

EXERCISE AND YOUR HEART

This is one of the booklets in the CHIKE OKOLI FOUNDATION Heart *Information Series*.

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About this booklet

If you have coronary heart disease, high blood pressure, high blood cholesterol levels or diabetes, or if you are overweight or obese, or have just had heart surgery, your hospital doctor, cardiac nurse or GP may already have advised you to do more physical activity.

This booklet explains:

- Why physical activity is important for your heart, even if you already have coronary heart disease
- How physical activity affects your heart
- How much activity you should aim to do
- Which sorts of activities are best for your heart?
- How you can safely build up your level of activity.

Physical activity might involve going swimming, doing an exercise class, or playing a sport. But it also includes everyday things such as walking, gardening and climbing stairs. You can gain the benefits of activity from all these different types of physical activity.

This booklet is not a substitute for the advice your Doctor or cardiologist (heart specialist) may give you based on his or her knowledge of your condition.

The good news

Physical activity is very good news for your heart for the following reasons:

- Physical activity halves the risk of developing coronary heart disease.¹
- Among people who have heart attacks, those who have been physically active are more likely to survive the heart attack compared with people who have not been active.²
- Physical activity as part of rehabilitation programme reduces the risk of dying after a heart attack.³
- Physical activity reduces the risk of having a stroke.⁴
- It helps lower blood pressure.⁵
- It reduces the chance of developing diabetes.⁶
- If you already have diabetes, physical activity can help you to control it.⁶
- It helps you to lose weight if you are overweight.⁷

Physical activity also improves your health in other ways. It can:

- make you feel more energetic⁸
- relieve stress⁹
- lower the risk of osteoporosis (thinning of the bones)¹⁰
- help you to relax⁹
- help older people to stay independent, or become more independent.¹¹

The people who benefit the most are inactive people who start to take regular moderate exercise, such as brisk walking, cycling or dancing.¹²

Also, there is no particular level of activity that you have to reach before you can benefit – a little activity is better than none! And the benefits will start to come as soon as you start being more active.¹³

If you already go to the gym, play a sport or use special exercise equipment, these are all good ways of keeping yourself fit and active. But you don't have to join a gym to gain the benefits of activity.

You can become more active just by fitting more activity into your everyday life.

Many people who do regular physical activity say that it makes them feel better, and that they notice an improvement in their mood and self-confidence. It can also be sociable and a lot of fun.

What causes coronary heart disease?

Coronary heart disease is caused when the arteries that supply blood to the heart (the coronary arteries) become narrowed by a gradual build-up of fatty material within their walls. This process is called 'atherosclerosis' and the fatty material is called 'atheroma'.

This can cause angina – an uncomfortable feeling in the chest, which may spread to the arms, neck, jaw, back or stomach. Or it may affect just the neck, jaw, arm or stomach. Angina happens when the coronary arteries become so narrow that not enough blood can reach the heart muscle. As a result, the heart muscle does not get enough oxygen – especially when its demands are high, for example when you are exerting yourself.

Coronary heart disease can suddenly become worse if the atheroma cracks, as this encourages a blood clot (a thrombosis) to form rapidly. The blood clot can block the coronary artery that supplies the heart muscle with blood and oxygen.

This is what causes a heart attack.

Atherosclerosis develops when the cells in the walls of the coronary arteries take up cholesterol. This cholesterol is formed mainly from the fats in the foods you eat. Two types of cholesterol are involved:

- LDL cholesterol, which the cells in the coronary artery walls take up to form the atheroma
- HDL cholesterol, which removes excess cholesterol from the circulation, and seems to protect against coronary heart disease.

'Risk factors' for coronary heart disease

A 'risk factor' is something which increases people risk of getting a disease. There are several known risk factors for coronary heart disease. These are:

- Smoking
- High blood pressure
- High blood cholesterol levels
- Physical inactivity
- being overweight or obese
- Diabetes
- having a family history of coronary heart disease

Other lifestyle factors may also play a part, including drinking too much alcohol and having too much salt in your diet.

Why is physical activity so important for my heart?

Researchers are still trying to find out exactly why physical activity plays such an important part in preventing coronary heart disease. It seems to act in the following ways.

1. Physical activity helps to lower high blood pressure, and prevent high blood pressure from developing.

High blood pressure is one of the major risk factors for coronary heart disease.

Regular, moderate rhythmic exercise, such as walking, cycling or dancing, helps to reduce blood pressure in people with high blood pressure. This sort of exercise may also prevent high blood pressure from developing.

2. It helps you to keep to, or achieve, a healthy weight

Regular physical activity plays an important part in achieving or keeping to a healthy weight. The amount of activity you do is as important as the food you eat. This is because being a healthy weight means balancing the energy you take into your body (the calories in your food and drink) with the energy you use up (through activity). People who are overweight are more likely to have high blood pressure and high blood cholesterol levels and so have a greater risk of coronary heart disease.

