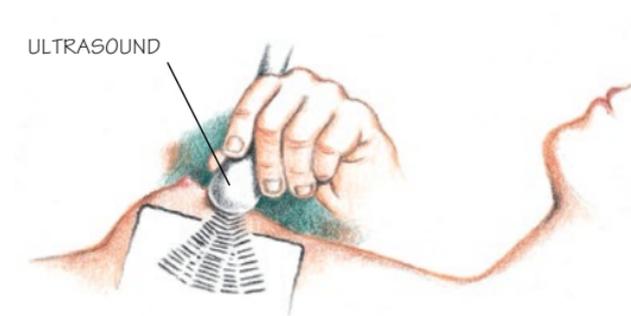


# What if I feel a lump or my doctor feels a lump? Should I assume I have cancer?

No! Just because you feel a lump, do not assume that it is breast cancer. Lumps can be caused by factors other than cancer. An **abscess**, **inflammation**, **clogged duct**, **cyst**, and **fibroadenoma** are some of the **benign** (noncancerous) conditions that may cause lumps in the breast.



All lumps should be reported to your doctor immediately and checked promptly. You may be asked to get a **mammogram**. Additionally, an **ultrasound** may be ordered to determine if the lump is fluid-filled or **cystic**.



If the lump is only a cyst, the fluid may be removed with a needle and analyzed to determine if it is **malignant** (cancerous). If the lump reappears, if the fluid tested contained malignant cells, or if the lump is not filled with fluid, it may be removed by a method known as a **biopsy**. The biopsy, or lump sample, will also be analyzed for malignancy.

ULTRASOUND  
DETECTING A TUMOR



## Mammogram

You may not be able to feel a lump smaller than an almond or a pea. This is why a mammogram is so important. It can detect lumps one-tenth of the size that you can feel. A positive mammogram may be a sign, though not proof, that cancer is present.



A mammogram is simply an X-ray of your breast. Ordinarily, your first or **baseline** mammogram should be taken at age 40. However, it may be done earlier depending on your family history. Unfortunately, mammograms may not be as effective at detecting breast cancer in younger women due to the denseness of the breast tissue.

The current recommendation is to get a mammogram every 1 to 2 years, starting at age 40 through age 85. You should talk to your doctor to see when a mammogram is right for you.

## Invasive disease

When cancerous cells spread to nearby or underlying tissue, they are considered **invasive**. Invasive breast cancer is often detected as a lump during a breast exam or as a mass on a mammogram.

# Breast cancer staging

Cancers are categorized by a process called **staging**. Doctors determine the **stage** of a cancer according to the tumor size, location, and whether it has spread to other organs or lymph nodes. This can be performed through **examination, X-rays, and/or surgery**, depending on the type of cancer. The different stages affect the prognosis and treatment of a woman who suffers from cancer.

Breast cancer is generally classified into 4 stages. Stage 4 is the most advanced cancer as the cancer has spread to other organs.

# Treatment

Two types of treatment are typically chosen for breast cancer:

- 1) **local treatment** — treatment targeted at a specific site
- 2) **systemic treatment** — treatment throughout the entire body

Several factors influence the type of treatment chosen. The stage of the disease; the size, type, and location of the tumor; your age and physical health; size of breasts; menopausal status; and results of other laboratory tests are all taken into consideration.

# Local treatment

Local treatment includes:

- 1) surgery
- 2) radiation therapy

Stage 1 and Stage 2 cancers may be treated with local treatments. In some cases, these treatments will be combined with systemic treatments.

# 1. Surgery

Women with breast cancer may undergo 1 of the following types of surgery:

- **lumpectomy** — removing only the breast lump and some surrounding tissue
- **partial** or **segmental mastectomy** — removing the tumor, surrounding tissue, and chest muscle lining
- **total mastectomy** — removing the breast tissue
- **modified radical mastectomy** — removing the breast tissue, some lymph nodes, and chest muscle lining

- **radical mastectomy** — removing the breast tissue, lymph nodes, chest muscle, and surrounding tissue. This procedure is rare.
- **axillary lymph node dissection** — removing lymph nodes in the axillary region for treatment and/or staging purposes.

Possible side effects of surgery include swelling, loss of strength, stiffness, numbness or tingling, bleeding, infection, and/or blood clots.

## 2. Radiation therapy

High-energy radiation is concentrated on a particular site in an attempt to destroy or control cancerous cell growth. Radiation can come from a machine (external) or from implanted radioactive material (internal). Radiation treatment for the breast is generally external. Other organs affected with cancer may be treated with internal radiation.

External treatment for the breast may occur on a daily basis for a short period of time. This is typically an outpatient procedure. It is usually done in conjunction with a lumpectomy (see page 37).

# Systemic treatment

Systemic treatment, which involves chemotherapy, may be combined with local treatment for all stages of breast cancer.

With **chemotherapy**, your doctor will use a combination of drugs that enter the bloodstream via the mouth, vein, or muscle. There are many types of chemotherapy. Treatment is usually performed on an outpatient basis.

Several treatments may be necessary and can be given in cycles:

treatment → recovery,

treatment → recovery, etc.

Possible side effects of chemotherapy include hair loss, nausea, diarrhea, weight loss, dry mouth, and/or infertility.

## Oral chemotherapy

**SERMS** — selective estrogen receptor modulators — are a class of estrogen-like hormonal medications that have different actions on select tissues. Each medication in this class is somewhat different.

SERMS can affect certain tissues including the breast, bone, and endometrium (lining of the uterus). SERMS are most often used for treatment for all stages of breast cancer and osteoporosis.

SERMS can be used to help in the long-term treatment of certain types of breast cancer. Research is also under way to determine what role (if any) SERMS can play in breast cancer prevention.

Side effects of these medications may be similar to menopause, including hot flashes, irregular vaginal bleeding, and vaginal dryness.

## Genetic testing for breast cancer

Gene testing is available for patients with a strong family history of breast cancer or a specific type of breast cancer. BRCA (BReast CAncer gene) is one of the gene tests that is checked through blood testing. There is BRCA1 and BRCA2. This DNA is analyzed to check for harmful mutations that may lead to increased risk of breast cancer compared to the general population.

Genetic counseling can help a woman determine if she would need BRCA testing. Just because a woman tests positive does not mean she will develop breast cancer. However, the risk of getting breast cancer before age 70 increases to 55-65% for BRCA1 and 45% for BRCA2. The risk for the general population is 12%. There are other genetic mutations that can also be tested for in a woman.

If a woman carries the BRCA mutation, there are some options to help with early detection. A woman

may get an MRI (magnetic resonance imaging) and mammogram every 6 months. A woman may be offered to be placed on a medicine to reduce her risk of developing cancer. This is called chemoprevention. This will decrease a woman's risk by 50%. Preventive surgery, known as mastectomy, is also an option and decreases the risk of breast cancer by 90%. This involves surgery to remove all breast tissues.

Women who carry the BCRA gene are also at higher risk for ovarian cancer, accounting for 15% of ovarian cancers.

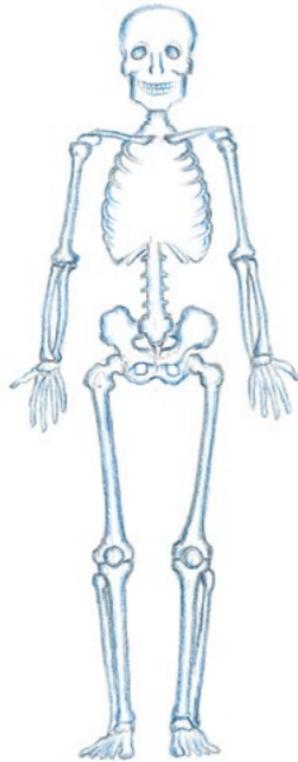
## Summary

One in 8 women will develop breast cancer. You need to know your risks. You should see your doctor yearly for a breast exam. You also should perform a monthly self-examination. It is very important to work with your doctor to determine what screening is best for you. If you have breast cancer, it is vital to know your treatment options. There are many new treatments on the horizon, so you should consult with your doctor.

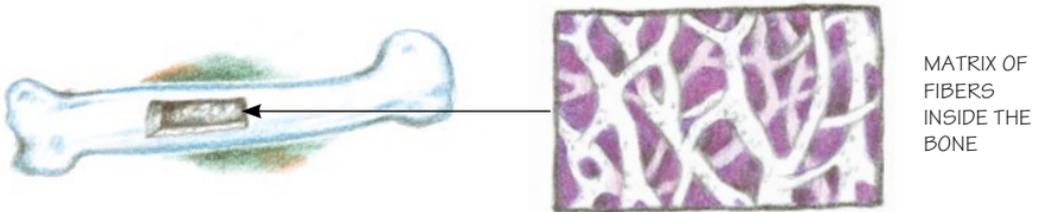
# Osteoporosis

# Bones

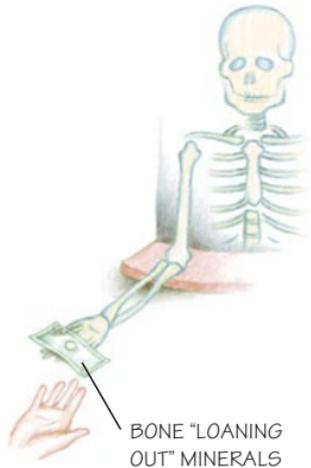
Our bodies are made up of 206 bones which form our skeletons. Bones provide the structural support for our bodies and protect vital organs.



Bones are a complex organization of tissues. They are formed from a mesh-like structure which includes **collagen fibers, calcium, phosphate, fluoride, minerals, and water**. These materials combine to produce a structure (bone) that is extremely strong while at the same time somewhat flexible.



In addition to providing structure and support, our bones also serve as a kind of “**bank**” for minerals used by the body. Bones hold the majority of the body’s calcium supply (about 99%). Calcium is also found in the **muscle cells, blood, and the lymph system**. Calcium is necessary to perform several functions including maintaining our heartbeat (muscle contraction) and maintaining normal blood pressure.



If there is not enough calcium in the blood to perform these bodily functions, calcium will be released from the bones to correct this deficiency in the blood. This process is known as **resorption**. Bones may be broken down to “**loan out**” minerals.



