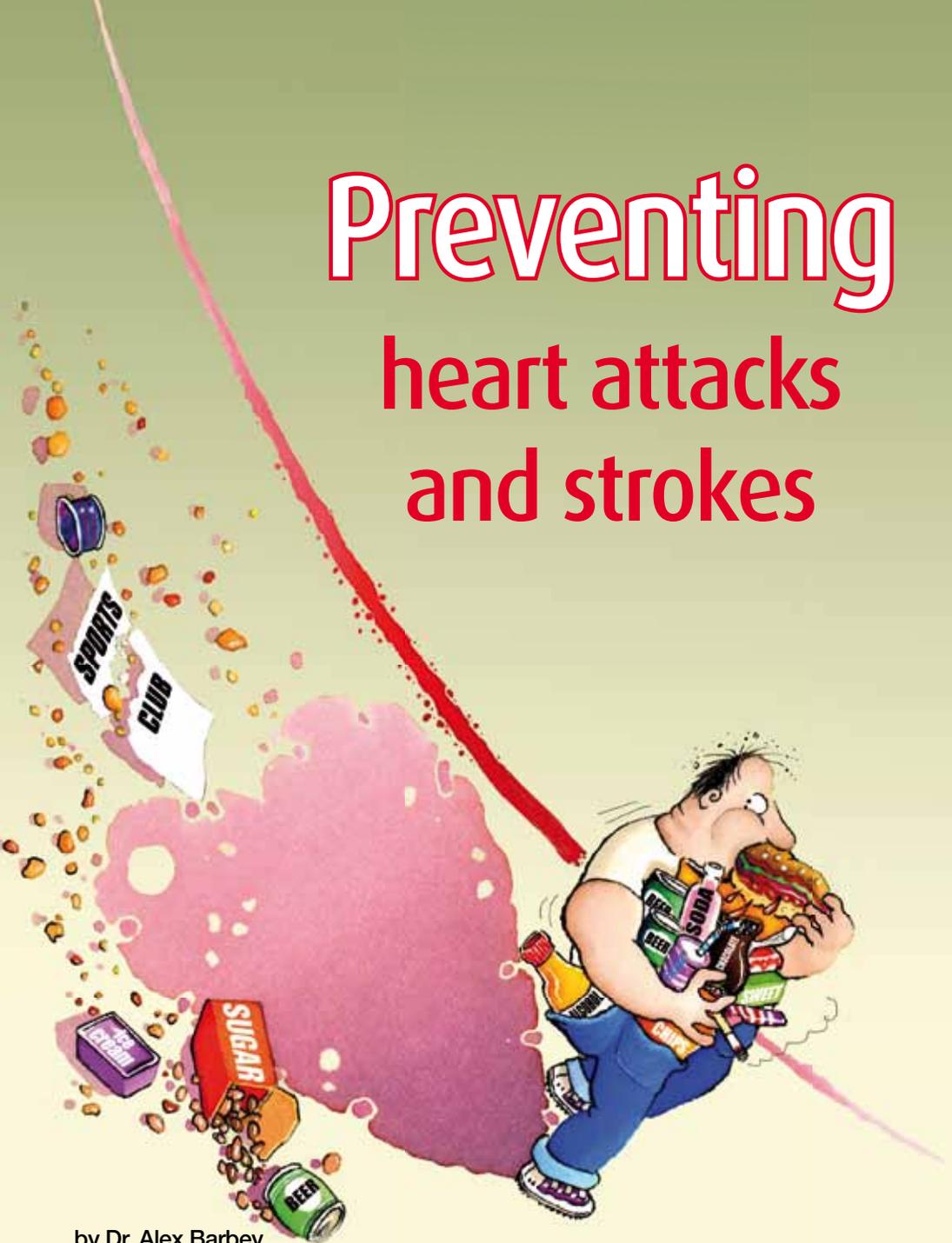


Preventing heart attacks and strokes



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illustrations by Helbé
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A message from the author

Heat attacks and strokes are caused by clogged or blocked arteries that prevent blood and oxygen from reaching the heart or brain.

In one major oilfield company, more than 150 of its employees died from cardiovascular accidents over the last 10 years:

- 95% died from a heart attack
- 5% died from a stroke.

This represents more than one cardiovascular death per month!

During that period a similar number of company employees were hospitalized for a heart attack or stroke but survived thanks to emergency medical or surgical treatment.

Worldwide, 20,000 people die each day from a heart attack, which totals to more than 7 million people per year. Strokes kill around 6 million people per year. This total of 13 million deaths per year is 10 times the number of yearly deaths caused by road vehicle accidents.

Company employees who had a heart attack ranged in age from their late twenties to their early sixties, with a peak in the mid-forties to mid-fifties. Age is a risk factor for cardiovascular disease that you cannot control.

But heart attacks and strokes are mainly due to cardiovascular risk factors that are the result of poor lifestyle habits. These controllable

cardiovascular risk factors are as follows, in decreasing order of importance:

- high blood pressure (hypertension)
- tobacco use
- high blood sugar (diabetes)
- physical inactivity
- overweight or obesity
- high blood cholesterol
- inappropriate alcohol use.

Risk factors with a lesser effect are:

- lack of sleep
- poor stress management.

Medical exams that were sponsored by the company reveal that more than 40% of employees have at least one cardiovascular risk factor.

Although aging increases the probability of having a heart attack or stroke, the more cardiovascular risk factors a person accumulates, the greater the risk of having a heart attack or stroke at an earlier age and with increased severity.

In this brochure we'll look at what you can do to reduce the risk for you and your family of having a cardiovascular incident.

Dr. Alex Barbey



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Assessing your cardiovascular risk factors

Let's see if your cardiovascular risk is high.

→ Answer either **“yes”** or **“no”** to the following questions.

1. Has either of your parents or a brother or sister had a heart attack or a stroke? yes no ?

2. Are you a smoker? yes no

3. Have you ever been told by a nurse or doctor that your blood pressure was equal to 140/90 mm Hg or higher or simply that your blood pressure was high? yes no

4. Has analysis of your blood ever found an elevated cholesterol level of 200 mg/dL [5.2 mmol/L] or higher? yes no ?

5. Have you ever been told that your “bad” cholesterol (LDL) is too high? yes no ?

6. Do you have diabetes or is your fasting blood sugar above 125 mg/dL [7 mmol/L]? yes no ?

7. Is your body mass index (BMI) above 25? (see page 5a to calculate your BMI) yes no ?

8. Are you getting less than 30 minutes of moderate physical activity per day? yes no

9. When sleeping at night or when napping do you snore or gasp (ask your bed partner if you are not certain)? yes no ?

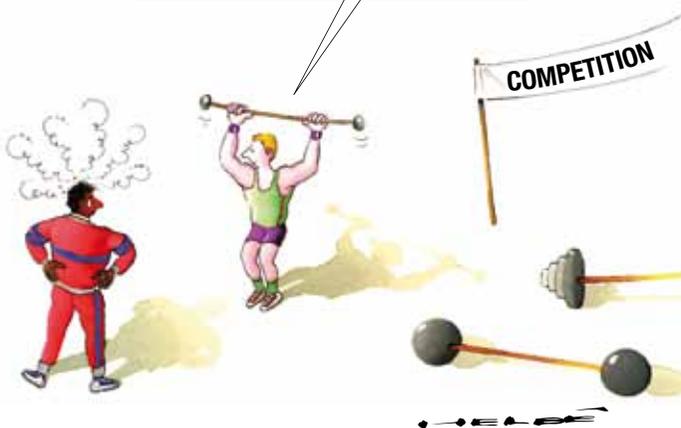
10. Are you over 55 years of age? yes no

If you answered **“yes”** to any of the above questions you are at an increased risk of having a heart attack or stroke.

The more **“yes”** answers, the higher your risk.

If you do not know the answer to any of the assessment questions ?, it is highly recommended that you see a doctor now to get those answers. Tomorrow may be too late!

THE DOC TOLD ME TO REDUCE WEIGHT!



Calculate your BMI

$$\text{BMI} = \frac{\text{weight in kilograms}}{\text{height in meters} \times \text{height in meters}}$$

$$\text{or} \quad \frac{\text{weight in pounds} \times 703}{\text{height in inches} \times \text{height in inches}}$$

Examples:

70 kg and 1.75 m = BMI of 22.9

155 pounds and 69 inches = BMI of 22.9

100 kg and 1.75 m = BMI of 32.6

221 pounds and 69 inches = BMI of 32.6

An online calculator for determining your BMI in kilograms and meters or in pounds and inches is at www.nhlbisupport.com/bmi/.



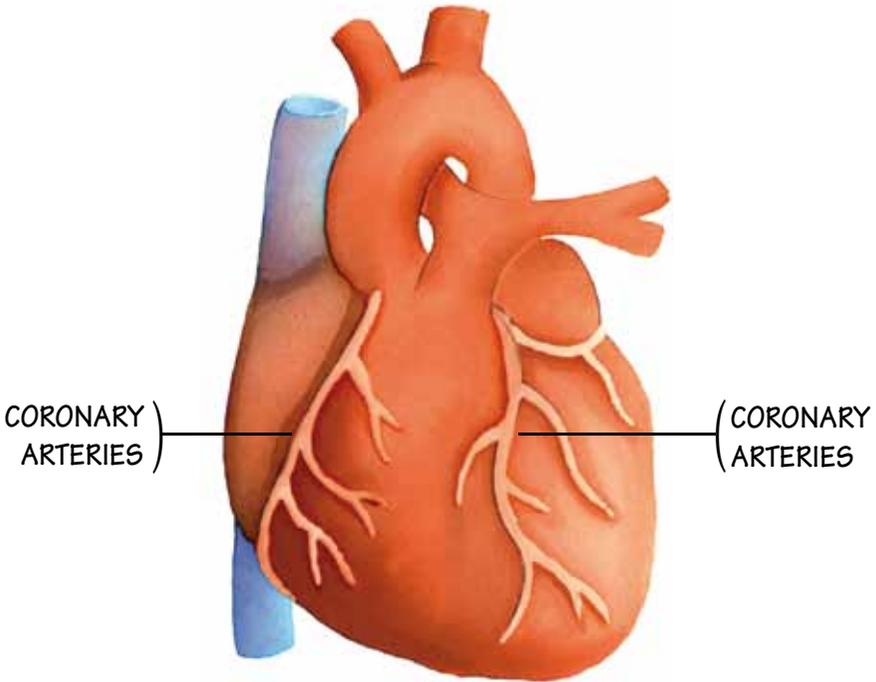
The heart and heart attacks

The heart is a muscle that pumps to circulate blood to the organs, tissues, and cells of the body.

Located in the thorax, between the two lungs, the heart beats approximately 70 times a minute or more than 100,000 times per day, every day, throughout a person's life!

In one day the heart pumps more than 300,000 liters or quarts of blood.

The heart rate, which is how fast the heart pumps, increases during exercise and at times of high stress, such as fear and excitement.