3. Physical activity helps with diabetes

If you already have diabetes, physical activity can help you to control it.

Physical activity can also help prevent people from getting diabetes. This is important because men who have diabetes are about three times more likely to get coronary heart disease than those without diabetes, and women with diabetes are about four times more likely to get it.

4. It helps improve your blood cholesterol levels

Physical activity seems to raise HDL cholesterol (the 'protective' cholesterol), but it does not affect LDL cholesterol levels. To maintain the benefit in HDL cholesterol, you have to make sure that you do regular physical activity.

5. Physical activity helps prevent blood clotting and so it helps prevent a heart attack

A heart attack usually occurs when a blood clot forms over atheroma in the coronary arteries.

Regular physical activity helps to prevent blood from clotting.¹⁷

It helps after you have had a heart attack

Physical activity not only reduces the risk of a heart attack. In people who have had a heart attack, regular physical activity can also result in less angina, and an earlier return to work.¹⁸

Stress, depression and anxiety all seem to slow down the speed of recovery after a heart attack. There is some evidence that physical activity may help to improve wellbeing, and so speed up recovery.

Is it safe for me to become more active?

If you already have heart disease or if you're not used to doing physical activity, it is important to talk with your hospital doctor, cardiac nurse or GP about the best way to increase your level of physical activity. There are many different ways to be more active and it's important to find activities which are safe and right for you.

You may have already had an ECG (Electrocardiogram) exercise test, either on a treadmill or exercise bike. If so, this will help your doctor to work out how much activity you can safely do at first.

If you have had a heart attack, or heart surgery

If you have had a heart attack or heart surgery at some time in the past, ask your doctor how much and what sort of activity you can safely do.

If you have had a heart attack or heart surgery just recently, you may be invited to take part in a cardiac rehabilitation programme. This is a very good way of making sure that you exercise at a level that is safe for you.

If you have angina

If you get angina, it is still important to be physically active. However, you should adjust your activity so that it doesn't cause angina or make you too breathless.

If you have heart failure

Heart failure is when the heart does not pump as effectively as it should. If you have heart failure, ask your doctor how much and what sort of activity you can safely do.

If you have certain other heart conditions

Your doctor may advise you to limit your activity if you have certain other heart conditions such as aortic stenosis (a narrowing of the heart valve), or hypertrophic cardiomyopathy, or if exercising brings on palpitation.

If you have high blood pressure

People with high blood pressure do benefit from doing regular moderate activity. However, if you have high blood pressure that has not been well controlled, your doctor may advise you to avoid doing very vigorous activities or competitive sports, or lifting heavy weights. This is because these activities could briefly raise your blood pressure to a dangerous level.

Precautions

- It is very important to increase your physical activity gradually. This means both the amount of time you spend doing it, and how intense the activity is. A sudden increase in physical activity, especially if it is vigorous, can carry risks in middle age. This is because it could bring on angina or possibly, in some people, a heart attack.
- Warm up and cool down each time you do any physical activity. Begin slowly for the first few minutes and build up gradually. When you come to the end of your activity, take time to slow down, and make sure you don't stop suddenly.
- If you are doing any activity outdoors in very cold or windy weather, dress warmly, with a hat and a scarf.
- If you get angina, take your GTN spray or tablets with you when you do any physical activity.
- It is not safe to exercise when you have a viral infection (for example, a sore throat) or a temperature.
- Stop exercising if you get any pain, or feel dizzy, sick or unwell, or very tired. If the symptoms don't go away, or if they come back later, see your doctor.

What sort of activities is best?

Different types of physical activity have different health benefits.

The type of exercise that helps your heart the most is called '**aerobic' activity. Aerobic activity is any repetitive, rhythmic exercise involving large muscle groups such as the legs, shoulders and arms.** Examples of aerobic activity include walking, cycling, swimming and dancing. Aerobic activity increases the body's demand for oxygen and adds to the workload of the heart and lungs, making the heart and circulation more efficient, and helping to develop your stamina.

Aerobic activity in which the body also bears its own weight – for example, as in walking (but not swimming) – can help to prevent osteoporosis (thinning of the bones).

What sort of physical activity can I do?

Do

- Moderate, rhythmic (aerobic) activity such as brisk walking or cycling.
- Any regular physical activity that you are used to doing, unless your doctor advises you against it.

Avoid

- Intense activities such as weightlifting, press-ups and heavy digging
- Any sport or activity that brings on angina.
- Moving from floor to standing up too quickly.

How should I build up my activity level?

Whether or not you have a heart condition or high blood pressure, it is very important to increase your physical activity gradually.