OSTEOCLAST

When resorption occurs, construction-worker-type cells called **osteoclasts**

break apart some of the bone.

Resorption is like a jackhammer breaking apart a sidewalk.

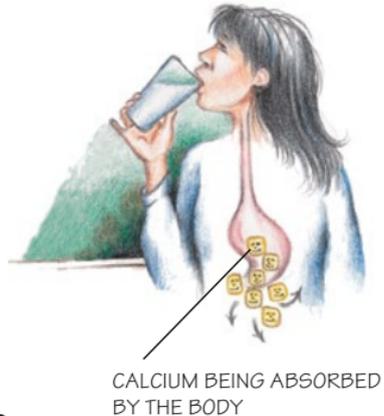
When the bone breaks apart, it enables needed minerals (**calcium** and **phosphate**) to go into the bloodstream.



CALCIUM BEING RELEASED FROM THE BONE INTO THE BLOODSTREAM

However, the body needs to replace bone lost due to resorption. To do this, the bone cells take up calcium from the digestive tract to use as building blocks to make new bone.

This process is called **formation**. To rebuild bone, the bone cells must have extra calcium available to them from the foods you eat. Calcium is available from many foods. Milk and other dairy products are excellent sources of calcium.

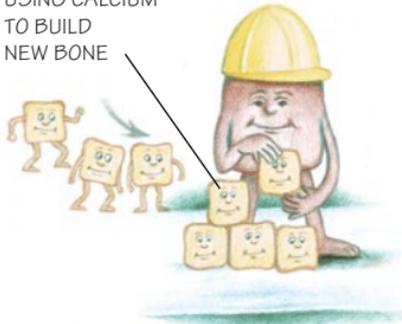


Calcium absorbed from the diet may be used to help build new bone cells. **Osteoblasts** are the “bone-building cells.”



OSTEOBLAST

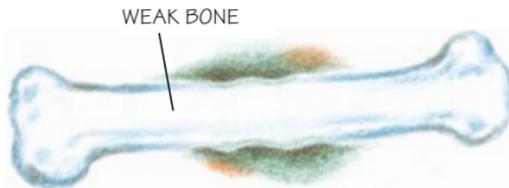
OSTEOBLAST  
USING CALCIUM  
TO BUILD  
NEW BONE



**Osteoblasts** use calcium to build new **bone cells**. **Formation** not only helps replace the calcium supply, it also keeps the bones “renewed” by replenishing tissue and bone density.

# Osteoporosis

Osteoporosis is a disease in which the bones become fragile and may eventually break. Osteoporosis literally means “porous bones.” As we age, **osteoclast activity** (resorption) increases and **osteoblast activity** (formation) decreases. This causes an imbalance in the bone “renewal” process. When there is not complete formation or replacement of bone, the bone weakens and osteoporosis often occurs.



Our bones get stronger as we grow, until we reach “**peak bone mass**” when we are in our late 20s or early 30s. After that time, we gradually lose bone mass. During their lives, women **lose** between **30%** to **40%** of their peak bone mass, and men **lose 20%** to **30%** of their peak bone mass.

With osteoporosis, there is a faster loss of bone mass and, therefore, bone strength. Bones can no longer carry the weight they once could. This can lead to bone fractures, especially in the **hips, spine, and wrists**. Osteoporosis may decrease your ability to perform daily tasks independently and decrease overall quality of life.

Women are **4 times** more likely than men to suffer from osteoporosis. In fact, **1 in 6** women will suffer from a hip fracture during her lifetime. Hip fractures may result in complications such as **pneumonia**. As the “Baby Boomers” get older and the geriatric population expands, osteoporosis will become an even bigger concern.



YEAR 2020



YEAR 2040

# What is my risk for developing osteoporosis?

Risk factors associated with the onset of osteoporosis include:

- Age 55 or older
- Family history of osteoporosis
- Caucasian or Asian descent
- Women who are thin or small boned
- Women past menopause who have low estrogen levels
- Certain medical conditions or medications

Additional risk factors for osteoporosis include:

- Cigarette smoking
- Excessive consumption of alcohol
- Lack of exercise (primarily weight bearing)
- Too little calcium in the diet
- Early menopause (before age 45)
- Never having children
- Excessive caffeine intake
- Gastric surgery
- Excessive consumption of soft drinks, both caffeinated and caffeine-free

# Symptoms

Some common symptoms of osteoporosis include back pain and loss of height. Sometimes there may be no symptoms at all. A classic sign of osteoporosis is a “**dowager’s hump**,” or bowing of the upper spine. This is caused by a collapse of the bones of the spine. If you have these or any other symptoms, or if you think you may be at risk for osteoporosis, consult your doctor.



# Screening

Screening is an important step in identifying women at risk of developing osteoporosis. The risk factors mentioned earlier can help you and your doctor determine if you need special testing for osteoporosis.

The first step in screening is having your doctor perform an annual history and physical examination. Your doctor can determine if you are at an increased risk for developing osteoporosis and need a **DEXA scan**, **QCT scan**, **RA scan**, or other special evaluation.

# Dual energy X-ray absorbitometry (DEXA) scan

DEXA is currently accepted as the most accurate method for diagnosing osteoporosis. The DEXA scan measures bone density and focuses on the density of the spine, the hip, and the wrist. These are the areas at highest risk for fractures in patients with osteoporosis.



# Prevention

You can help to prevent osteoporosis and improve your overall health by modifying your lifestyle:

## 1) **Do not smoke.**

Smoking can affect the bone by decreasing bone mass. A woman who smokes has a greater risk of developing osteoporosis. This can increase your risk of fracture, especially in the hip.

## 2) **Limit alcohol and caffeine consumption.**

Caffeine and alcohol decrease bone mass. Caffeine also blocks the absorption of calcium by

binding to it in the stomach. For this reason, you should wait at least 1 hour after taking a supplement or eating calcium-rich foods before drinking caffeine.

**3) Exercise regularly.** Weight-bearing exercise, such as walking, and strength training can actually promote increased bone mass. Exercise also helps to maintain muscle mass and reduce fat mass. Increased strength and flexibility help maintain balance and limit falls that lead to broken bones.

#### **4) Eat healthy foods.**

*Because each person is very different, it is important that you discuss your diet with your doctor or a registered dietitian. Here are some general recommendations to get you started.*

# Proper nutrition

Everyone, especially women, must get both **calcium** and **vitamin D** in their diets, either through food sources or through supplementation. The proper amounts of **Vitamin D** and **calcium** may be obtained by eating dairy products, leafy greens, yogurt, nuts, and whole grains.



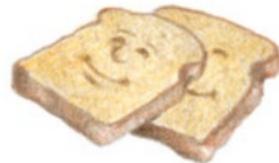
LEAFY GREENS



DAIRY PRODUCTS

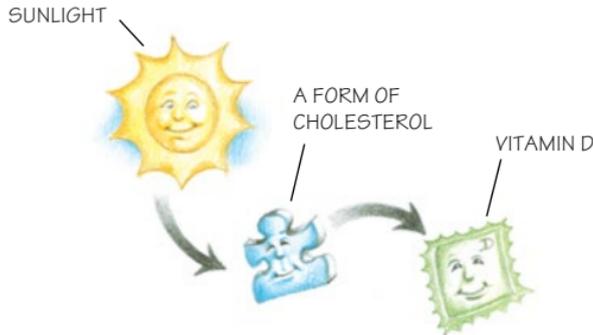


YOGURT



WHOLE GRAINS

**Vitamin D** is needed to absorb calcium into the body. Vitamin D is made when the body absorbs sunlight in skin and combines it with a form of cholesterol. Excessive sun exposure may be harmful, but 30 minutes a day is effective in producing sufficient amounts of vitamin D provided that skin is exposed to natural, outdoor sunlight.



People who live in northern climates of the United States may not achieve adequate sunlight exposure. Contact your doctor to find out if you should take calcium supplements and vitamin D.

Vitamin D can be found in milk and foods like broccoli or salmon. The recommended daily allowance for vitamin D is 400 I.U. An 8-ounce glass of milk contains about 100 I.U. of vitamin D. The vitamin can also be taken as a supplement.



SALMON



BROCCOLI



MILK

# Medications for treatment and prevention of osteoporosis

## 1. Hormone replacement therapy (HRT)

Throughout the years they experience a menstrual cycle, women have the benefit of circulating estrogen. Estrogen is mainly produced by the ovaries. With the loss of estrogen, bone loss can occur. Women who enter menopause can lose up to 20% of their bone mass during the first 5 to 10 years following this life change.

Hormone replacement therapy (HRT) is a way of replacing the lost hormones. HRT includes a combination of **estrogen** and **progesterone** or estrogen alone. Estrogen helps reduce the risk of osteoporosis by slowing bone resorption.

Progesterone is taken with estrogen to protect the lining of the uterus against endometrial cancer. Women who do not have a uterus—those who have had a **hysterectomy**—do not need to take progesterone.

The earlier HRT is started after menopause, the more beneficial it becomes. This therapy must be used continuously to prevent bone loss. If bone loss has already begun, HRT may still prevent further bone loss.

Other benefits of HRT can include reduced menopausal symptoms and protection against colon cancer. Complications of HRT can include increased risk of breast cancer and blood clots in the deep veins as well as stroke and heart disease.

Some side effects include irregular bleeding, bloating, and breast tenderness.

There are many ways that HRT can be prescribed by your doctor. **You must talk to your doctor before taking hormones or any other medications. Be sure that you are able to take estrogen and / or progesterone. Certain medical conditions may prohibit you from taking HRT. Your doctor can discuss all the risks and benefits of HRT.**

## 2. Calcium intake

Calcium absorption is at its peak during the bone-building phase of adolescence. Your ability to absorb calcium decreases slowly. In fact, after age 65, less than 50% of calcium from food and supplements is absorbed.

Calcium is an important part of a woman's nutritional needs. A calcium supplement is usually needed if you do not have **3 to 4 cups** of milk or yogurt each day.

Here are the recommended daily calcium intakes for a woman during various ages of her life:

- Age 11 through age 24 1,200 to 1,500 mg/day
- Pregnancy 1,200 mg/day
- Premenopausal 1,000 mg/day
- Postmenopausal  
with HRT\* 1,000 mg/day  
without HRT\* 1,500 mg/day

\*hormone replacement therapy

**Calcium carbonate** and **calcium citrate** are 2 very good forms of calcium supplements. However, not all of the calcium or calcium carbonate may be absorbed completely by the body. Consult your doctor about which supplement is best for you.