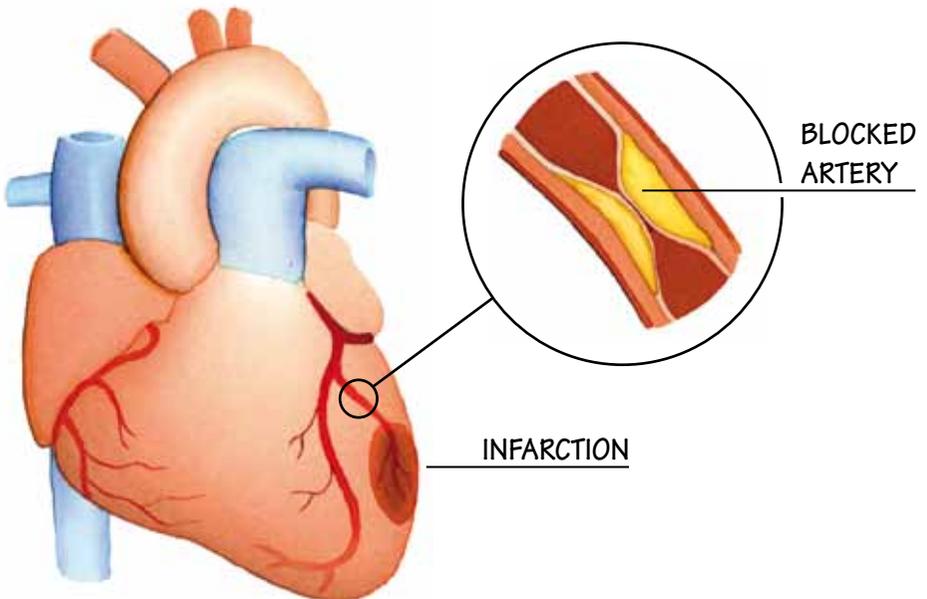
What is a heart attack?

A heart attack (also called a myocardial infarction, coronary thrombosis, or coronary occlusion) is caused by the partial or complete blockage of one or more of the coronary arteries or its branches. These are the blood vessels that supply blood carrying oxygen and nutrients to the heart muscle. Without sufficient blood flow to it, the affected part of the heart muscle is starved and begins to die.

Age is a risk factor. The chance of having a heart attack is much higher for men over 40 years old and to a lesser degree in women over 50 years of age after menopause. Heart attacks can also occur in people in their 20s

and 30s with a family history of premature coronary artery disease.

Aging and the cardiovascular risk factors reviewed in this brochure allow fatty deposits to build up, narrowing and hardening the arteries in the body. This is called arteriosclerosis. In the coronary arteries irrigating the heart, arteriosclerosis reduces blood flow to the heart muscle. When a spasm or blood clot significantly clogs or blocks one of the previously narrowed arteries, the result is a heart attack. How much damage occurs to the heart muscle depends on the extent and location of the blockage and also whether blood flow is restored and if so, how quickly.



2. The heart and heart attacks

What are the symptoms of a heart attack?

The typical symptom of a heart attack is **chest pain:**

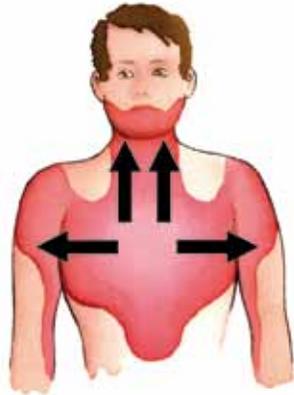
- typically severe, persistent, and described as a tightness, squeezing, or crushing sensation usually located in the center of the chest behind the breastbone or sternum; it may mimic heartburn in some cases.
- spreading to the neck, back, jaw, shoulders, or arms (particularly the left arm and hand).
- lasting for more than 15 minutes, sometimes coming and going.
- occurring at rest or during activity.
- often accompanied by palpitations, fainting, cold sweats, nausea or vomiting, shortness of breath, and a feeling of fear, anxiety, imminent death, or impending doom.
- may be accompanied by signs of shock or loss of consciousness.

A suspected heart attack is a medical emergency requiring urgent attention. Treatment is most effective when started within the first hour (the “golden hour”) after the onset of symptoms. The faster a person having a heart attack gets to the emergency room for treatment, the greater his or her chance of survival.

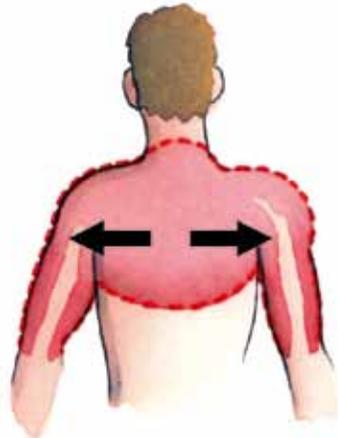
Unfortunately, almost one-third of all heart attacks are “silent” and go completely unrecognized. They do not produce symptoms of chest pain, and the person may be treated for a noncardiological problem. Chest discomfort may be confused with symptoms of indigestion

or anxiety. People with a silent heart attack are at a greater risk of dying than those who experience the typical severe chest pain of a heart attack.

Remember: Any chest pain lasting for more than 15 minutes must be considered a heart attack and the person suspected of having a heart attack is in urgent need of transportation to an emergency medical facility for treatment.



USUAL AREA OF HEART ATTACK CHEST PAIN



What to do as a bystander if you suspect someone is having a heart attack

1. If you suspect someone is having a heart attack and that person is **conscious**:

- Immediately call for emergency medical service or transport the victim to an emergency medical facility.
- Have the person sit, rest, and stay calm.
- Loosen any tight clothing on the person (collar, tie, belt, etc.).

Have the person chew a tablet of aspirin (confirm there is no allergy to aspirin first), which can help limit damage to the heart. Aspirin is an effective anticlotting agent that can be beneficial if there is a heart attack and which poses no danger if it was not a heart attack. Chewing aspirin speeds up its absorption by the body.

HEART ATTACK! QUICK! HAVE TO LOOSEN HIS CLOTHING...



2. If the person is **unconscious and is breathing**, place the person on his or her side (called the recovery position) and immediately call for emergency medical service or transport the person to an emergency medical facility rapidly.

Unconscious + breathing = Recovery position + monitor



RECOVERY POSITION

3. If the person is **unconscious and has stopped breathing**, you must assume that the heart has stopped beating and start cardiopulmonary resuscitation (CPR) immediately. External chest compressions and mouth-to-mouth resuscitation must be continued until the arrival of emergency medical personnel or until the person arrives at an emergency medical facility and can be treated by medical professionals.

Note: It is recommended to apply 30 external chest compressions for every 2 mouth-to-mouth ventilations. However, there is a tendency to drop the mouth-to-mouth resuscitation (rarely performed correctly) in recent first aid training and to instruct only to perform cardiac compressions at the rate of 100/minute.



2. The heart and heart attacks

►►► Use an automatic external defibrillator (AED) if one is available. This small, portable electronic device diagnoses the heart rhythm and delivers an electric shock as necessary. If a critical part of the heart is affected, it may stop beating (cardiac arrest) or may trigger chaotic electrical activity (ventricular fibrillation),

causing uncoordinated quivering (gelatin-like movement) of the heart muscle instead of coordinated contractions and pumping. The electric shock may be able to restore the correct rhythm. Without medical treatment, cardiac arrest results in death within FIVE MINUTES.

Victim Unconscious + No breathing = CPR + AED (if available)

Ideally, everyone working overseas should be trained in how to perform CPR and use an AED. Most people who die from a heart attack before getting to an emergency medical facility do so simply because bystanders did not know what to do or did not do it!

What not to do in the case of a heart attack

- DO NOT leave the person alone except to call for help.
- DO NOT allow the person to deny any symptoms and convince you not to call for emergency medical help.
- DO NOT wait to see if the symptoms go away.

Remember: The faster a heart attack victim receives CPR + AED and gets to an emergency medical facility, the greater is his or her chance of survival. For every minute that is lost, the likelihood of saving the person's life decreases by 10%.

Every minute counts!



Heart attacks and women

Of the 150 heart attack deaths reported among one company's employees in the last 10 years none occurred in women.

But with the increasing female population in the international workforce, many of whom have the cardiac risk factors of smoking and taking oral contraceptives, heart attacks among women employees can be expected in the years to come.

Women are just as vulnerable to heart attacks as men and represent nearly half of the heart attack deaths worldwide. To put this in perspective, women have a much greater chance of dying of a heart attack than of dying from breast cancer. Because menopause is a cardiovascular risk factor, women tend to be about 10 years older than men when they have a heart attack.

Why are women less likely to survive heart attacks than men?

The lower survival rate of women from heart attacks is probably explained by the following:

- More than 40% of women report having no chest pain or discomfort before or during their heart attack. The absence of these characteristic symptoms results

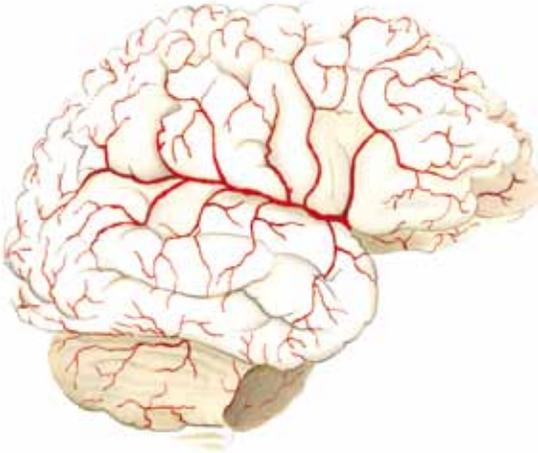
in a potentially incorrect diagnosis by the receiving medical professional. Major symptoms in women during a heart attack often include one or more of these:

- unusual fatigue
 - sleep disturbance
 - shortness of breath
 - indigestion
 - anxiety
 - cold sweat
 - dizziness.
- Women are less likely to realize that they are having a heart attack because they think of heart attacks as a concern for men.
 - They do not recognize the noncharacteristic symptoms and are therefore more likely to delay seeking emergency medical treatment.

Remember: Women die from heart attacks too! Heart attack prevention in women is identical to that in men—primarily by reducing the controllable cardiovascular risk factors.



The brain and strokes



THE BRAIN AND ITS ARTERIES

What is a stroke?

A stroke is either the clogging (ischemic stroke) or the bleeding (hemorrhagic stroke) of an artery in the brain that causes the partial or total destruction of one or more of the specialized nerve centers. This medical emergency can result in neurological damage, such as partial or total paralysis of a limb or an entire side of the body (hemiplegia), speech impairment (aphasia), or vision or memory loss. Irreversible damage occurs to brain tissue when it is deprived of oxygen for more than 3 hours, and the result may be a coma or brain death.

The brain is like a highly developed computer made up of billions of nerve cells, or neurons, within various specialized nerve centers that coordinate and regulate everything in the body, from memory, reasoning, and emotions to the autonomic nervous functions of the heartbeat, breathing, and body temperature, as well as the mobility and sensitivity of the limbs and face.

Blood is carried to the brain by the carotid and vertebral arteries, which branch out into a complex arterial network within the brain.

Ischemic strokes (also called “brain attack” or acute ischemic cerebrovascular syndrome) are responsible for more than 80% of all strokes observed.

Strokes affect more men than women.

Most people who have a stroke are over 65 years of age, which explains why they are relatively rare in a young overseas workforce. However, a stroke can occur at any age, and the same cardiovascular risk factors that produce heart attacks are responsible for ischemic strokes.

What are the symptoms of a stroke?

Early recognition and treatment of a stroke are essential to reduce the severity of the effects and increase the chances of total recuperation.