Precautions

1.If you have had a heart attack, or heart surgery

If you have recently had a heart attack or heart surgery, you may be invited to go on a cardiac rehabilitation programme, usually at a local hospital. This will include information and advice on healthy eating and other ways to look after your heart, as well as exercise and activity sessions. It is well worth taking part in the programme, as the medical staff there will plan a programme of activity to suit your needs. You will also be able to ask them questions about the best type of exercise for you, and how intensive it should be.

2.If you have angina

If you have angina, you need to find out how much activity you can manage to do easily without getting chest pain, and then gradually increase the amount. It may be helpful to plan a weekly exercise programme based on walking. Choose a walking distance and speed that you know you can manage easily without getting angina. Make this your target. Do this amount twice a day for two days. Each time, judge whether the activity was easy or difficult. If it was fairly easy or easy, very gradually increase the distance each day for the next two days. If the activity was difficult, limit yourself to a slower speed or shorter distance until you find it easy.

Make sure that you can do the activity easily before increasing your target. And keep your activity regular and frequent and within, rather than beyond, your limits.

If you have angina, try to avoid doing physical activity after a heavy meal or in cold weather.

3. If you have heart failure

If you have heart failure, you need to find out what you can easily do and gradually increase your activity. Don't do so much that you are left feeling exhausted. If you notice that you are getting more breathless than usual, or getting more ankle swelling than usual, stop doing your activity.

Ask your doctor about the best type of activity for you, and how much you should be doing, so that you can make sure you are active at a level that is safe and right for you.

If you have high blood pressure that is well controlled, and you don't have heart disease or angina

Your target is to build up gradually to at least 30 minutes of moderate intensity activity a day, on at least five days of the week. 'Moderate intensity activity' means any activity that makes you feel warm, and slightly short of breath – for example, brisk walking. You can split the 30 minutes into two sessions of 15 minutes, or three sessions of 10 minutes. Building up gradually
Think about how much physical activity you have done over the past week.

Physical activity and older people

Physical activity is good for people of all ages. Many local authorities and community groups run activity programmes for older people. These can help to improve your health and help you to meet other people and have a good time too. Walking, or any other activity or exercise that made you feel warm and slightly out of breath. If the total amount of time you spent doing activity at this moderate level is less than 30 minutes a week, then you are 'physically inactive' and need to build up your activity levels gradually but steadily.

First build more activity into your everyday routine...

For example:

- walk to the local shop or post office rather than taking the bus or car
- use the stairs instead of the lift
- get off the bus a stop earlier and then walk, or
- put on a CD or tape and dance to it.

Then gradually build up your activity level.

Once you have become a little more active, start thinking about which activities you could do regularly. Suitable activities include brisk walking, cycling and dancing. Choose these activities rather than intense exercises such as weightlifting or press-ups.

You may want to involve your partner, family or friends to make it more fun.

Should I measure my heart rate while I'm exercising?

No, it's not necessary to focus on your heart rate to find out whether you're exercising at the right pace for you. In fact, many of the drugs used to treat heart conditions – such as betablockers – slow down the heart rate and prevent your heart from walking

As with any activity, each time you start walking, begin slowly and build up gradually to the main pace. This is important for safety. (It is a bit like building up speed in a car by going through the gears one at a time. You don't go straight into fourth gear and try to pull away.) Also, when you come to the end of your walk, take time to slow down, and make sure you don't stop suddenly

How do I know if I am walking briskly enough?

One way of checking if you are walking briskly enough is by doing the 'talk test' while you are walking.

- If you can talk very easily, you are not walking briskly enough.
- If you can talk but you feel warm and are breathing more heavily than normal, you are walking at about the right pace.
- If you can't talk, you are walking too briskly, so you should slow down, responding to exercise as it normally would.

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About the CHIKE OKOLI Foundation

The Chike Okoli Foundation is a Nonprofit Organization formed to promote healthy living and entrepreneurial culture. It is named after Chike Edward Okoli, a young Nigerian entrepreneur who died at 25 from undetected cardiovascular disease.

Technical terms

Aerobic exercise: Repetitive, rhythmic exercise involving large muscle groups such as the legs, shoulders and arms

Angina: Heaviness or tightness in the centre of the chest, which may spread to the arms, neck, jaw, back or stomach. Or it may affect just the neck, jaw, arms or stomach. Caused by narrowed coronary arteries.

Atheroma: Fatty material that can build up within the walls of the arteries.

Atherosclerosis: The build-up of fatty material within the walls of the arteries.

Cholesterol: A fatty material mainly made in the body by the liver.

Coronary heart disease: When the walls of the arteries become narrowed by a gradual build-up of fatty material called atheroma.

Heart failure: A condition where the heart is not pumping as efficiently as it should.

HDL: High density lipoprotein. The 'protective' cholesterol.

LDL: Low density lipoprotein. The more 'harmful' cholesterol.

Osteoporosis: Thinning of the bones.

Thrombosis: When a blood clot forms in an artery.

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