### **3. Bisphosphonates**

These medications reduce bone resorption by inhibiting osteoclast activity. They are an effective alternative for women who want to avoid HRT, are not candidates for HRT, or cannot tolerate hormone therapy. Bisphosphonates can be used for treatment and prevention of osteoporosis. This class of medication can come in a pill form or as a shot.

### **4. Calcitonin**

Calcitonin is naturally produced in the body and inhibits bone resorption. Calcitonin is also available as a medication that can be used for treatment of osteoporosis but may be less effective than some other treatments.

## **5. SERMS (Selective Estrogen Receptor Modulators)**

SERMS may also play a role in preventing osteoporosis. Certain SERMS have a positive effect on bone, much like estrogen. SERMS may help increase bone mineral density and are a desirable alternative to HRT because they may not affect breast tissue and the lining of the uterus.

SERMS are also used to treat some types of breast cancer (see pages 43-44).

Again, it is important to talk to your doctor about which treatment is right for you. You should always talk to your doctor about risks, screenings, and treatment options.

# Heart Disease

Why discuss heart disease? A 1995 Gallup study revealed that women considered themselves twice as likely to die of breast cancer than from heart disease. In reality, women are **8 times** more likely to die of heart disease than breast cancer.

Heart disease is the leading cause of death for women — more than **all** forms of cancer, diabetes, and lung disease combined.

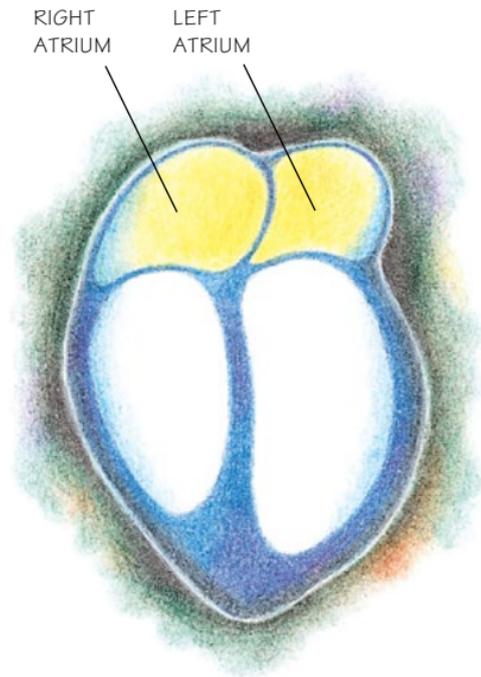
Prior to menopause, women experience a much lower incidence of heart disease than men of the same age. However, once women reach menopause, they have a much greater incidence of heart disease, and they are less likely than their male counterparts to survive a heart attack.



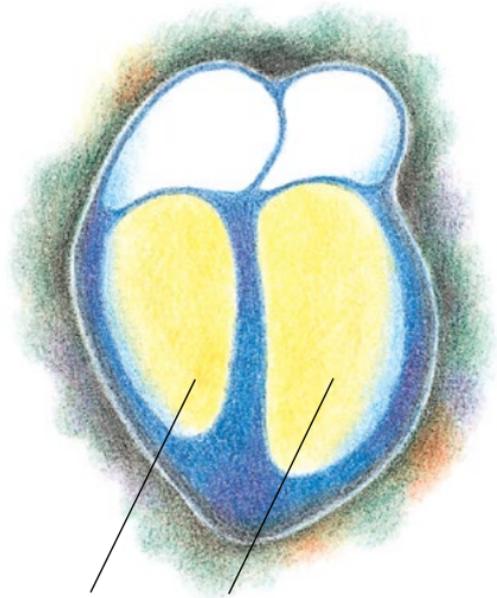
## The heart

The heart is a muscle.  
It pumps blood to the  
head and the body.

It is about the size of  
your fist and sits just  
to the left of the middle  
of your chest.



The heart is made up of 4 chambers. The top 2 chambers are called the **atria**. The atria collect blood returning to the heart from the body and lungs. The atria then dump the blood into the ventricles.



RIGHT  
VENTRICLE

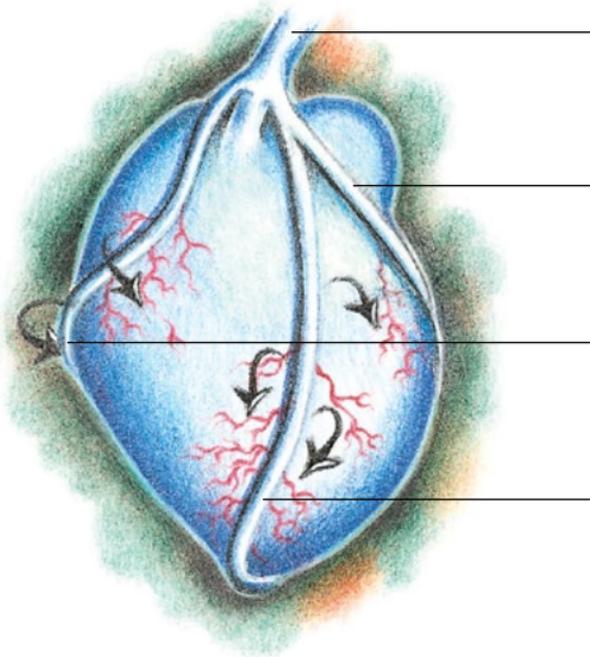
LEFT  
VENTRICLE

The bottom 2 chambers are called the **ventricles**. The ventricles are larger than the atria, and the left one is more muscular. When the ventricles contract, they propel blood out of the heart to different parts of the body.



Arteries and veins  
wind throughout the  
body carrying blood.  
Arteries carry blood  
away from the heart.  
Veins carry blood back  
to the heart.

The heart has its own arteries to provide blood to the heart muscle.



The **aorta** supplies blood to the arteries of the heart as well as to the rest of the body.

The **circumflex artery** supplies blood to the lateral or side aspect of the heart.

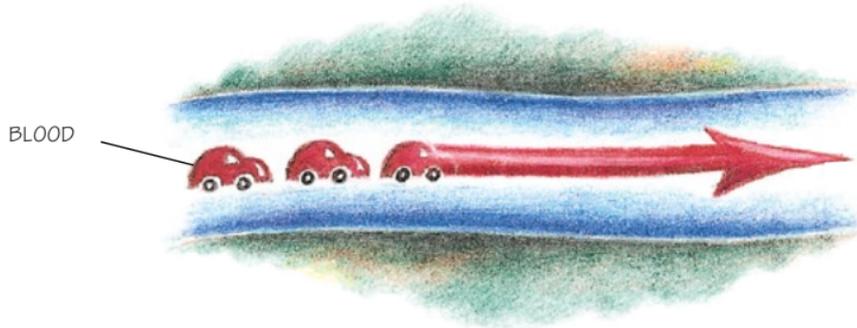
The **right coronary artery** provides blood to the back or underside of the heart.

The **left anterior descending artery** supplies blood to the front of the heart.

To give you some idea of their size, the **coronary arteries** are only about the size of a strand of spaghetti.

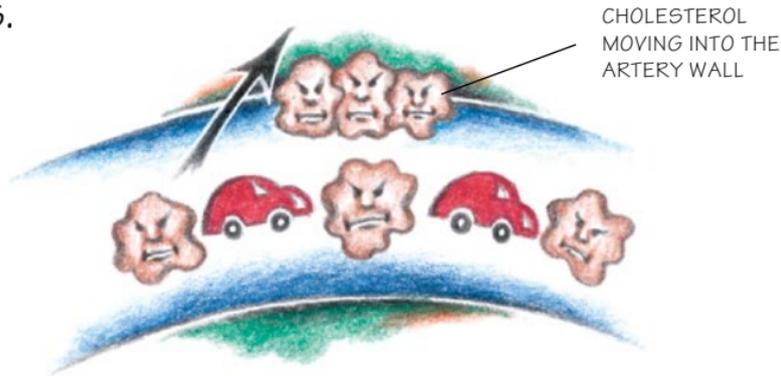


At birth, the inside of the arteries, including the coronary arteries, is slippery — similar to a nonstick pan. The blood cells (represented by the small cars) flow smoothly through the arteries.



# What happens to an artery during a person's lifetime?

Over time, the inside of the artery may become damaged due to high blood pressure, smoking, and LDL or bad cholesterol. Fatty streaks begin to develop along the insides of the damaged areas as cholesterol (lipids) moves into the artery walls.



When people smoke or they have risk factors such as diabetes, high blood pressure, obesity, high cholesterol, and physical inactivity, these fatty streaks may become more advanced **atherosclerotic lesions**.

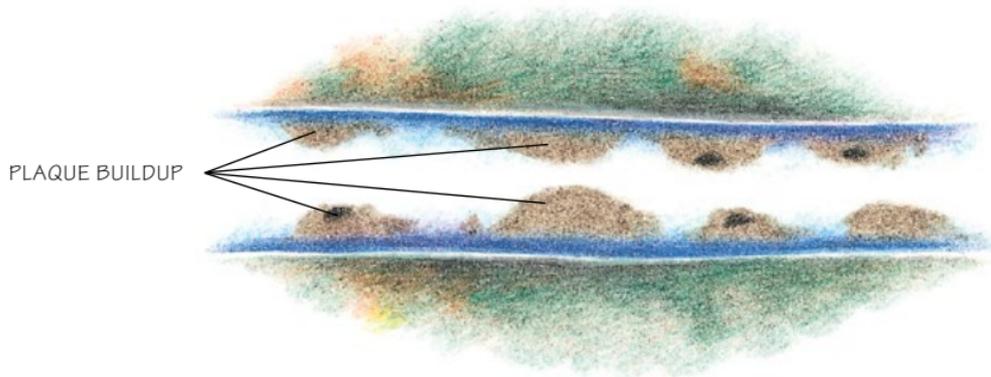


The body views these fatty streaks as “infection.” It tries to fight the “infection” by producing inflammation. Fatty streaks may eventually progress to **plaque** (atheromas or fibroatheromas).