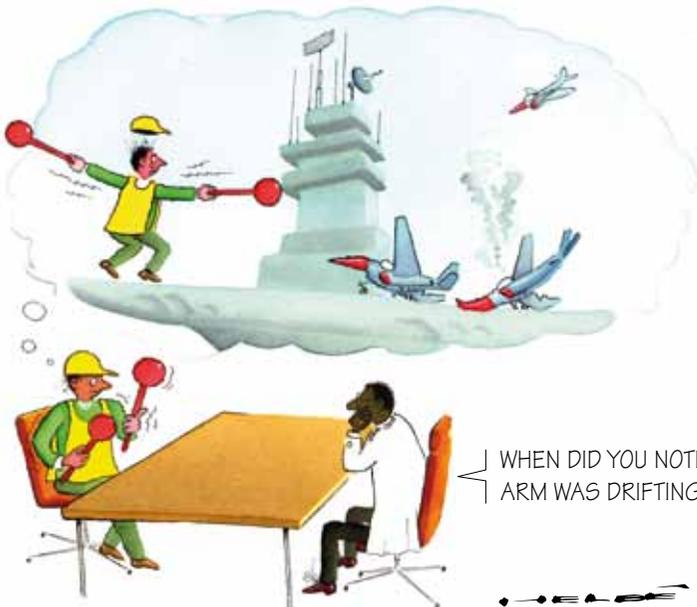
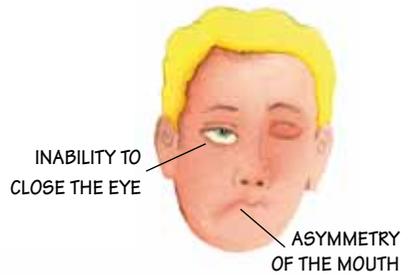
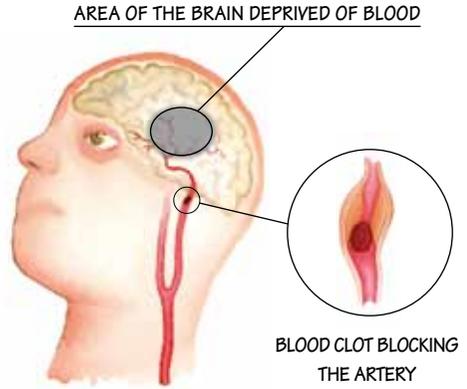
The US National Stroke Association has identified the **Act FAST** rule for rapid recognition of a stroke.

F for face: Ask the person to smile. Does one side of the face droop?

A for arms: Ask the person to raise both arms. Does one arm drift downward?

S for speech: Ask the person to repeat a simple phrase. Is their speech slurred or strange?

T for time: If you observe any of these signs, immediately call for emergency medical service.





Reducing your risk of having a heart attack or stroke

Some of the cardiovascular risk factors that are responsible for heart attacks and strokes cannot be modified and are called uncontrollable:

Age: The older a person is, the greater the risk. More than half of all heart attacks and ischemic strokes worldwide occur in people older than 65. However, age is not necessarily the primary cardiovascular risk factor. An elderly person with a healthful lifestyle can be in much better shape than a younger person with an unhealthy lifestyle. The youngest person in one company to die from a heart attack was 28 years old.

Gender: Men are more likely to develop cardiovascular problems than women.

Heredity: If there is a history of heart attacks in your family, particularly occurring in people younger than 55, your likelihood of having a heart attack increases.

The good news is that it is possible to reduce many other cardiovascular risk factors by modifying lifestyle habits. According to the World Health Organization (WHO), the controllable cardiovascular risk factors for heart attacks and strokes are the following, by decreasing order of importance:

- high blood pressure
- tobacco use
- high blood sugar
- physical inactivity
- obesity or overweight
- high blood cholesterol
- inappropriate alcohol use.

Other known risk factors can be added to the WHO ones:

- lack of sleep
- poor stress management.

The cardiovascular risk factors are intertwined. Smoking increases blood pressure. Stress and smoking increase the level of bad cholesterol in the blood. Lack of sleep increases obesity and blood pressure.

The following chapters look at each of the controllable cardiovascular risk factors and provide some simple and practical recommendations to reduce your risk. What one company is doing at some locations to reduce employees' cardiovascular risk and promote fitness is also reviewed.

A. High blood pressure

High blood pressure, also known as hypertension, is the most important risk factor in causing heart attacks and ischemic strokes as well as heart failure and kidney disease.

Blood pressure is the pressure exerted by the blood on the walls of the arteries. It is described with two numbers, such as 120/80. The top number is the systolic pressure, which corresponds to the pressure in the arteries when the heart contracts. The bottom number is the diastolic pressure, which corresponds to the blood pressure in the arteries when the heart rests between heartbeats.

A stethoscope and inflatable cuff-like manometer (sphygmomanometer) placed around the arm are all that is required to measure blood

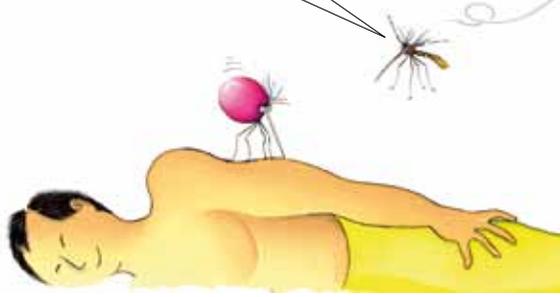
CAREFUL!!! HE HAS HIGH BLOOD PRESSURE!

pressure. Blood pressure readings should be taken on both arms and can be expressed either in millimeters or centimeters of mercury (Hg).

High blood pressure is a very simple condition to diagnose: it only takes a few minutes every year or two to get your blood pressure checked. This simple, painless medical activity can save your life by preventing a heart attack or stroke years later. If high blood pressure is diagnosed, seek treatment and continue medication regularly.

Ideal blood pressure should be less than 120/80 mm Hg or 12/8 cm Hg.

High blood pressure is defined as 140/90 mm Hg or higher. The blood pressure level should be measured after a 10-minute rest period in a lying-down position and confirmed over two or three different consultations. Blood pressure varies with age, sex, altitude, muscular development, stress level, and fatigue. Blood pressure rises during activity or excitement and is lower during sleep.



Blood pressure between 120/80 mm Hg and 139/89 mm Hg in a relaxed, seated, or lying-down adult (after a 10-minute rest period) is considered prehypertension. A person with prehypertension does not currently have high blood pressure but is likely to develop it.

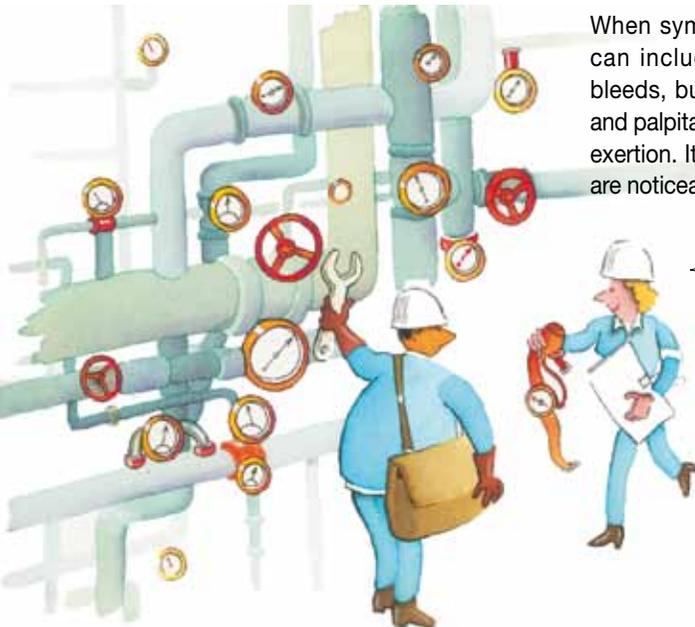
a. What are the symptoms of high blood pressure?

In most cases people with high blood pressure feel absolutely fine. They have no symptoms. It is estimated that 20% of the world's population has undiagnosed high blood pressure. You may have high blood pressure and not know it! This is why having your blood pressure checked at least once every year or two is necessary.

When symptoms do start appearing, they can include headaches, dizziness, nose bleeds, buzzing in the ears, vision defects, and palpitations or breathlessness upon slight exertion. It may take years before symptoms are noticeable.



WHAT ABOUT YOUR BLOOD PRESSURE?



4. Reducing your risk of having a heart attack or stroke

▶▶▶ b. What are the causes of high blood pressure?

Ninety-five percent of all cases of hypertension have no known cause. All medical investigations are normal. This is called primary or essential high blood pressure. Doctors have observed that this condition is usually found in other family members and it is therefore accepted that there is a hereditary or genetic aspect to high blood pressure. If your father or grandmother had high blood pressure, there is a good chance that you may have it also.

In 5% of the cases, a specific cause is found. This is called secondary high blood pressure. Secondary high blood pressure can be due to kidney disease; a vascular malformation or abnormality; certain hormonal conditions of the pituitary, thyroid, or adrenal gland; or in certain cases medication (for example, decongestants or oral contraceptives). Pregnancy can sometimes cause high blood pressure.

Both primary and secondary high blood pressure can result in an abnormal thickening of the heart muscle (ventricular hypertrophy). This can also affect the heart's electrical system, producing an irregular heartbeat, or arrhythmia, as well as damaging arteries, in turn causing arteriosclerosis and sometimes aneurysms. All these adverse effects make high blood pressure the most important risk factor in causing heart attacks, ischemic strokes, heart failure, and kidney disease.

c. Treating high blood pressure

High blood pressure is rarely an acute medical emergency, and it takes years before it causes a serious problem. However, managing your blood pressure now will avoid the eventual severe complications from high blood pressure.

Although a healthier lifestyle (losing excess weight, reducing salt in your diet, stopping smoking, and increasing physical activity) reduces primary blood pressure somewhat, medications are the most effective treatment for high blood pressure. There are numerous types of medications, and your doctor will prescribe the most effective treatment based on your age and medical condition and history.

Medication to treat high blood pressure **MUST** be taken on a daily basis for the duration of your life. If you stop taking medication for high blood pressure, it will reoccur within a few weeks.

Treatment of secondary high blood pressure requires treating the cause.

Do you know your blood pressure?



B. Tobacco use

Worldwide more than one billion people smoke. Almost half a million people die each year in the USA alone as a consequence of tobacco usage. Smoking is a major cardiovascular risk factor, increasing levels of bad cholesterol, raising blood pressure, and increasing the risk of heart attack and stroke.

Are you a smoker? If yes, it is never too late to stop. Smoking causes many other health problems in addition to increasing cardiovascular risk:

- Along with damaging the lungs, smoking causes many respiratory diseases, including bronchitis, emphysema, and asthma.
- Smoking increases the risk of lung, throat, and numerous other cancers (tongue, esophagus, stomach, colon, pancreas, kidney, bladder, and uterus).
- Smoking is the primary cause worldwide of male infertility and impotency, reducing both sperm count and testosterone levels.
- In women, smoking reduces fertility, increases the risk of spontaneous abortion, and can be responsible for premature birth and low birth weight.
- In both sexes, smoking ages the skin similar to sun exposure, hastens the appearance of wrinkles, and can contribute to hair loss.
- Cigars, pipes, and chewing tobacco are as dangerous as cigarettes—the health consequences simply differ. A 20-to-40-minute hookah or sheesha session is the equivalent of smoking 40 cigarettes.

- Passive smokers are at greater risk of having a heart attack or developing lung cancer than people not exposed to secondhand smoke.
- Smokers take 8 to 11 more days of sick leave per year and need medical care more often than nonsmokers.
- Nonsmokers not only live longer than smokers—10 to 14 years on average—but they also have a better quality of life.

There are many techniques to help smokers stop by preventing the undesirable symptoms of nicotine withdrawal and the classic but not inevitable weight gain. Discuss possible treatments with your healthcare provider. Nicotine-replacement products (patches, gums, lozenges, and sprays) and non-nicotine medications (Bupropion and Varenicline) are available to help you quit.

Tips for stopping smoking

- **MOTIVATION** is essential to stop smoking. Once you have decided to stop, stop completely.
- Get rid of the smoking-related paraphernalia (ashtrays, lighters, matches, etc.).
- Tell your friends, family, and colleagues—they can be your support group.
- Set a target date for quitting—the best time to stop may be at the same time as another change in your life, such as going on vacation.
- If possible, stop at the same time as your spouse, a friend, or colleague at work. Together it will be easier.
- Exercise—walk or jog—relax, or invest in a hobby or intellectual activity to get your mind off smoking.



4. Reducing your risk of having a heart attack or stroke

- ▶▶▶ • Avoid temptation. Associate with nonsmokers.
 - Take a walk after meals, and avoid nibbling between meals.
 - Each time you want to light up, drink a glass of water. Avoid the dehydrating effects of alcohol and coffee.
 - Once you stop, never, never light up again.
 - Even if you cannot bring yourself to stop smoking completely, at least try to reduce the quantity that you smoke by half. Next time, you will have less to give up so you may be able to stop completely.
- Try again, do not give up. It's well worth the effort!

No matter how many cigarettes you smoke, how long you have been smoking, and how many times you have tried to stop, **IT IS NEVER TOO LATE to stop completely!**



C. High blood sugar

People with diabetes have levels of blood sugar (also called blood glucose) that are too high.

Although blood glucose is necessary for energy, the high glucose levels that can occur with untreated or poorly managed diabetes are corrosive to the arteries, which is why diabetes can produce numerous long-term health problems including heart attack, stroke, blindness, infections, and damage to the kidneys and nerves.

Glucose is the body's primary source of energy, but the hormone insulin, which is manufactured by the pancreas, is necessary to get the glucose from the bloodstream into the body's cells to be used for fuel. If there is not enough insulin or if the body cannot use insulin properly, the glucose stays in the blood, resulting in diabetes.

Diabetes affects millions of people around the world. There are three major forms of diabetes: type 1, type 2, and gestational.

Type 1 diabetes occurs when a person's pancreas produces no or not enough insulin.

- Type 1 diabetes is usually diagnosed in children, adolescents, and young adults.
- Treatment requires injections of insulin for life.
- It is believed that this form of diabetes is hereditary, although in some cases, a viral infection during childhood (such as mumps) may trigger changes in the immune system that result in type 1 diabetes. There is no known prevention or cure.

- Symptoms include
 - frequent urination
 - unusual thirst
 - unusual hunger along with weight loss
 - fatigue and weakness.
- The acute risk for type 1 diabetics is losing consciousness or becoming comatose from either too little or too much insulin.

Type 2 diabetes can develop at any age when the body cannot use insulin properly.

- It occurs mainly in overweight or obese individuals whose pancreas functions normally; however, the amount of insulin produced is not enough to compensate for the excess body weight.
- Type 2 diabetes is the form most commonly diagnosed in people over 35 or 40 years of age. Many employees who have diabetes have type 2.
- Symptoms are often nonexistent in type 2 diabetes, with diagnosis made during a medical exam through blood or urine analysis. Some people may have one or more of the typical symptoms of the disease—increased thirst, urination, fatigue, irritability, and nausea. Symptoms may include repeated and slow-to-heal infections of the skin, gums, bladder, or vagina and tingling or loss of feeling (neuropathy) in the hands and feet. It is a common cause of impotency in men and menstrual irregularities in women.
- Because symptoms are often nonexistent, it is recommended that all adults have a blood test for diabetes at age 45 and every 3 years thereafter.



4. Reducing your risk of having a heart attack or stroke

- ▶▶▶ • Treatment is based on dieting and exercise to achieve weight loss. If weight loss does not sufficiently improve blood glucose levels by enabling the insulin produced by the pancreas to match the lower body weight, oral diabetes medication is usually required.

Gestational diabetes develops in pregnant women because of hormonal changes or a shortage of insulin. It usually goes away once the baby is born, but these women are more likely to later develop type 2 diabetes.

The normal blood sugar level, also known as glycemia, is 115 mL/dL [6.0 millimoles/liter] .

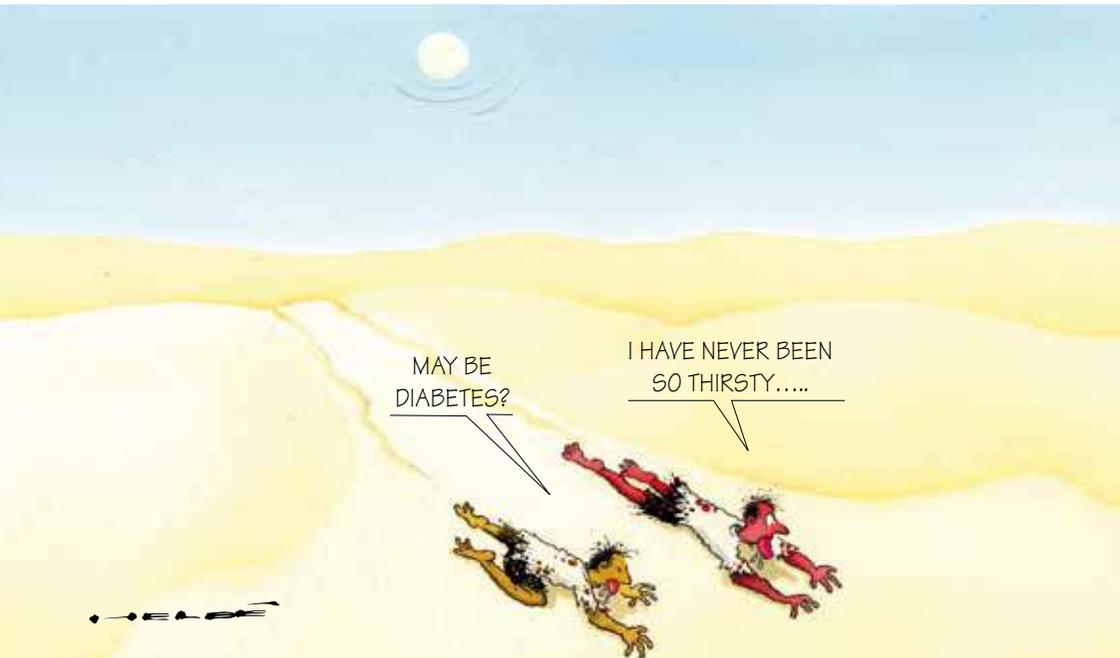
Eating sugar doesn't cause diabetes, but consuming sugary foods and beverages can make managing blood glucose levels difficult. Whether you have diabetes or normal blood glucose levels, making healthful food choices

does not mean giving up sugar completely. Instead, be aware that sugar is both naturally occurring and added in many foods, especially candy, chocolate, ice cream, soft drinks, jam and jelly, cookies, and cakes.

Most soft drinks contain the equivalent of many spoonfuls of sugar. The "diet" or "light" forms usually contain little or no sugar, but read the nutritional information on the label to be sure.

About one-half of all people with diabetes are unaware they have the disease. Each year, company physicals detect diabetes in numerous employees who have no idea that they are diabetic. Once diabetes has been diagnosed by a simple blood or urine analysis, the correct treatment can prevent complications and reduce their severity.

Do you know your fasting blood glucose level?



D. Physical inactivity

Physical inactivity, also called a sedentary lifestyle, is a major cause of heart attacks and strokes.

We have become an overweight and sedentary generation. And we are passing it on to our children as we spend hours in front of the computer and then a few more hours parked in front of the television, nibbling a bag of chips and sipping sugar-rich soft drinks, before sitting down to a high-calorie meal and a nice sweet dessert to top it off!

Staying in shape or getting back into shape does not require hours of running, swimming, squash, or sweating in a gym, although all of these activities will help you stay in shape. All it requires is a few changes in everyday habits to increase your levels of physical activity.

Even modest, but regular, levels of physical activity improve a person's health, reduce the risk of cardiovascular disease, and increase life expectancy. The more you move, the better it is for your health. Walk, climb the stairs, cycle, shop—do whatever you feel like doing, but move! All physical activity performed at work, at home, and at play adds up at the end of the day.

Regular physical activity increases the heart muscle function, improves glucose balance to reduce the risk of type 2 diabetes, and reduces blood pressure as well as bad cholesterol levels while increasing good cholesterol levels. Physical activity burns calories, a major factor in weight loss that reduces the cardiovascular risk from obesity and overweight.

In addition to improving the cardiovascular function and reducing the risk of heart attack and stroke, regular physical activity has been

shown to reduce the risk of developing breast and colon cancer as well as osteoporosis. It improves well-being and morale by reducing anxiety and stress.

Everyday life offers many simple activities for exercise:

- work in the garden and mow the lawn instead of hiring someone to do your yard work
- walk wherever possible instead of taking the car
- use the stairs instead of taking the elevator
- wash the car instead of using the drive-through car wash
- park the car a few blocks from work or the shopping center and walk the last part of the trip
- reduce screen time in front of the computer, television screen, and video games
- get out to visit your town or city, the museums, the galleries, but move!

You can surely find hundreds of other things to do in a day that increase your physical activity.

If you are inclined to invest some time in a little more physical activity, select something that you like: walking, jogging, bicycling, swimming, tennis, etc. Do not force yourself to do an exercise or physical activity that you dislike.

Try listening to stimulating and enjoyable music while doing your physical activity. This makes time fly and takes your mind off the physical activity.



4. Reducing your risk of having a heart attack or stroke

▶▶▶ If you are really hooked on video games, why not work out with an interactive session in front of your television screen. You'll be moving your whole body instead of just your thumbs!

Why not walk the walk?

- In the course of a normal day, most people rarely walk more than 2,500 to 3,000 steps. Any number of steps below 5,000 steps a day is considered sedentary.
- A minimum of 6,000 steps every day has been found to significantly reduce blood pressure, heart rate, diabetes risk, and high levels of bad cholesterol as well as stress and anxiety levels.
- Ten thousand steps is equivalent to walking 7 kilometers [5 miles], which represents one hour of walking at a brisk pace. If you walk

10,000 steps per day, every day, month after month, you will consume calories and end up losing weight without additional dieting.