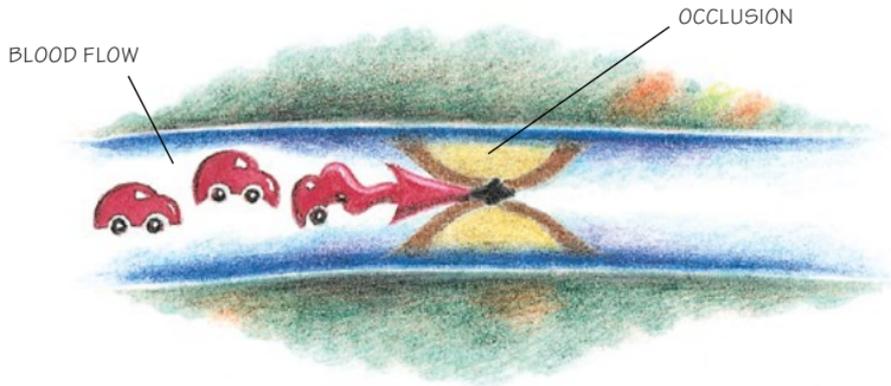
Simply, the progression of cholesterol inside the artery wall is:

**Damaged Artery → Fatty Streaks → Inflammation → Plaque**

Buildups of plaque may occur at multiple points along the length of the artery, often starting where the artery divides into branch points or forks in the road. Plaque buildups are not limited to the arteries of the heart. They can occur and restrict blood flow in arteries throughout your entire body, including the brain (**stroke**) and legs (**claudication**).

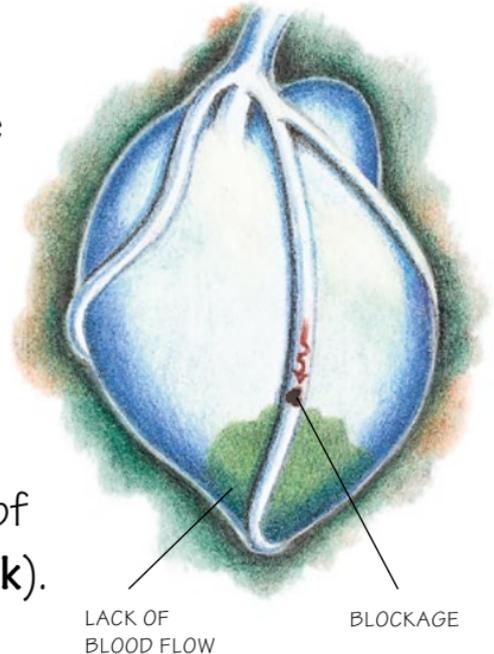


The total blockage of the artery may occur due to:  
(a) the **buildup** of plaque, (b) the formation of a blood clot on the plaque, or (c) the plaque **rupturing** and causing a larger blood clot to form. The complete blockage of the artery is called an **occlusion**.



# What happens if an artery becomes completely blocked?

An artery that is completely blocked has no blood flowing through it. If the heart muscle does not receive blood, then it does not receive nutrients and oxygen. It experiences **ischemia**. This may result in heart pain (**angina**). Ischemia, if prolonged and severe enough, may cause a portion of the heart muscle to die (**heart attack**).



# What are some symptoms of a possible heart attack?

- **Angina**, or heart pain, usually felt as a pressure, ache, tightness, squeezing, or **burning sensation** behind the breastbone and left chest and often extending to the neck, jaw, shoulders, or down the arm (usually the left arm)
- **Nausea**
- **Shortness** of breath and/or **sweating**

**NOTE:** People who have **diabetes** may not “feel” angina in the same way, often have atypical symptoms like shortness of breath, and consequently have a greater risk of experiencing a “silent” or unrecognized heart attack.

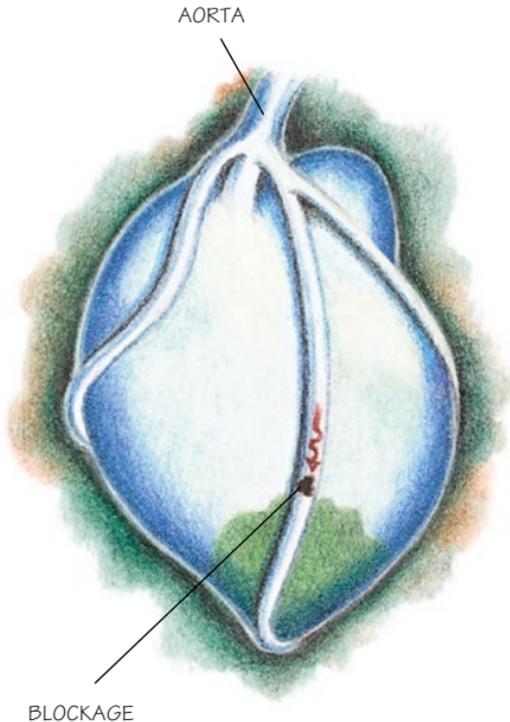
Quite often, people who are having a heart attack say they feel like “an elephant is standing on my chest.”



# What if you experience heart problems?

What's next?

Your doctor may refer you to a heart specialist called a **cardiologist**. The cardiologist may have to consider several options including **medications** or surgical intervention such as **angioplasty** or **bypass surgery**.



Let's suppose there is a blockage in the left anterior descending artery.

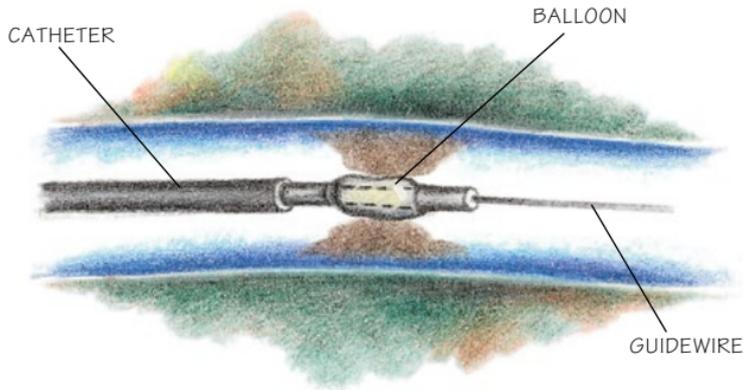
The shaded area below the blockage in the drawing is not receiving blood. If this portion of the heart goes too long without enough oxygen, then the muscle may die.

# Thrombolytics

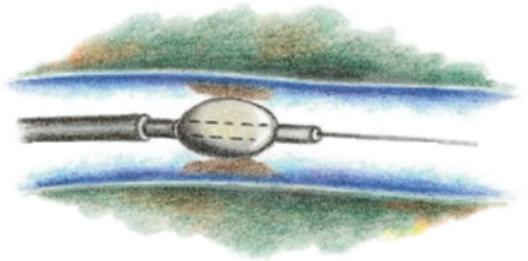
Most often, a heart attack is caused by a **blood clot** (thrombus) at a site of **atherosclerotic plaque disruption** within the coronary artery. Blood clots can completely block blood flow in the artery and cause a heart attack. If a person gets to a hospital emergency room, usually within 30 minutes of the onset of chest pain, either coronary angioplasty or clot-dissolving medications called thrombolytics may be used to open the blocked artery and restore coronary blood flow. The restoration of blood flow can save heart muscle.

# Angioplasty

Coronary angioplasty is currently the preferred treatment for a heart attack. Angioplasty is a procedure by which the cardiologist inserts a balloon catheter over a thin wire across a blockage of a coronary artery.



The balloon is inflated to compress the plaque. This is repeated as necessary to restore blood flow.



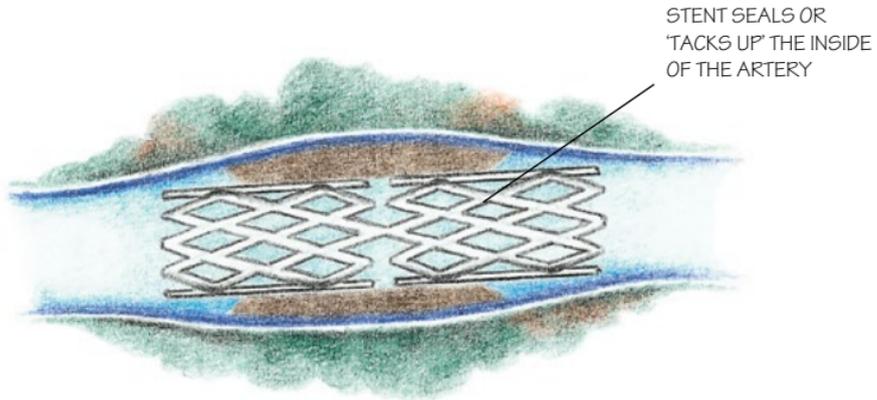
Inflating the balloon catheter compresses and disrupts the plaque, allowing blood flow to the starved heart muscle.

# Stents

The cardiologist may decide to insert a stent inside the coronary artery. Usually made of stainless steel or other metal alloys, the stent functions as a scaffold to hold open the inside of the coronary artery.



Stents can seal and “tack up” tissue flaps within the artery that are created when a balloon catheter injures the artery.



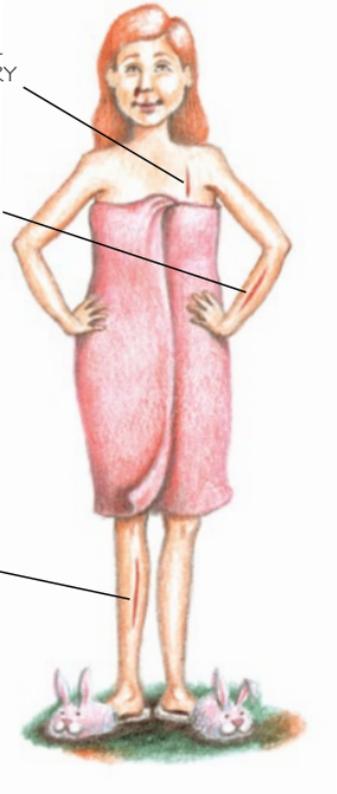
## Bypass surgery

Bypass surgery is a cardiovascular procedure designed to correct blood flow to the heart that angioplasty cannot correct. The cardiovascular surgeon uses a piece of artery and/or vein to reroute blood around the blockage.