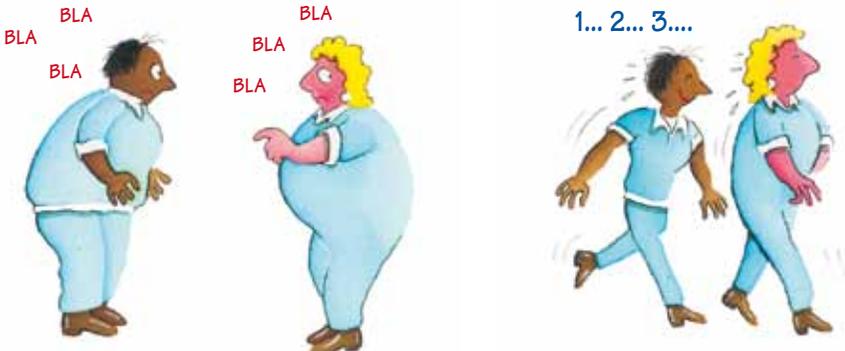
Wear a pedometer and learn your daily number of steps. At first you will be surprised to discover how little you walk in a normal day. The pedometer is a motivational tool and an easy way to track the number of steps walked in a day. The pedometer allows you to use the SMART principles of goal setting: specific, measurable, achievable, realistic, and time-bound.

What physical activity have you done today?

Remember: A strict minimum of 30 minutes of brisk walking each day is recommended. The ideal is one hour of walking per day.

Increase your daily activity. Any activity is better than no activity.

STOP TALKING! START WALKING!



E. Overweight and obesity

Overweight and obesity, as measured by a person's body mass index (BMI), is a major health problem worldwide, and its prevalence is steadily increasing. In the USA alone almost 100 million people—nearly one-half of the adult population—are overweight or obese.

At one oilfield firm, more than 45% of the employee population is overweight or obese, and 1% is morbidly obese.

Over the long term, obesity increases the likelihood of the occurrence and severity of numerous health problems, resulting in lower productivity, higher risk of disability, and a shorter lifespan.

Although obesity can be blamed on heredity, socioeconomic status, hormonal imbalance, aging, and psychological problems, the truth of the matter is that obesity usually results from poor eating habits and lack of physical activity. Less than 2% of all cases of obesity have a medical cause, such as low thyroid function.

Are you overweight or obese? The calculation of your BMI is a simple way of assessing whether your weight is normal for your height. It is a reliable indicator of the amount of body fat for most adults, both men and women (with the exception of pregnancy and body builders who have an increased muscular mass).

Calculate your BMI

$$\text{BMI} = \frac{\text{weight in kilograms}}{\text{height in meters} \times \text{height in meters}}$$

$$\text{or} \quad \frac{\text{weight in pounds} \times 703}{\text{height in inches} \times \text{height in inches}}$$

Examples:

70 kg and 1.75 m = BMI of 22.9

100 kg and 1.75 m = BMI of 32.6

155 pounds and 69 inches = BMI of 22.9

221 pounds and 69 inches = BMI of 32.6

An online calculator for determining your BMI in kilograms and meters or in pounds and inches is at www.nhlbisupport.com/bmi/.



4. Reducing your risk of having a heart attack or stroke

Interpret your BMI

If your BMI is from 18.5 to 24.9 you have a healthy weight and need to keep it there.

If your BMI is from 25 to 29.9 you are considered **overweight** and need to lose a few kilograms or pounds.

If your BMI is 30 or higher you are **obese**. A BMI of 40 or higher is considered extremely or **morbidly obese**, which is a major health issue.

The death rate and disease frequency rate are both increased for BMI values above 30. The higher the BMI, the greater the risk of cardiovascular disease and type 2 diabetes—and ultimately dying early. You should see a doctor to evaluate your risk for developing obesity-associated health problems.

Reduce your weight and health risk by improving your eating habits and increasing your daily physical activity.

If your BMI is below 18.5 you are **underweight**. This may be the result of a health condition or an eating disorder.

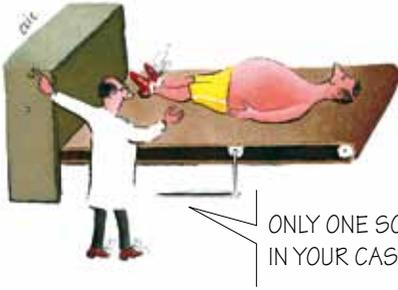
Note: *By international standards, oilfield workers are considered unfit to work on offshore rigs, remote locations, or vessels if their BMI is above 40. This is because the mobility of obese people is highly impaired. In case of an explosion, fire, or other emergency, they will have difficulty physically responding to the emergency and evacuating a rig, ship, or helicopter, which puts not only themselves but their coworkers at greater risk. Additionally, an injured person with a BMI above 40 is not easy to transport in a stretcher or to be evacuated in a helicopter or by emergency vessel.*

Do you know your height and weight?

Calculate your BMI now.

HAVE YOU CONSIDERED YOUR CHILDREN'S RISK OF BEING OVERWEIGHT?





Abdominal obesity

- Abdominal obesity, which refers to fat stored around the abdomen or waist (known as a “pot belly” or “beer belly”), also seems to be a good predictor or indicator of future cardiovascular disease.
- The waist circumference is a simple measure of abdominal obesity. Use a tape measure to measure your waist above your belly button.
- A healthy man should have a waist measurement less than 102 centimeters [40 inches].
- A healthy women should have a waist measurement less than 88 centimeters [35 inches].
- A larger waist leads to an increased risk of cardiovascular disease as well as of diabetes and high blood pressure.

a. What are the consequences of being overweight or obese?

Overweight and obese people increase their cardiovascular risk because excess body fat causes increases in all of the following, which in turn increase the clogging of the coronary arteries and the arteries irrigating the brain:

- blood pressure

- cholesterol, particularly the bad (LDL) cholesterol
- levels of triglycerides (another fat in the blood)
- blood sugar and the risk of diabetes.

Overweight and obese people are more likely to have additional health problems or risks:

- Psychological problems such as depression are associated with obesity.
- Certain cancers are more common in the overweight and obese such as cancers of the breast, prostate, colon, gallbladder, uterus, and ovaries.
- Respiratory problems include sleep apnea (an obese neck obstructs the airway, causing a person to snore loudly and briefly stop breathing while asleep) and respiratory failure.
- Complications during pregnancy (toxemia and high blood pressure) and delivery difficulties are at greater risk for overweight women.
- Gallbladder diseases including cancer, solid deposits of cholesterol, and gallstone formation are more common in overweight people.
- Osteoarthritis, particularly of the knees and hips, is caused by extra pressure from excess body weight wearing down the protective cartilage of the joints.



4. Reducing your risk of having a heart attack or stroke

▶▶▶ b. What can you do to reduce excess weight and its consequences?

The solution = healthy eating + more physical activity

No one becomes overweight or obese overnight. The excess fat accumulates over many years. Conversely, you cannot lose excess body fat in just a few days.

There are no miracle solutions to lose weight. Weight-loss medication and restrictive diets can be very dangerous. Surgical solutions (gastric bypass, gastric reduction, and gastric rings or bands) are not without risk and they should be used only by severely

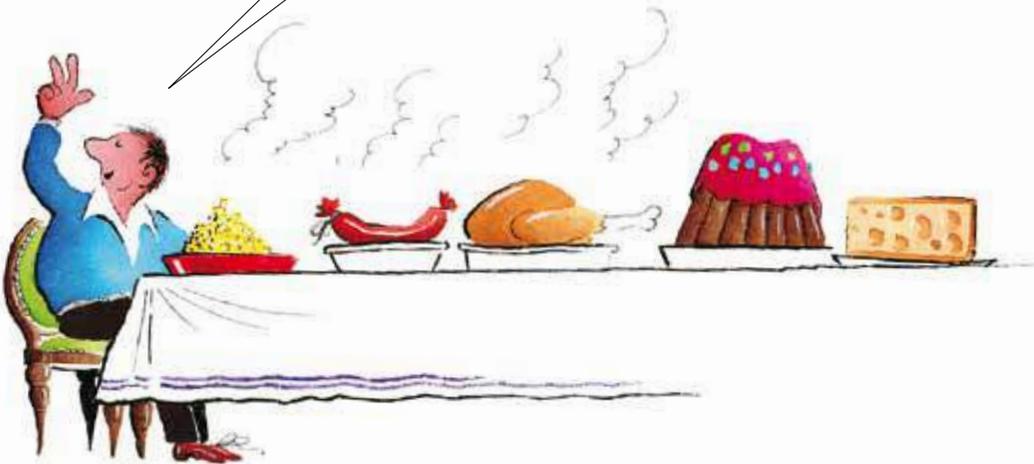
obese people and only after a complete medical assessment.

Crash dieting or any form of dieting is not the solution. Forget fad or restrictive diets. They just produce a yo-yo effect in which people lose weight rapidly and drastically and then regain it once the diet is finished.

The solution to overweight and obesity is a major change in your lifestyle: improve your eating habits and your level of physical activity.

Getting back in shape and becoming healthier is probably easier than most of us imagine, although it does take time.

STARTING TODAY I WILL ONLY EAT ONCE A DAY!



c. Losing weight and getting back in shape

Losing weight and getting back in shape take time and effort. In addition to increasing your physical activity, you must understand what you eat and learn how to improve your eating habits.

■ Understanding what you eat

Food is the body's fuel and is measured in calories. Each calorie represents an amount of energy:

- 1 gram of either protein or carbohydrate provides 4 calories of energy.
- 1 gram of fat provides 9 calories of energy.
- 1 gram of alcohol provides 7 calories of energy.

Calories that are not burned off by body functions and physical activity are stored as fat in the body and result in weight gain.

Foods can be divided into three categories: fats, carbohydrates, and proteins. The following overview defines each category, what foods are in it and their affect on your health, and healthy eating tips.

Fats provide long-term energy reserves in the body. However, the amount and kind of fat in a person's diet can increase the risk of heart attack and stroke by increasing bad cholesterol levels and contributing to overweight and obesity. Fat in foods can be divided into

- **Bad fats: saturated fat and trans fat.** Bad fats raise the levels of bad cholesterol and triglycerides in the blood and lower the levels of good cholesterol. They are mainly animal fats (beef, pork, lamb, veal, poultry skin and dark meat, hot dogs, bacon, butter, high-fat dairy products, lard), liquid fats that have been transformed to solid trans fats through the process of hydrogenation (shortening,

hydrogenated oils), and foods prepared with a high content of animal or trans fat (fried foods and most fast foods).

- **“Good” fats: unsaturated fat (monounsaturated or polyunsaturated).** Good fats improve blood cholesterol levels. They are mainly in plant-based foods, such as vegetable oils, seeds, and nuts.
 - Monounsaturated fats are found in olive oil, canola oil, peanut oil, avocados, fish, and most nuts.
 - Polyunsaturated fats are found in corn oil, soybean oil, sunflower oil, and fish.

Eat the right kind and amount of fat

- Prefer baked, grilled, steamed, or poached foods.
- Reduce or avoid sauces because they almost always contain a great deal of fat.
- Both butter and margarine will help you gain weight because they contain an identical number of calories per gram. Butter is a saturated animal fat and rich in cholesterol, but some margarines are made with trans fats. Use a trans-fat-free soft or liquid margarine or vegetable oil in moderation.
- Avoid fried foods such as fried fish, fried chicken, and French fries because frying in oil increases the calorie count considerably.
- Canola and olive oils are considered the most healthful choices and their use in moderation should improve cholesterol levels.

Prefer fish and poultry (chicken) to meat (pork, lamb, and beef)

- Eat all the fish you want, but not fried or bathing in butter.
- Remove the skin from poultry and prefer white meat.
- Trim any visible fat from red meat before eating it.



4. Reducing your risk of having a heart attack or stroke

- ▶▶▶ • Avoid processed and fatty meats (sausages, hot dogs, bacon, and spare ribs).
- **Vegetables, whole grains** (such as brown rice, oats, corn, and whole wheat), **salads, beans, and fruit** should be eaten in abundance. They provide few calories and little or no fat or sugar. In addition, they are rich in vitamins, antioxidants (anticancer agents), fiber, and other nutrients. **Nuts** contain a lot of fat, even though it is good fat, so eat them in moderation.

Carbohydrates provide short-term energy and are made up of sugars, starches, and fibers. Carbohydrates that are digested quickly by the body (table sugar, candy, and refined flour) cause a spike in blood sugar levels that is difficult for people with diabetes to manage and that can cause insulin resistance, which increases the risk for heart attack and stroke, type 2 diabetes, and certain cancers. Carbohydrates that are digested more slowly have a gentler effect on blood sugar levels;

these are found in foods such as whole or unprocessed grains, beans, brown rice, and foods that are high in fiber.

Reduce refined sweets

- Reduce your consumption of pastry and cake, candy, chocolate, jams and jellies, and ice cream.
- Avoid energy drinks, which are usually very high in sugar.
- Prefer natural, frozen, or canned fruits. The sugar in fresh fruit is moderated by the accompanying fiber. Do not reduce fruit intake.
- Replace soft drinks, colas, and sweetened tea with water. Each can of sugared soda or juice contains 10 to 12 teaspoons of sugar.
- Reduce the amount of sugar that you add to breakfast cereals and other foods.
- Artificial sweeteners and other sugar substitutes are a better choice than sugar, but no sugar or sweetener is even better.

SEDENTARY....ME??? I SPEND MY TIME MOVING FROM MY COMPUTER TO MY TV!



Proteins help to build and maintain muscle and are indispensable in every body function. Protein comes from animal sources (pork, beef, lamb, poultry, fish, and shellfish) as well as from dairy products and from vegetable sources (beans, nuts, soy, and whole grains).

Make smart protein choices

- Prefer fish, poultry, and vegetable sources of protein.
- Limit red meat to lean cuts and moderate portions.

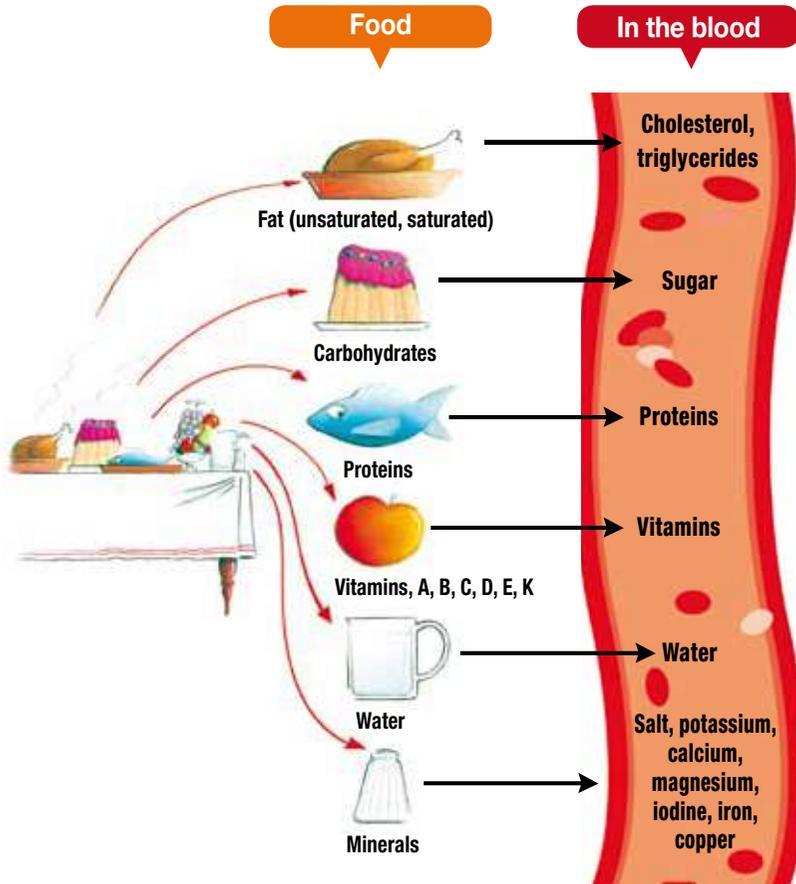
- Reduce processed meats consumed because they are usually high in salt and saturated fat.
- Reduce the number of eggs eaten to not more than 2 per week.

Select the most healthful dairy products

- Prefer low and nonfat milk, cheese, yogurt, and other dairy products.
- Reduce whipped cream and whole-milk dairy products.



Nutrition – The basics



4. Reducing your risk of having a heart attack or stroke

▶▶▶ ■ Improving your eating habits—Some good advice

Do not skip breakfast or any other meal. Skipping a meal makes you ravenous later, leading to overeating.

Eat small meals frequently.

Reduce portion size. The more food you put in your mouth, the more you will gain weight.

Avoid seconds. Try to avoid second servings, or eat less than a full plate of food. This may go against everything that your parents taught you as a child, but the less you put in your mouth, the more you will lose weight. It's as simple as that.

Snacking is acceptable between meals but be careful what you nibble on. If you are hungry between meals, snack wisely by eating fruit or drinking water. Avoid potato chips and other junk foods.

Small differences can have a big impact. One extra cookie or piece of chocolate per day can result in an extra 3 kilograms [7 pounds] at the end of the year. It all adds up.

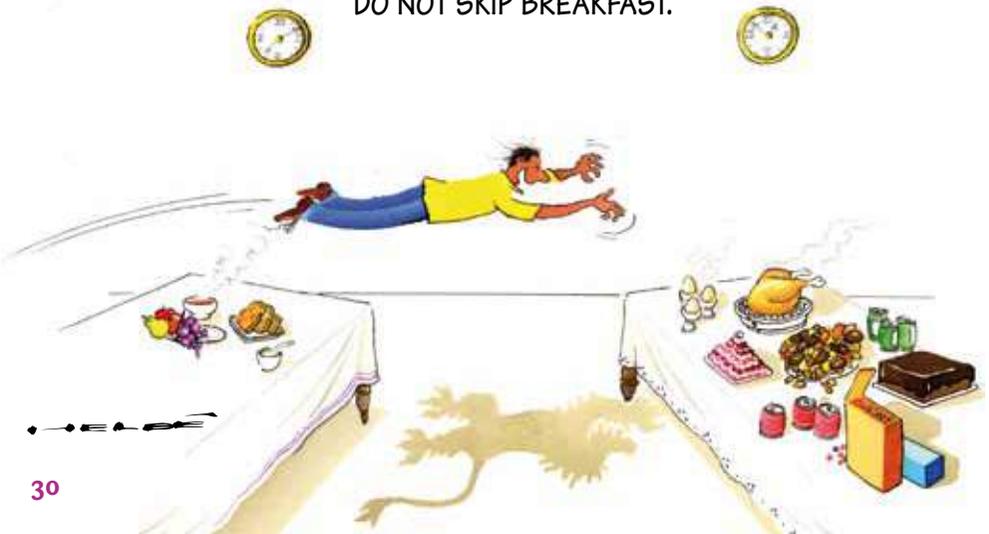
Drink a glass of water before each meal. Water contains zero calories and reduces hunger. Drinking a large glass of water before each meal is an excellent way to reduce your appetite and help you feel full.

Eat what you like. Meals must remain a pleasure. If you eat only foods that are bland or disagreeable to your taste buds you will rapidly return to your old food habits and your morale will take a beating. Add spices and herbs to your meals and do not hesitate to dine at your favorite restaurant once in a while.

Finally, remember to

- **Reduce or completely avoid alcoholic beverages.** Alcohol contains a great deal of calories but nothing of nutritional value.
- **Reduce salt intake.** Salt increases blood pressure. Taste your food before salting it. It usually does not need additional salt. The recommended salt intake is no more than 5 grams/day [1 teaspoon/day], but it is estimated that most people consume more than twice that amount per day.

DO NOT SKIP BREAKFAST.



■ Getting started—Helpful hints

Making the decision to start improving your lifestyle and reducing your cardiovascular risk factors is probably the most important decision you will ever make. It will determine how well and long you live.

Take a photograph of yourself before you start and put the date on the picture.

Continue taking photographs of yourself every 3 months. The change from one picture to another can really be noticeable and motivational!

Set a realistic goal. There is no rush. You must understand that this is a long-term investment in your health. Losing 1 to 2 kilograms [2.5 to 5 pounds] per month is a realistic objective, especially in the beginning. You have taken years to get to where you are. It will probably take months, or in some cases a year or more, to bring your weight down to an acceptable level depending on your starting point. Do not be disappointed if you do not lose weight as fast as you had expected.

Calculate your BMI and determine your ideal weight for your height. Use the online calculator at www.nhlbisupport.com/bmi/.

Good tools result in a good job. Buy yourself an accurate electronic or mechanical scale and weigh yourself weekly. Some people prefer to weigh themselves daily (same time every day). This allows them to assess any excesses from the previous day. You will be amazed to see that your weight may increase or decrease considerably from one day to the next depending on the foods and quantities eaten and the amount of physical activity performed.

A support team can be very useful. Friends, family, and colleagues need to be informed that you are changing your eating habits. Changing your eating habits will be a lot easier if you do not go it alone. If your partner agrees to change his or her eating habits it will be easier and beneficial for both of you. If you are overweight, chances are that your partner and children are probably also overweight.

When shopping for food. Avoid buying and bringing home high-calorie, fat-rich, and sugar-rich foods (for example, potato chips, chocolate, and sweetened beverages). If these foods are not available at home, you will not be so easily tempted to eat them.

Read food labels. You will be shocked by the calorie levels of some of the foods that you eat on a regular basis. “Light” and “low-fat” foods do not always ensure weight loss. You have to weigh your caloric intake against your activity level: someone who has a rather sedentary lifestyle with less than half an hour of walking per day burns only about 2,000 calories per day, whereas someone with a high level of daily activity can burn more than 4,000 calories per day. Keep in mind the number of calories in your food:

- 1 cookie (150–200 calories)
- 1 small bag of potato chips (200–300 calories)
- 1 glass of beer or wine (150 calories)
- 1 average sandwich (350 calories)
- 1 glass of whole milk (250 calories) versus 1 glass of skim milk (50 calories).

4. Reducing your risk of having a heart attack or stroke

▶▶▶ **No need to weigh your food and calculate your daily calorie consumed.** Counting calories is tedious and boring and not something that you will want to do for months and years. You simply need to learn which foods are high in calories and which are low.

Reduce screen time. Less time in front of the TV, computer, or video game console

will also reduce your nibbling. Avoid greasy potato chips and the other usual snacks. Recent studies demonstrate that less screen time increases life expectancy!

Avoid fast food establishments. Eating there can destroy a week's worth of effort in a few minutes!



F. High cholesterol

Cholesterol is one of many fatty substances existing in the body. Although it is essential for many body functions (for example, the production of hormones), excess cholesterol can narrow and clog the arteries, causing hardening of the arteries (atherosclerosis) and increasing the risk of heart attack and stroke.