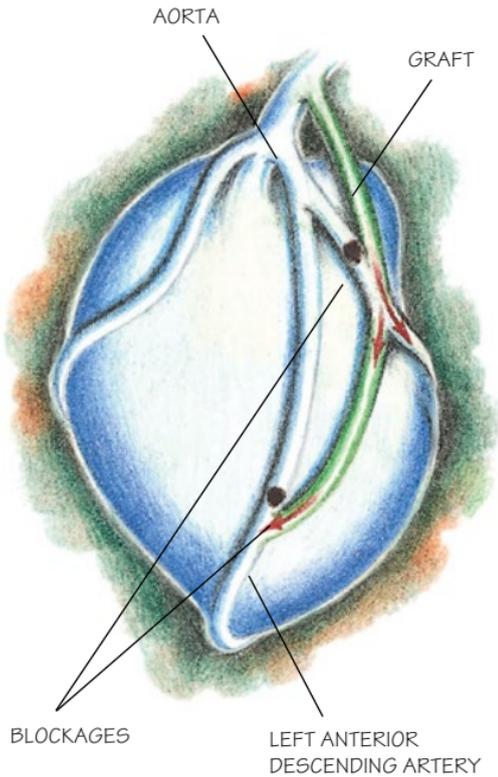
INTERNAL  
MAMMARY  
ARTERY

RADIAL  
ARTERY

VEIN

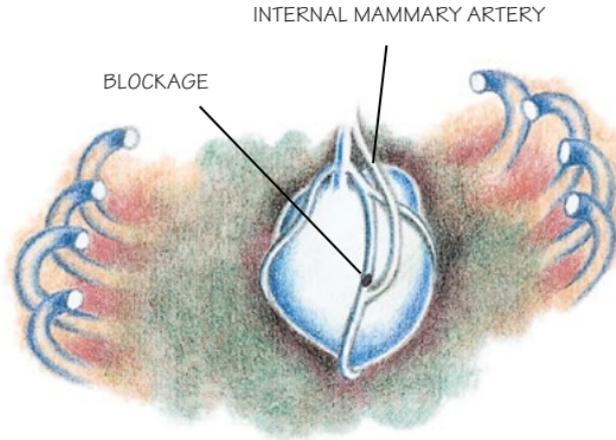


The surgeon may use a vein from the leg, and/or the internal mammary artery found in the chest, and/or the radial artery of the forearm.



The vein is attached to the aorta. The supply of blood is then rerouted around the blockage. One piece of vein may be used for multiple bypasses. The number of blockages where blood has been rerouted — not the number of veins used — determines the number of bypasses.

If the internal mammary artery is used, the artery originates from a branch off the aorta and is re-attached to the coronary artery downstream from the blockage.



What about 'after care' from  
a heart attack, bypass surgery,  
or angioplasty?

**Your doctor will manage your care very closely.**

**Generally, the cardiologist may recommend that you:**

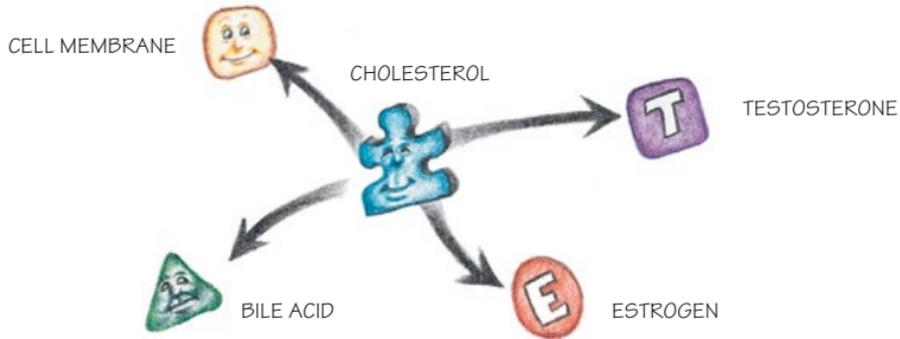
- quit smoking
- take a beta blocker drug (after a heart attack)
- lower your blood pressure to 130/80 mmHg or lower
- discuss a cholesterol treatment plan with your doctor
- take a daily enteric-coated aspirin (81 mg or greater) unless you have other medical complications
- keep strict control of diabetes and lower your A1C below 7%
- follow a heart-healthy diet and begin a basic exercise program, mainly walking.

# What can be done to reduce your chances of developing heart disease?

What can you do to reduce your chance of developing heart disease? Fortunately, it can take a long time for plaque to build up in your arteries. You can focus on prevention by addressing certain habits or “risk factors” now.

# 1. High cholesterol

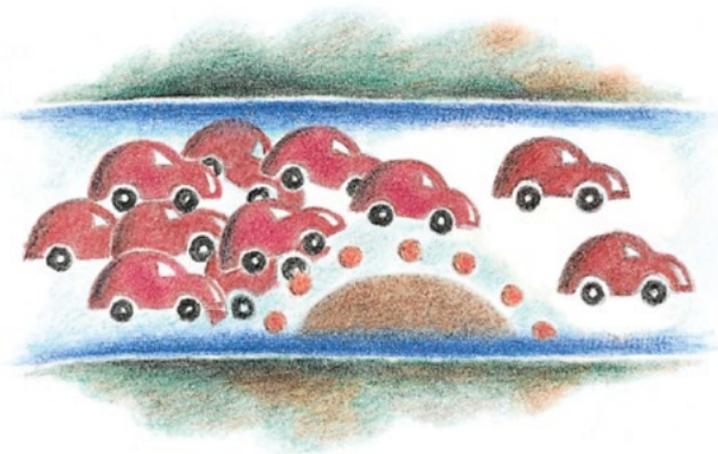
Cholesterol is a waxlike substance that serves as a building block within the normal **cell membrane**. Cholesterol is also used to make **hormones**, especially **estrogen** and **testosterone**. It is also used to make **bile acids** that help break down fat in our intestines.



## Why is cholesterol so harmful?

**Fatty streaks** in the arteries start to develop in the first decade of life as a result of **lipids** moving into the cell wall. As described on pages 87 - 89, these fatty streaks may become more advanced **atherosclerotic lesions** and may then progress to **plaque**.

The natural response of the artery is to expand to accommodate the plaque. However, at a certain point, the plaque starts to narrow the artery, potentially reducing blood flow.



## How is high cholesterol treated?

The American Heart Association (AHA) and the American College of Cardiology (ACC) set the guidelines for managing blood cholesterol. High cholesterol has a long-term, cumulative effect on damaging a person's entire cardiovascular system, so the guidelines stress the importance of lifestyle modifications such as:

- (1) adhering to a heart-healthy diet,
- (2) exercising regularly based on your doctor's recommendations, and
- (3) avoiding tobacco products.

For individuals who cannot lower their cholesterol with diet and exercise alone, the AHA/ACC guidelines provide recommendations on when to start cholesterol-lowering medications. Your doctor may use a “risk calculator” or other screening tests to determine the best treatment option.

The first-line medication to lower cholesterol is a statin. Statins have the most scientific evidence supporting their role in reducing the risk of heart disease, heart attacks and strokes.

Two other medications your doctor may consider are ezetimibe and PCSK9 inhibitors. Ezetimibe may be

prescribed along with a statin for some individuals with high cholesterol. For a small portion of the population that does not respond well to statin therapy or cannot tolerate statins, a doctor may prescribe a PCSK9 inhibitor. PCSK9 medications are very effective but are also fairly expensive. Talk to your doctor about whether a statin (with or without ezetimibe) or PCSK9 inhibitor provides the most benefit based on your medical history and your health care coverage.

High triglycerides can contribute to cardiovascular disease, so your doctor may also prescribe a medication to help lower your triglycerides.

The guidelines also place a special emphasis on the detection of a family history of high cholesterol.

The guidelines recommend that children with a family history of high cholesterol should be tested for high cholesterol between the ages of 9 and 11 and again between the ages of 18 and 21.

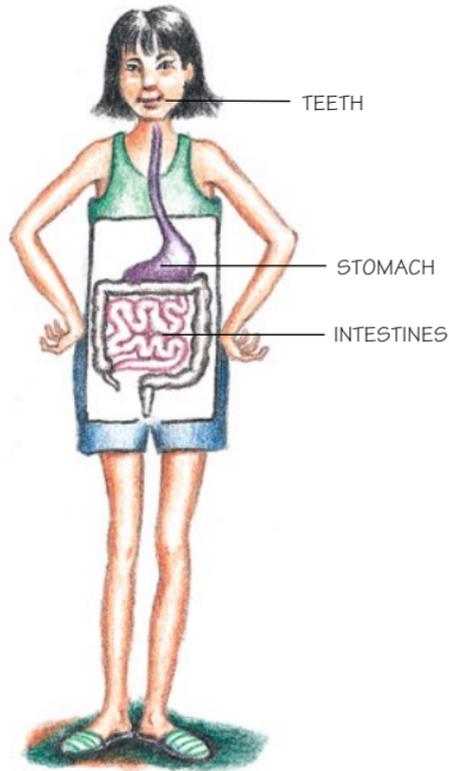
## 2. Tobacco abuse

What about smoking? Don't do it. Smoking is bad for the entire cardiovascular system because it:

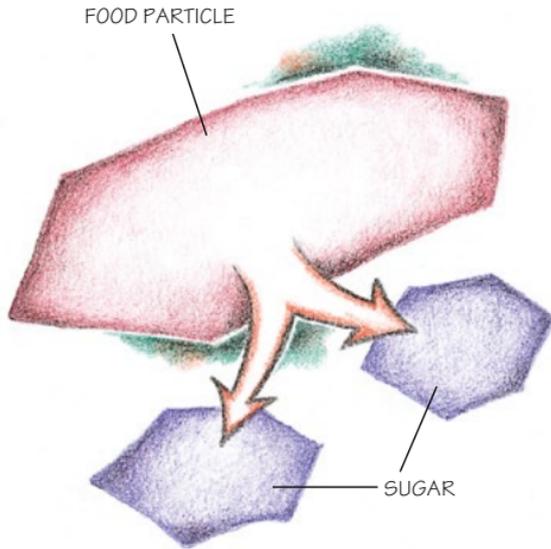
- Introduces carbon monoxide into the body
- Directly harms the blood vessels
- Increases blood pressure and heart rate
- Increases the risk of a heart attack

## 3. Diabetes

What exactly is diabetes? The working cells need sugar for energy. Sugar is absorbed through the digestive system after a meal or snack. **Insulin** is released by the **pancreas** to allow the body to use sugar as a source of nutrition and energy. That may be hard to visualize. This may help ...