Cholesterol is carried in the bloodstream on proteins, and this combination is called a lipoprotein. The different types of lipoprotein have different health effects.

- High-density lipoprotein (HDL) is called the “good” cholesterol because it decreases the risk of fatty deposit formation and cardiovascular disease.
- Low-density lipoprotein (LDL) and very low-density lipoprotein (VLDL) are called “bad” cholesterols because they promote the buildup of deposits, which increases the risk of cardiovascular disease.
- Triglycerides are the primary form of the body’s fat storage. High triglyceride levels are associated with higher cardiovascular risk.

Enough cholesterol for normal body functions is produced by the liver. However, when it comes to cholesterol levels, you are what you eat.

Foods that promote good cholesterol levels (high HDL and low LDL) contain unsaturated fats, are low in cholesterol, and are high in soluble fiber:

- fish (rich in omega-3 fatty acids)

- vegetable fats and oils that are monounsaturated or polyunsaturated: olive, peanut, colza or canola, soybean, corn, and sunflower
- whole grains, oatmeal, beans, and nuts
- vegetables and fruits including edible skin.

Foods that increase the level of bad cholesterol are themselves rich in cholesterol or high in saturated fats or trans fats:

- whole-milk dairy products: butter, cream, nonskim milk, sour cream, cheese, and ice cream
- meat: pork, lamb, and beef
- egg yolks
- certain tropical oils such as coconut oil, palm oil, palm kernel oil, and cocoa butter.

Trans fats are doubly bad: they not only raise LDL and triglycerides levels, but they also lower HDL.

Blood cholesterol levels should be measured at least every 3 years. Cholesterol measurements are reported in mg/dL or in mmol/L.

Total cholesterol levels after 12 hours of fasting should be less than 200 mg/dL [5.2 mmol/L].

- Total cholesterol level between 200 and 240 mg/dL [5.2 and 6.2 mmol/L] is borderline high cholesterol.
- Total cholesterol level above 240 mg/dL [6.2 mmol/L] is considered high cholesterol, which greatly increases the risk of ▶▶▶

4. Reducing your risk of having a heart attack or stroke

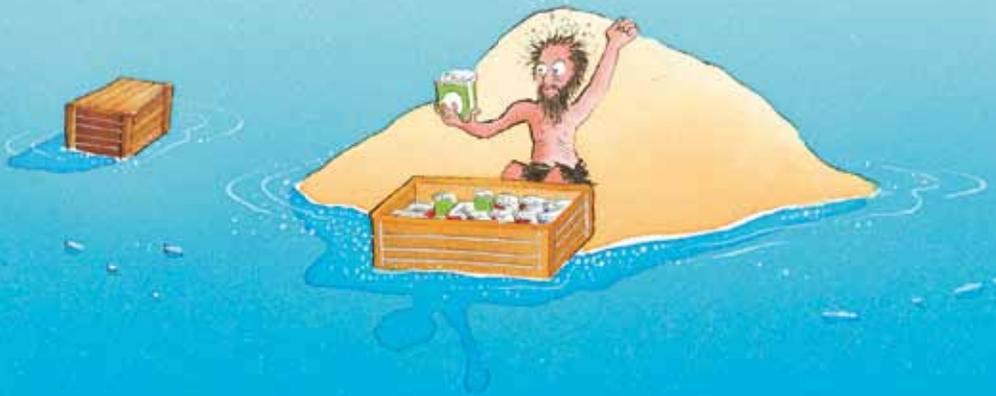
- ▶▶▶ cardiovascular disease. You need to see your doctor about following a low-fat diet and possibly taking cholesterol-reducing medication.
- HDL/LDL ratio should be below 5, with the optimal ratio at 3.5.
- Triglycerides should be below 149 mg/dL.

Cholesterol levels are also increased by other factors:

- stress
- sedentary living and physical inactivity
- smoking
- overweight and obesity.

What are your cholesterol and LDL levels?

EGGS, CREAM, BACON...?!
WHAT ABOUT MY CHOLESTEROL LEVEL?!





G. Alcohol consumption

Alcohol contains nothing of value as far as healthful nutrition is concerned—no vitamins, no minerals, no proteins. But alcohol does contain a lot of calories at 7 calories per gram. One standard-size glass of wine or whiskey or beer contains 12 grams of alcohol, the equivalent of 84 calories. This explains why heavy drinkers gain weight and develop a “beer belly.”

Chronic or excessive consumption of alcohol causes digestive problems (gastritis, gastric ulcers, and pancreatitis), increases the risk of digestive cancers (mouth, tongue, throat, esophagus, pancreas, colon, and rectum), and damages the liver, leading to cirrhosis. Even moderate drinking affects cognitive functioning; binge drinking and excessive repeated consumption can cause brain damage such as memory loss.

Alcohol reduces libido and sexual performance and, along with smoking, is a major cause of impotency. Exposure of fetuses to alcohol during pregnancy is the primary cause of birth defects, especially for cognitive development.

Alcohol is a drug that can lead to dependency and cause withdrawal symptoms. Dependence on alcohol, or alcoholism, is a progressive disease that can be fatal.

Do not forget that drinking alcohol increases your likelihood of having a driving accident because of decreased awareness, visual perception, reflexes, and overall performance. Brain activity is slowed while reaction time is increased, which explains the high number of alcohol-related traffic fatalities.

A glass of wine or beer every now and then is fine for many people. It can reduce tension and stress and help people to relax. Certain studies indicate that moderate drinking may have cardiovascular benefits. Although alcohol's heart-healthy effects have been touted, alcohol does increase blood pressure and the risk of cardiovascular disease.

**Do you still want that glass?
Reduce alcohol consumption!**

4. Reducing your risk of having a heart attack or stroke

H. Lack of sleep

A healthy lifestyle also requires an adequate rest period. Sleep is essential.

Although sleep is instinctive and natural, it is quite fragile. We often lose sleep when stressed or depressed, in pain, ill, or faced with family or professional problems. Other causes of sleepless nights are irregular working hours, night shifts, and jet lag from international travel.

Within the last 20 years the time devoted to using personal computers and watching television has meant the loss of millions of hours of sleep around the world. On the average people now sleep 1.5 to 2 hours less per night than their grandparents did 50 years ago.

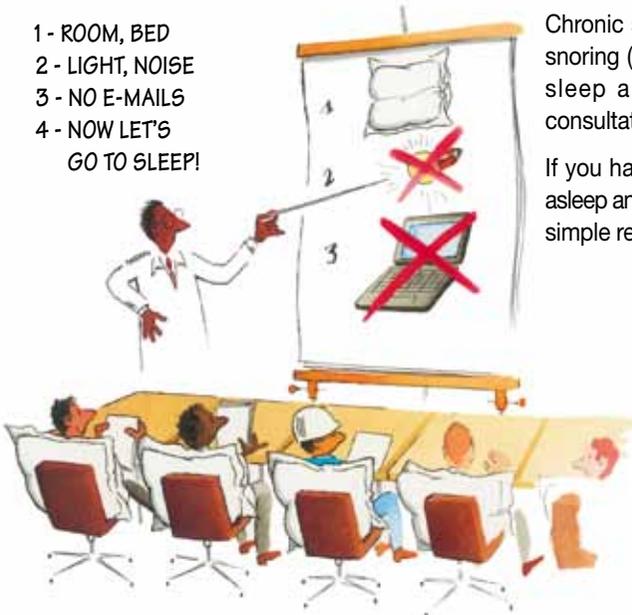
Sleep-deprived people have a higher risk of cardiovascular disease and death. Sleeping less than 6 hours per night makes you twice as likely to have a heart attack or stroke as

people who sleep 6 to 8 hours. There is an association between shift work duration and cardiovascular diseases such as heart attacks. Chronic insomnia or overall lack of sleep does not directly cause cardiovascular disease but can increase numerous risk factors, such as weight gain and obesity resulting from hormonal imbalance and appetite regulation problems, type 2 diabetes caused by insulin resistance, and increased blood pressure.

In addition to the cardiovascular consequences, lack of sleep can also cause many other problems:

- dozing off during the daytime (the cause of many driving and work-related accidents)
- poor performance and reduced attention span, memory problems with lack of concentration, irritability, aggressiveness, and increased stress.

- 1 - ROOM, BED
- 2 - LIGHT, NOISE
- 3 - NO E-MAILS
- 4 - NOW LET'S
GO TO SLEEP!



Chronic sleep disorders such as insomnia or snoring (which possibly indicates obstructive sleep apnea) should lead to a medical consultation with a health professional.

If you have lost your natural capability to fall asleep and sleep through the night, the following simple recommendations may help.

a. Before going to bed

- Keep the bedroom only for sleep and intimacy.
- Jot down on a piece of paper all your problems. This relieves your mind of the pressure to remember. Relax for at least half an hour before going to bed. Read a book, meditate, or listen to soothing music, but don't watch TV or surf the Internet. Not only is the content distracting, but the bright light from the screens fools the brain into thinking it is daytime and makes it want to stay awake.
- Record television programs that are on at or after your scheduled bedtime. Do not put the TV set in the bedroom. No computer or smart phone either.
- Respect your personal biological clock. Wherever possible, go to sleep when you are tired and get out of bed when you can no longer sleep. If possible, establish a consistent bedtime routine or schedule: to bed at the same time, up at the same time—even on weekends.

b. Once in bed

- Set aside enough time for sleep. Most people need at least 7 to 8 hours to feel refreshed, but this can vary from one person to another.
- Make sure that your mattress and pillow are comfortable and wear loose, comfortable bed clothes.
- Keep the bedroom at a comfortable temperature (18–20 degC [65–68 degF]). Have enough blankets for the season. In cold weather, wear a pair of socks to avoid getting cold feet, which can wake you in the middle of the night.
- Darken the room and adjoining bathroom, using blackout window treatments (draperies and shades) if necessary. Eye blinders,

shades, or a sleeping mask can also be worn to prevent light or the rising sun from waking the brain. Hide devices with LEDs (light emitting diodes) such as cell phones, computers, and other electronic equipment.

- Keep the bedroom as quiet as possible. Turn off cell and land-line telephones, radio, TV, and computer. Use earplugs if necessary. The steady, low-pitched hum of a fan, air conditioner, white-noise machine, or soft music may help block out unwanted outside noise.

c. What not to do before going to bed

- Don't e-mail, start paying the bills, watch a horror movie, or review tomorrow's work load or schedule.
- Don't exercise vigorously (gym, jogging, etc.). A short stroll is fine.
- Don't eat a heavy meal but do not go to bed hungry either.
- Avoid fluid intake before going to bed to reduce bathroom visits that disrupt sleep.
- Don't consume alcoholic drinks.
- Don't smoke or drink coffee or other caffeine-containing beverages.

Relax and let nature guide your sleep.

Avoid sleeping pills and tranquilizers.

4. Reducing your risk of having a heart attack or stroke

I. Poor stress management

Stress is an unavoidable part of life. It's the body's reaction to any change that requires an adjustment or response. Stress is not exclusively a work-related issue. We experience stress from the day we are born until the day we die. Everything produces stress—starting school, changing teachers, going on vacation, getting married, having children, finding a new job, changing assignments, buying a car or home, etc.