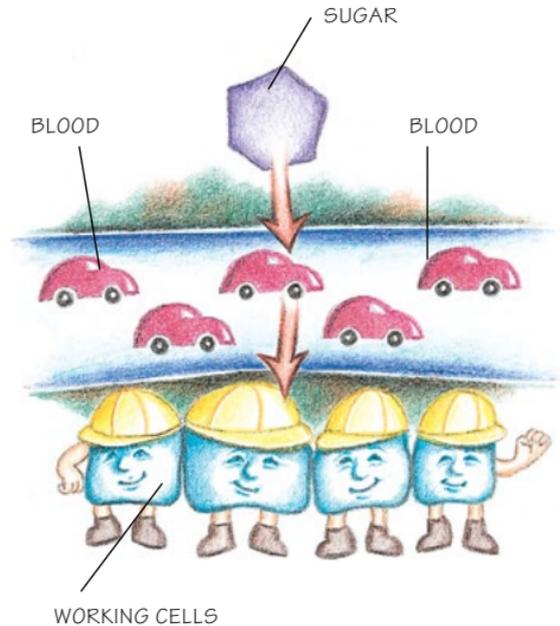


While you eat, the digestive system (teeth, stomach, and intestines) breaks your food down into smaller particles that are used by your body.



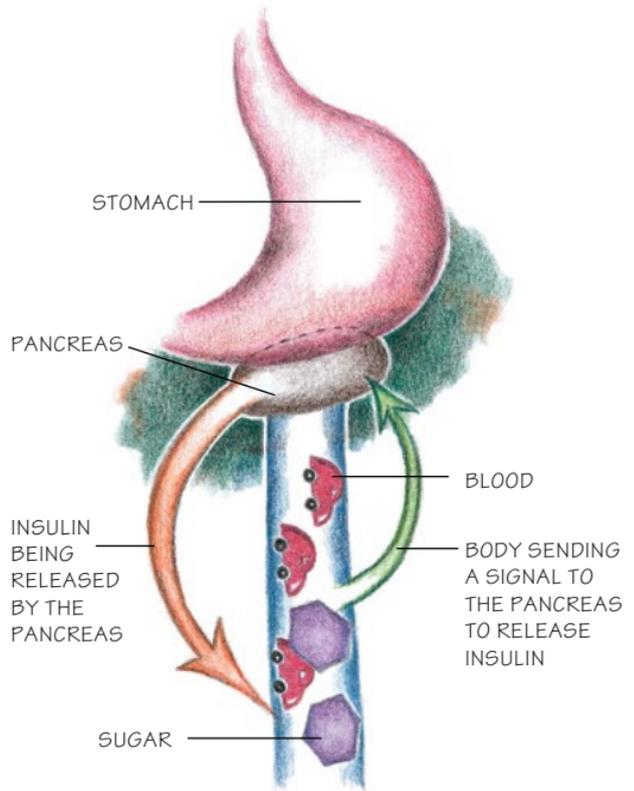
Some food is broken down into particles of **sugar**. Sometimes this sugar is referred to as **carbohydrates** or **glucose**.

Sugar moves from the digestive system to the blood and travels throughout the body to feed the working cells. The sugar is the energy packet the cells need to do work like running and breathing.

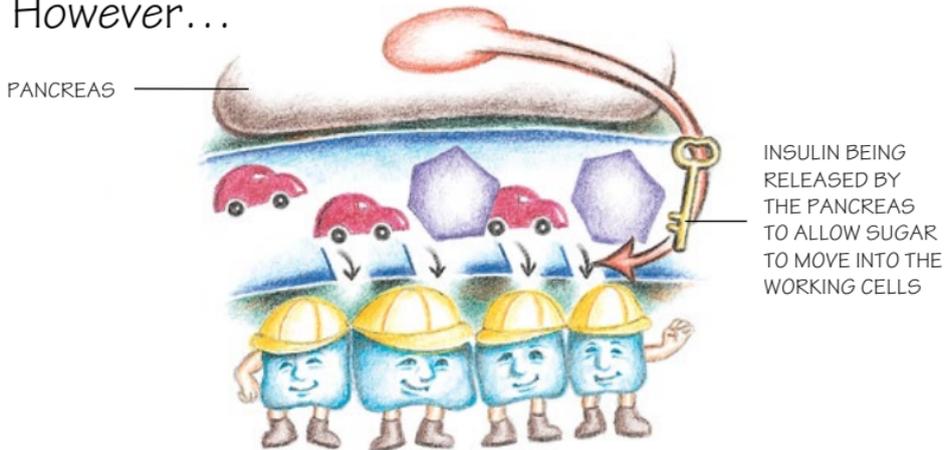


At the same time the sugar moves into the blood, the body sends a signal to the **pancreas** telling it to release **insulin** into the bloodstream.

Insulin is released from the “beta” cells of the pancreas.



Insulin acts like a **key** that unlocks the doors of the cells to let sugar move in. The working cells can then use the sugar for energy to do their jobs. This is how your body uses sugar. However...



...without the key (insulin), the sugar cannot get out of the bloodstream and into the working cells.

The sugar builds up in the blood, and the working cells get hungry. This is what happens in diabetes: the body cannot move sugar from the blood into the cells.

Diabetes is a major risk factor for cardiovascular disease. It is estimated that half of all type 2 diabetes patients have some form of coronary heart disease prior to being diagnosed with diabetes.

Diabetes is a major risk factor for cardiovascular disease. Women over age 45 are twice as likely as men to develop diabetes. If you believe you may be at risk for diabetes, you should consult your doctor about having a simple blood glucose test.

## 4. Metabolic syndrome (pre-diabetes)

Metabolic syndrome affects 1 of every 3 Americans (1 of every 2 people over age 60). Individuals who have at least 3 of these criteria are considered to have this condition:

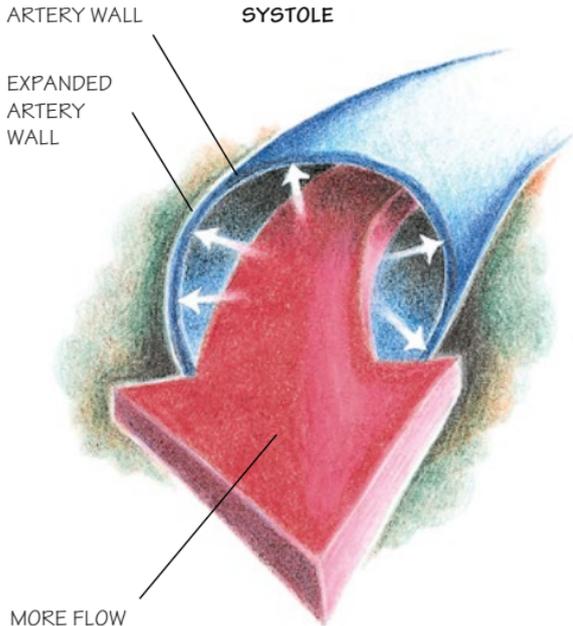
- Large waistline
- Elevated triglyceride levels
- Low HDL-cholesterol
- High blood pressure
- Elevated fasting blood glucose levels

Those with metabolic syndrome are at increased risk for heart attack, stroke, or even death.

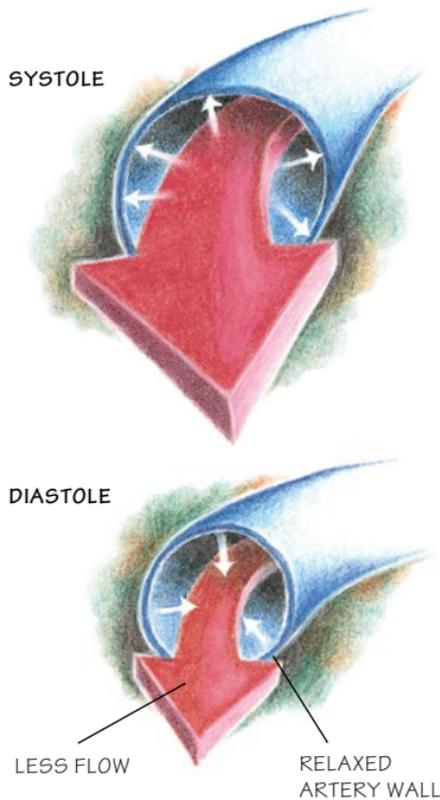
## 5. Hypertension or high blood pressure

Hypertension is commonly referred to as high blood pressure. It is important to know what blood pressure is... and then understand some of the lifestyle modifications you can take to manage your blood pressure. For some people, lifestyle changes are not enough to lower blood pressure and your doctor may need to add medication(s) to manage your condition.

Here's a simple explanation of blood pressure.



Blood comes out of the heart (**left ventricle**) in 1 big thrust. The artery expands to handle the blood. The amount of pressure put on the expanded artery wall is called **systolic pressure**.



After the artery expands during systole, it relaxes back to its normal size.

It is similar to a rubber band that goes back to its normal shape after being stretched. Normal pressure on the artery wall during relaxation is called **diastolic pressure**.

# Managing high blood pressure

Talk to your doctor about your blood pressure goals. Generally, doctors want their patients to have blood pressure less than 120/80 mmHg. Because blood pressure can vary depending on what you are doing, your doctor may ask you to have your blood pressure retested, or he or she may ask you to buy an automatic blood pressure cuff and monitor your blood pressure at home weekly, monthly, or more frequently with changes in blood pressure medication.