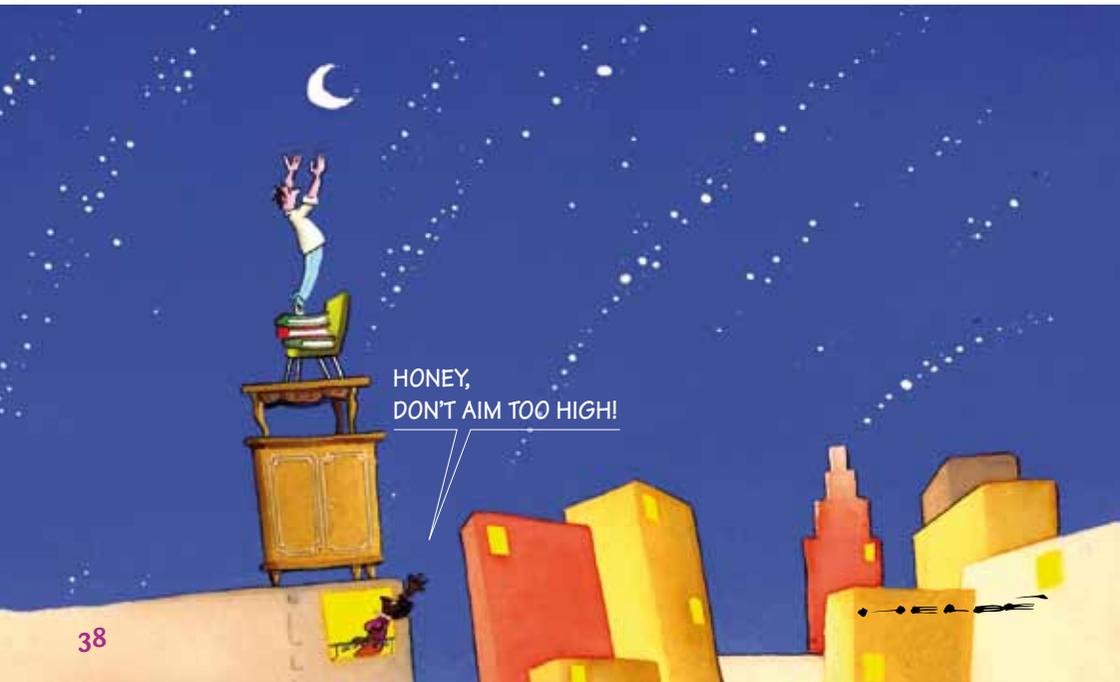
Positive stress can be motivating and increase performance, making us feel optimistic and happy, whereas negative stress can adversely affect performance, morale, and overall health.

Although stress can increase your blood pressure and heart rate, stress alone will not produce a heart attack and kill you, contrary to popular belief. It is usually the long-term poor management of stress that is responsible for heart attacks and strokes. Many people

combat stress incorrectly—nibbling; smoking more; drinking more coffee, sweetened drinks, or alcoholic beverages; zoning out watching television; or taking tranquilizers or even illicit drugs.

Good stress management can reduce your risk of cardiovascular disease. Try to follow these individual coping strategies:

- **Don't count only on yourself.** Talking to others and sharing relieve stress. Friends, colleagues, and family can provide sharing, support, and respect in stressful situations. Face-to-face communication is much better than e-mailing or texting.
- **Don't aim too high.** Set measurable and attainable objectives. Set priorities. Plan ahead. Think things out first. Don't rush into things. Then do what you feel is best. Be sure to manage your time and don't try to do everything at once.



- **Treat others as you would like to be treated.**

Try to be friendly with everyone. Act tactfully and avoid showing anger or impatience.

- **Don't ask for perfection.** Persevere, but do not become stubborn and obstinate if something doesn't work out. Accept what cannot be changed—adapt or try something else.

- **Differentiate between real and imagined stress.** Set realistic goals and make a prioritized list of things to do. This can prevent feeling disorganized or overwhelmed. Don't take work home too often to avoid letting workplace stress intrude in your family life.

- **Know what is expected of you. Take the initiative.**

- **Don't deceive yourself.** Analyze your failures as well as your successes and try to learn from them.

- **Don't let yourself get demolished because of one failure.** Never stay defeated. Get rid of your anger, frustration, tension, and aggression. Appropriately take it out, either verbally or physically.

- **Learn to relax.** When things are stressful, stop for a few minutes, close your eyes, and breathe deeply and slowly. Try to exercise regularly and to get sufficient sleep. Take up a hobby or recreational activity that takes your mind off your problems and helps you to relax.

- **Learn to manage time.** Do not try to do everything at once. Keep a daily to-do list. Stick to one task at a time and finish it. Learn to delegate as much as possible and learn to say “no.” Do not overcommit. Do not overwork yourself. People who work longer hours often sleep less, exercise less, put a strain on their social life, and overall experience more stress.

A healthy lifestyle goes a long way in helping you manage your stress. Follow the advice given throughout this brochure:

Healthy eating

- Take your time when eating.
- Meals are a good time to relax, talk, and destress. Eat less fat, sugar, and salt and more fruits, vegetables, and whole grains. Drink more water. Avoid nibbling.
- Maintain a healthy weight.
- Reduce your consumption of coffee and other caffeinated beverages.

Healthy living

- Regular physical activity keeps your body in shape and helps you relax and lose weight. Walking is the easiest activity for managing stress.
- Reduce or, even better, stop smoking.
- Avoid turning to medications (tranquilizers and sleeping pills) and excessive or repeated alcohol consumption.

Listen to your body

- Take time to relax. If you feel tired, stop and rest. Take a nap if necessary.
- Break from work every so often. A few hours with the family, an extended weekend, or a little vacation every so often can do wonders in terms of stress management. Do not see it as lost time but, on the contrary, as recharging your batteries.
- Get enough good-quality sleep.

Numerous other techniques can reduce stress, including breathing exercises, positive thinking (“I think I can! I know I can!”), music, meditation, yoga, and biofeedback. In some cases, professional medical help may be required.



The company's role in improving fitness and reducing heart attacks

Your firm has a vested interest in promoting and improving the health of its employees.

Companies should promote and pay for medical examinations around the world to raise employee awareness of cardiovascular risk factors. Medical examinations should be offered to employees every three years to assess fitness to work and also to provide each employee with basic information concerning his or her general health. These examinations assess weight and BMI, blood pressure, and blood levels of glucose and cholesterol and detect potential cardiac abnormalities - electrocardiogram for everyone, and cardiac stress test for older high-mobility employees - and provide an opportunity for employees to discuss smoking cessation and managing alcohol use with the examining doctor.

Companies have no control over what you eat and how active you are when you are at home or traveling on days off. However, in some overseas locations, firms have implemented healthful eating and fitness initiatives. Ideally, the following recommendations should be implemented in company locations worldwide.

Fitness days

Organize a fitness day two or three times a year and invite the employee's spouse or partner and children. These gatherings are great opportunities to promote the following

- voluntary screenings at which a company doctor or nurse measures weight and height, calculates BMI, measures blood pressure, and performs noninvasive diabetes detection on a urine sample.

- physical activity by organizing walks, jogging, or cycling events.
- educational sessions run by a dietician to teach the basics of healthful eating. Because spouses and partners are usually the ones doing the shopping and preparing the meals at home, the dietician teaches them how to select and prepare foods in a healthful manner. This is of value not only to the employee but also for the entire family, especially in reducing the risk of childhood obesity.

Food and Overseas locations

Locations that have dining rooms and catering staff should

- train catering staff and cooks to produce attractive, good-tasting, low-fat, low-sugar meals with the help of professional dietitians
- label menus and foods (red-yellow-green) as to calories, salt, and trans fats content to enable employees to make more informed choices and differentiate at a glance between the healthful and less-healthful foods
- reduce portion size by reducing the size of the plates
- replace the salt shaker with small 1-gram packets of salt to reduce routine salt consumption.

On company premises managers should be encouraged to:

- replace the candy, junk food, and soft drink vending machines with those that serve fresh fruit
- provide fresh fruit and fruit juice without added sugar and at a lower price in the vending machines than candy, junk food, or soft drinks to encourage people to consume more fruit

- provide healthful alternatives to coffee, tea, and cocoa by installing a cold-water dispenser next to the coffee pot and soft drink machine
- offer fresh fruit and bottled water during company meetings in addition to the usual soft drinks, coffee, pastries, and cookies
- provide a mid-morning fruit plate so that employees will have nutritious snacks during coffee breaks that will also help them to eat less at lunch time, thus helping them to lose weight
- lock down the food areas between meals to prevent nibbling.

Physical activity initiatives

- One company distributed 20,000 pedometers during the 2009 “Stop Talking! Start Walking!” health campaign. Some locations continue to locally purchase and distribute pedometers for their employees and in some cases to spouses and partners.
- Many locations promote and partially subsidize membership to gyms and fitness centers.
- In some locations, attractive, simple-to-use treadmills and stationary bikes have been installed in the gym in addition to the usual weight-lifting equipment and body building machines, which can be intimidating to people new to working out.

- In the future, treadmills and stationary bikes could also be placed in strategic, easy-to-access locations outside the gyms and fitness centers where many people spend time socializing, such as near the coffee machine or the cafeteria, to encourage people to walk while they talk.

Weight loss and Company initiatives

- Locations can encourage Weight Watchers® or similar support group programs.
- Many seismic ships and rigs have organized a voluntary fitness program with the onboard medic.
- Incentive awards have been found to be highly motivational. Money vouchers and other awards are good tools to reward people for losing weight and improving their fitness. A home treadmill or stationary bike, running shoes, T-shirts, and pedometers are only a few examples of what can get people going.

Fitness and the future

- For the future, one firm is looking into the development of an interactive fitness website where employees, on a voluntary basis and with motivational tools, will be able to assess their health risks and with the help of an online counselor improve their lifestyle and become healthier.





Conclusions

Your firm cannot stop you from getting old, but a healthy lifestyle can help you live longer with fewer medical problems. It can also prevent you from becoming the next heart attack or stroke victim.

Do not be a passive observer of your health and a walking pharmacy! Treating high blood pressure with one medication, high cholesterol levels with another, and elevated blood sugar levels with a third medication is not the solution.

Take ownership of your body and your lifestyle now! Your company cannot do it for you.

Reducing your cardiovascular risk factors comes down to the following steps:

- See a doctor and get a baseline assessment of your health today. Regularly monitor your cardiovascular risk factors:
 - blood pressure
 - weight and BMI
 - blood sugar level
 - cholesterol and LDL levels.
- Treat existing high blood pressure and commit to taking your medication for life.
- Eat healthfully. More vegetables, fruits, salads, and whole grains. More fish. Less salt. Less or no fried foods, sugar, and sweets. Drink plenty of water.

- Reduce overweight.
- Start moving and doing some physical activity every day—30 to 60 minutes of walking is a minimum that everyone can do. Reduce screen time in front of the computer and television.
- If you are a smoker, stop smoking.
- If you drink alcohol, do so in moderation or stop altogether.
- Improve your sleep habits and get enough sleep.
- Learn to manage your stress.

Each cardiovascular risk factor accentuates the other risk factors. It is a vicious cycle, which if not stopped can result in death from a heart attack or stroke.

You only have one life, one body, and one heart. The time and effort invested in a healthful lifestyle today will pay you back for many years to come.

Get moving and start improving your lifestyle NOW!



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