SYSTOLIC  
NUMBER

120

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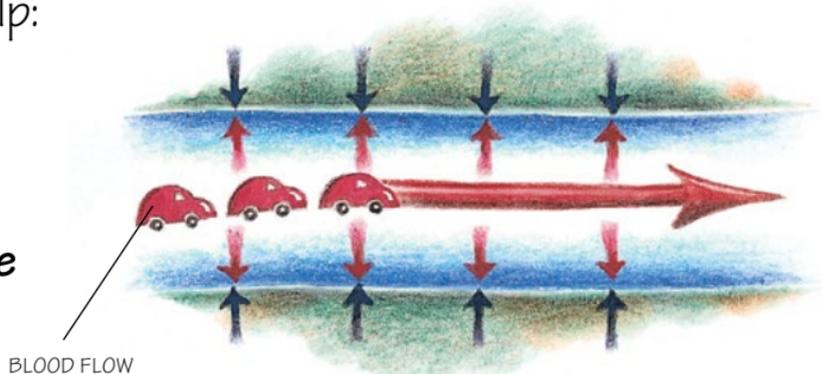
80

DIASTOLIC  
NUMBER

# How does hypertension relate to cardiovascular disease?

**Blood pressure** is a result of the blood flowing through the artery (cardiac output) and the resistance of the artery wall (vascular resistance). If that sounds too technical, here... this may help:

**Blood pressure =  
Cardiac output x  
vascular resistance**



If a lot of resistance is created by either the blood or the artery wall, then there is more pressure as the blood travels through the artery. If it takes more energy to get the blood through the arteries, then your heart has to work harder with each beat. Most people with high blood pressure do not realize they have it. No wonder hypertension is called the “silent killer.”



# What contributes to hypertension?

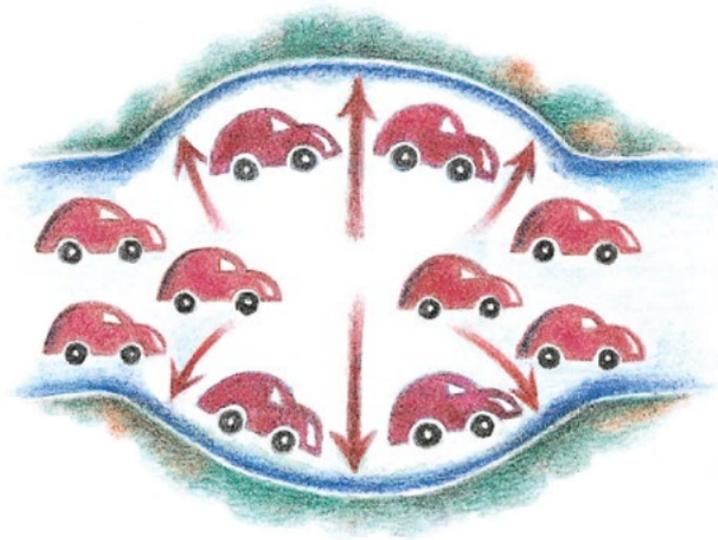
Several factors contribute to hypertension and cardiovascular disease. These include:

- Excess dietary salt
- Excess alcohol intake
- Obesity, particularly morbid obesity
- Stress
- Age
- Genetics and family history
- Physical inactivity
- High saturated fat diet

# Salt

Salt helps conserve water in your body. The American Heart Association Step 2 diet recommends that the average person consume no more than 2,400 mg of salt per day, especially those individuals who are salt sensitive. Excess dietary salt may contribute to both hypertension and to your body retaining too much water.

If you are retaining too much water, then you are increasing your blood volume (cars) without adding space. This increase will result in more pressure in the arteries.



# Alcohol consumption

A common concern for individuals with cardiovascular disease is alcohol consumption — mainly because there seems to be conflicting evidence about the benefits versus the risks of drinking. Experts agree that excess alcohol consumption over time can lead to many harmful effects, including high blood pressure, cirrhosis of the liver, and damage to the heart. The issue is the balance between **moderate** and **excessive** alcohol consumption.

While evidence shows that there is a protective effect for **moderate** alcohol consumption, this benefit disappears with excessive intake. Men should consume no more than 2 drinks\* daily, and women, because of their smaller body size, should not consume more than 1 drink\* each day. The 7 to 14 allowable drinks in a week should not be consumed in a few days or during a weekend of binge drinking. Drinking alcohol for cardio-protection is not a good idea.

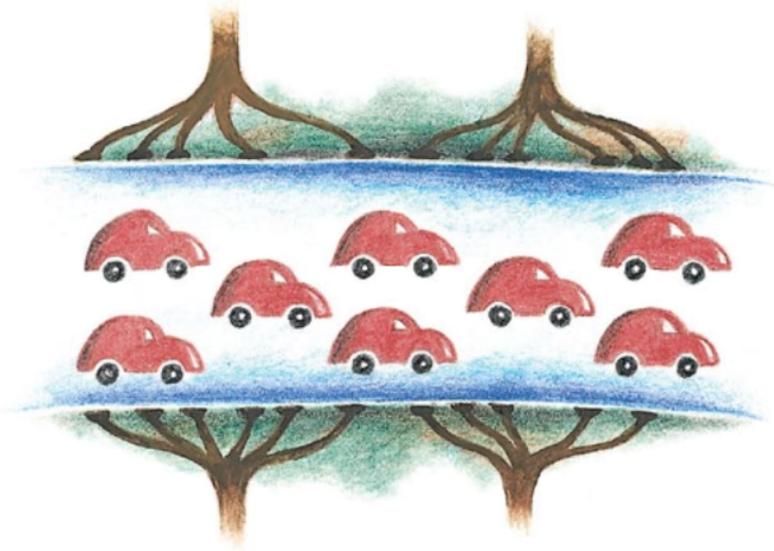
**\*A guide:** One drink is defined as 5 ounces of wine, 12 ounces of beer, or 1-1/2 ounces of 80-proof liquor.

People who should not drink alcohol include individuals with high levels of triglycerides in their blood (over 300 mg/dL), women who are pregnant, individuals who are under age, people with a genetic predisposition for alcoholism or who are recovering from alcoholism, and those taking certain medications. Because alcohol affects blood pressure, people who have high blood pressure should not have more than 1 drink per day. Also, a cardiologist may ask individuals who have been diagnosed with atrial fibrillation or cardiomyopathy not to consume any alcohol.

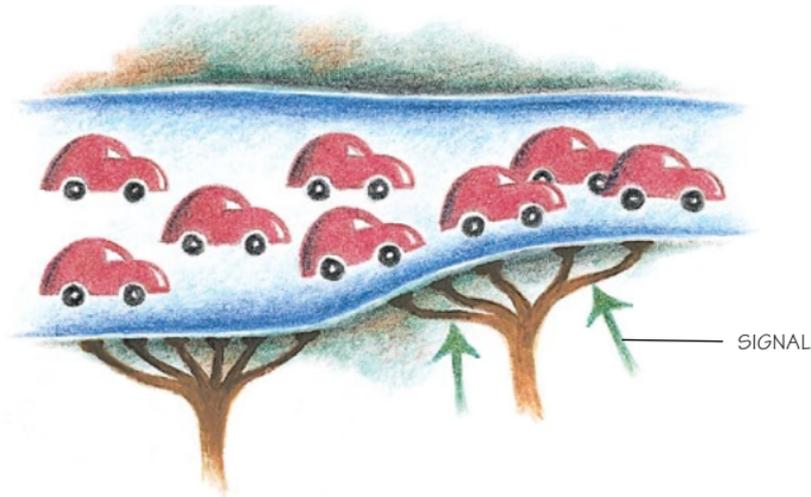
## What about stress?

When you are under stress, your brain releases signals to the body through the nerves and hormones. These signals allow your body to respond to various situations. Whether chronic stress or reactions to stress raise blood pressure is hard to define and even harder to treat because stressors are usually related to the environment and lifestyle.

Arteries have nerves attached to them. The nerves can either cause the arteries to relax or can put more tension on the walls of the arteries. If you are under a lot of stress, the nerves send signals to tighten or narrow the arteries.



Narrowing the artery is like taking away a lane of traffic. The same number of cars (blood) need to move through a smaller space (artery). This increases the pressure inside the artery.



So,

something you can do to improve your blood pressure is reduce stress. You can accomplish this by practicing meditation, doing deep breathing exercises, or doing exercise such as going for a walk, riding a bike, or taking a swim.



YOGA

## 6. Overweight or obesity

The American Heart Association describes obesity as a major risk factor for cardiovascular disease. What exactly is obesity?

Metropolitan Life's height/weight tables are often used to determine a recommended weight for an individual based on age and gender. Generally, those who are 20% over the recommended weight for their height are considered to be overweight — but not necessarily obese. Obesity refers to fatness rather than weight. Men who have greater than 25% of their body weight as fat and women who have

more than 35% are considered to be obese. Obesity and being overweight carry significant health risks, are directly related to cardiovascular risk factors, and may:

- raise triglycerides (the “bad” blood fat)
- lower HDL-cholesterol (the “good” cholesterol)
- raise LDL-cholesterol (the “bad” cholesterol)
- raise blood pressure
- increase the risk of developing diabetes, and
- increase the risk of metabolic syndrome and insulin resistance

Obesity may be related to both genetics (nature) and lifestyle (nurture). Generally speaking, obesity occurs when the calories we consume exceed the calories we burn through activities of daily living and exercise. We store the excess calories as fat reserves, thus contributing to obesity and ultimately increasing the risk of coronary disease. Obesity has increased in men and women in every decade over the past 50 years.

There is a misconception that Americans are overeating and eating too much fat. In fact, as a nation we are eating less fat, fewer calories, and still gaining weight — primarily due to the lower levels of physical activity in our

youth and adult lives. A *sedentary* lifestyle could be the real culprit.

Recently, a dramatic increase in obesity has been observed in children and adolescents. According to the Centers for Disease Control, obesity rates in adolescents ages 2–19 is about 17% or 12.7 million children in the United States alone. Obesity in children may lead to high blood pressure and pre-diabetes, and it may also lead to chronic conditions such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis.

## 7. Menopause

The most common cause of death in women and men is cardiovascular disease. Women and men share the same risk factors for heart disease.

When women reach menopause, their risk of developing coronary artery disease increases. Coronary artery disease occurs in 1 out of 3 women after the age 65.

## What about menopause and hormone replacement therapy?

In the past, HRT was thought to provide possible protection against heart disease.

**However**, a recent major study by the Women's Health Initiative stated that combined estrogen and progesterone therapy **is not** recommended for the prevention of cardiovascular disease. The answer is not as clear for women taking estrogen alone. (Also see pages 68-71.)

Hormones should be prescribed based on each **individual woman's health profile**, including medical history, risk factors, and physical symptoms. Talk to your doctor about HRT and reevaluate your health situation every year.

**Above all, a woman must think about her heart.**

Recommendations for reducing the risk of heart disease are described in this book: treatment of diabetes, hypertension and high cholesterol; no smoking; exercise and weight loss; and a heart-healthy diet.

## 8. Age

Aging has an effect on the risk of cardiovascular disease because aging causes changes in the heart and blood vessels. As people age, they become less active, gain more weight, and the effects of a sedentary lifestyle, smoking, and poor diet continue to damage the heart and circulation by increasing blood pressure and cholesterol levels. Blood pressure increases with aging, in part because arteries gradually lose some of their elasticity and, over time, may not be as resilient.

## 9. Family history

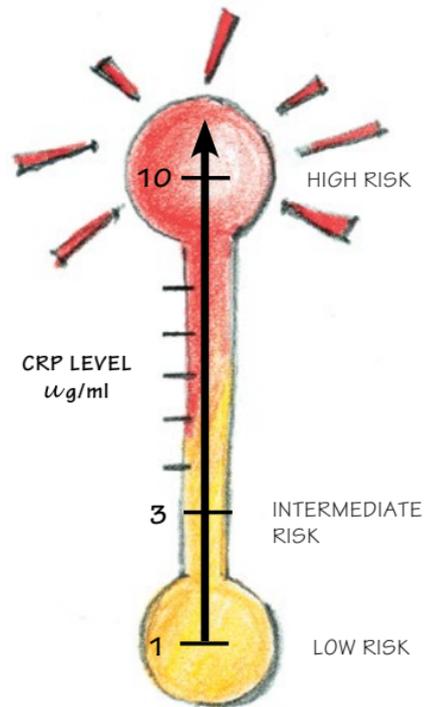
A **family history** of cardiovascular disease is a risk factor for men younger than 40 and women younger than 50. It could reflect genetics and/or an unhealthy family lifestyle. If most of your family members smoke, are sedentary, and have a poor diet — then these are harmful habits that increase the risk of heart disease in your family. However, unlike your genes, these behaviors can be changed.

On the other hand, if your family has a healthful lifestyle but there is still a high incidence of cardiovascular disease, then it is likely that genetics is playing a role. We are learning more about the importance of genetic risk for vascular disease. In the future, treatment may be tailored to an individual's own genetic makeup. In either case, by practicing a healthful lifestyle, you can help reduce your risk rather than giving up and thinking you have no control over your destiny.

## 10. Vascular injury and inflammation

Vascular inflammation is another risk factor for cardiovascular disease. Smoking, high cholesterol, high blood pressure, and diabetes can all result in inflammation, which then causes plaque to grow in the artery walls. If the plaque ruptures, blood clots can form, leading to increased risk for chest pain or heart attack.

Your doctor may order a simple blood test to check your **C-reactive protein (CRP)** levels, which reflect the degree of vascular inflammation. A lower CRP score is preferred. You can reduce your CRP levels by losing weight, closely controlling diabetes, exercising regularly, and quitting smoking. Certain medications — such as aspirin, statins, and ACE inhibitors — are also effective in lowering CRP levels.



# 11. Physical inactivity

Lack of exercise is a major contributor to obesity, diabetes, and hypertension. Beginning an exercise program may help you feel better, have more energy, lose weight, lower your cholesterol, lower your blood pressure, and improve your muscle tone. Also, starting an exercise routine can increase your HDL-cholesterol or “good cholesterol” — especially if exercise is associated with weight loss. Exercise can also reduce vascular inflammation such as C-reactive protein levels.

# Exercise

Currently, only about 30% of adults in the United States regularly exercise during their leisure time. What are some important considerations when starting an exercise program?

- 1) Type of exercise
- 2) Amount and regularity of exercise
- 3) Intensity of exercise

# 1. Type of exercise

## Aerobic exercise

To meet your general fitness goals, the best type of exercise is **aerobic** exercise.

Aerobic exercise does not necessarily require special equipment or a health club membership.

Aerobic exercises are those that require a lot of oxygen. These exercises include walking, jogging, cycling, swimming, cross-country skiing, or rowing.



**30  
minutes  
a day,  
5 days  
a week**

## **2. Amount and regularity of exercise**

The U.S. Surgeon General recommends that healthy adults exercise 30 minutes, 5 days a week.

There are nearly 50 half hours in a 24-hour day. Exercising for 30 minutes daily requires **only about 2%** of your total day. Try to find 1, or 2, or 3 exercises you like to do. You'll enjoy the variety.



BLOOD MOVING  
THROUGH  
THE BODY



### 3. Intensity of exercise

#### Warm up

By walking or cycling slowly, you move the blood out to the working muscles.

A warm-up should start slowly and last 5 to 10 minutes.

## Getting started

If you have a history of cardiovascular disease, or if you are just starting a program, **check with your doctor before starting an exercise routine.** Your doctor is aware of the many factors that may need to be considered in modifying your exercise intensity. Please be sure to ask your doctor for a recommended target heart rate range.



To begin your exercise program, it may be best for you to exercise only 15 to 20 minutes daily for the first few weeks. This may help you more easily establish a consistent exercise routine. Check with your doctor for input on your exercise program.

# How hard and how often should I exercise?

When you are just starting out, try to exercise very comfortably. Here are 4 quick tips.

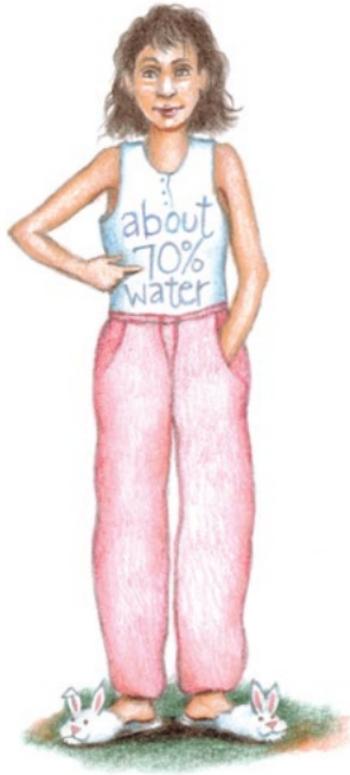
- 1) Try to exercise so that you are breathing noticeably but are **not** out of breath. Remember this simple rule: you should be able to carry on a conversation while you are exercising.
- 2) Sweating is a good thing. This means that your body is working hard enough and receiving the necessary stimulus for the muscles and the heart.

- 3) If you are not fatigued and are completely recovered from exercising on the previous day, then you should exercise **daily**.
- 4) Give yourself a **warm-up** before exercise (several minutes of easy walking) and a **cooldown** at the end of exercise (again, several minutes of easy walking). Ask an exercise specialist for some recommendations for stretching after your workout, and discuss the intensity of the exercise with your doctor. **If you feel any chest discomfort, lightheadedness, or other concerning symptom, stop your exercise.**

## VERY, VERY important

**Cool down.** As important as the warm-up and the aerobic exercise are to improving your fitness, you must also include a cooldown as part of your exercise routine.

Your cooldown should be just like your warm-up. At the end of your exercise routine, give yourself 5 to 10 minutes of nice, easy walking. You also may want to include some mild stretching.



## Another consideration — water

Water is needed for virtually every function of the body. The body is approximately 70% water.



During the course of the day, you lose water through sweating, breathing, and waste. Replacement of water (rehydration) is important — especially when participating in an exercise program.

A prudent recommendation is that you should drink 6 to 10 (8-ounce) glasses of water per day. Sorry, caffeinated drinks and alcohol do not count. They are “diuretics,” meaning that they actually may cause you to lose even more water.

Woman to Woman...

We hope that this book has increased your understanding about breast cancer, osteoporosis, and heart disease. We cannot stress enough how vital it is to consult with your doctor about risks, prevention, and treatment of these diseases. We hope that you will be able to take steps in your life to help reduce your chance of developing breast cancer, osteoporosis, and heart disease. If you happen to have one of these illnesses, we want you to know there are treatments your doctor can offer you. (The next section of this book contains questions you may want to ask your doctor.) Please remember, take the time to take care of yourself. You are a very special woman!

Questions

*Here are some topics you may want to review with your doctor.*

## Questions for your doctor:

- Do I have any exercise limitations? What are they?
- Should I have a treadmill test before I start to exercise? What is my target heart rate?
- Based on my weight, blood pressure, and blood cholesterol level, should I talk to someone about changing my diet?
- If I have heart disease, are there any concerns that I should be aware of before having/resuming sexual activity?
- If you are diagnosed with cancer, discuss what treatment options are best for you.

**If necessary, your doctor will prescribe medications designed to improve your overall health. Be sure to follow these medication guidelines:**

- Talk to your doctor about your medications and be sure you know what each one is for.
- Know what time of day you should take each one.
- Refill your prescriptions unless otherwise instructed by your doctor or physician's assistant.
- Take the medication as instructed at the prescribed time of day.
- Try not to miss taking the medication. Similarly, don't take extra doses. Contact your doctor before discontinuing any medication.

**Additionally, be sure to talk to your doctor about the following:**

- If you are over age 50, discuss when you should have your next colorectal exam
- If you are a female between 21 and 65, discuss when you should have your next Pap smear
- If you are a female over age 40, discuss when you should have your next mammography exam
- Discuss whether you are a candidate for HRT
- Discuss whether you should have a DEXA scan
- Discuss your treatment plan if you have osteoporosis

The Christ Hospital hopes that you have found the information in this book to be helpful. For additional information about services offered within The Christ Hospital Cardiovascular Team, please click on The Christ Hospital logo below:



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## About the Authors

**Caroline J. Böhme, MD, FACOG**, is a board certified physician and member of ACOG. She graduated from medical school at the University of Cincinnati and she completed her Residency training in OB/GYN at The Ohio State University. Currently, Dr. Böhme practices for Mercy Health Physicians. She lives in Cincinnati, Ohio.

**Janette Gosch-Weisbrodt, MEd**, is Coordinator at TriHealth Hospitals. She lives in Cincinnati, Ohio.

**Rona B. Wharton, MEd, RD, LD**, is Clinical Nutrition Manager for a rehabilitation hospital. She lives in Florence, South Carolina.

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