

# Bandolier *Extra*

Evidence-based health care

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## STARTING TO EXERCISE

Our lifestyles have changed dramatically. With ever-increasing advances in technology we have become physically less active. The most prevalent diseases we suffer from today, i.e. heart disease, stroke, cancer, are related to our lifestyles, of which physical activity is a major part.

Physical activity should be part of our daily and weekly routine. It is as essential as sleep and nourishment. Although many of us know that exercising will reduce the risk of disease and illness, the thought of exercise can still be overwhelming. Myths that contribute to an inactive lifestyle are that exercise has to be difficult, it has to hurt and you have to do lots of it to be beneficial.

These are all false. Exercise is about enjoying a physically active lifestyle (e.g. walking or cycling to the shops rather than driving) that includes increasing your heart rate (such as brisk walking) a few times a week.

This page aims to help you become physically active by telling you of the numerous ways in which you will feel the benefits of exercise, by increasing your understanding about exercise, giving you guidance on how to exercise, and to offer tips on how to start exercising and to stay motivated.

If you have heart disease, high blood pressure, back problems, arthritis, joint pain, diabetes, are recovering from an illness or are pregnant, check with your doctor.

### Some of the benefits

- ◆ reduces risk of heart disease
- ◆ reduces risk of high blood pressure
- ◆ decreases resting heart rate (so your heart doesn't have to work as hard)
- ◆ increases bone density
- ◆ reduces risk of osteoporosis
- ◆ improves strength and stamina
- ◆ increases co-ordination and balance (especially important for older adults)
- ◆ improves flexibility
- ◆ improves respiration
- ◆ improves circulation
- ◆ helps to prevent constipation
- ◆ helps with weight control
- ◆ improves sense of well-being and reduces stress

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### Four aspects of exercise

#### (1) Cardiovascular fitness

This refers to the fitness level of your heart, lungs, veins and arteries which are responsible for processing and transporting oxygen to your muscles. As your fitness improves, your heart will become more efficient, being able to pump more blood with fewer contractions. This is what is meant by a reduced or slower resting heart rate. A slow resting heart rate means your heart is working with ease and efficiency; a high resting heart rate means that your heart is having to work hard. (Resting heart rate is the number of heart beats per minute when you first wake up and before you get up). Exercises which use oxygen (i.e. aerobic exercises) are those which improve cardiovascular fitness.

#### (2) Muscular strength and (3) Endurance

If you do not use your muscles they will shrink. Muscular strength is necessary to perform fundamental movements of everyday life: lifting your children; carrying your shopping, even standing. Endurance (stamina) is necessary to continue to walk or carry your shopping without becoming tired. Both are essential in order to maintain mobility and functionality, particularly in older age. Without them we cannot live an independent life. Furthermore, muscular tissue uses more calories than inactive tissue which is good news for those trying to control their weight. Resistance exercises improve muscular strength and endurance.

#### (4) Flexibility

Flexibility is critical, yet often overlooked. Flexibility is the range of movement at a joint (where two or more bones meet). Without flexibility we will suffer from increased stiffness (and so an inability to perform simple tasks easily, like turning around to reverse park) poor posture and muscular tension, particularly in older age. Furthermore, flexibility helps to reduce the possibility of injury and risk of low back pain. Exercises to improve flexibility include stretching and yoga.

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### How to exercise

Becoming physically active is about incorporating exercise into our daily routine and increasing cardiovascular fitness, strength, endurance and flexibility. This section is about how to start exercising to improve fitness.

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There are some basic principles of exercise which will ensure that you gain the maximum benefit from your exercise and that you exercise safely. These concern how often you should exercise, for how long and how difficult it should be. Exercise should also include a warm up, a cool down and stretching of the muscles that you are going to use. Furthermore, having some understanding about exercise will make it more enjoyable and help keep you motivated.

## Warming up and cooling down

Depending on your exercise, your warm up and cool down could be the same activity, but performed at a less intense level. For example, if you planned a walk, walk at a slower pace for your warm up and cool down.

### Warming up

- ◆ increases the blood flow to the muscles;
- ◆ decreases the chances of injuries to the muscles or joints;
- ◆ should be for 5 - 10 minutes at a very low intensity.

### Cooling down

- ◆ prevents blood pooling in your extremities, e.g. your legs;
- ◆ should be about 5 minutes, gradually reducing intensity level.

## Stretching

You should stretch your muscles after your warm-up and cool-down. Stretching is very important: it reduces risk of injury and stiffness, makes your muscles more able to perform the exercise and improves flexibility. A common mistake is to stretch muscles before they are warm. You must warm up first, then stretch your muscles. Stretching cold muscles could injure them. Stretch the muscles you are going to use in your exercise.

⇒ Breathe in and slowly and gently elongate the muscle you are stretching until you feel tension. Breathe out. (If the tension is uncomfortable find a tension which is comfortable, but aim to feel the stretch). Maintain slow, deep breaths. Hold for 10 to 30 seconds. Slowly and gently come out of the stretch. Never bounce at any stage and

stop immediately if you feel pain.  
 ⇒ When you stretch properly, the longer you hold the stretch, the less you will feel it. If you do begin to feel your muscle tighten, relax it.

It is a good idea to borrow a video demonstrating which muscles to stretch and the correct way to perform the stretches. It won't take you long to learn what to do.

### How often

It is currently recommended that we are physically active every day, exercising aerobically three to five times a week (e.g. brisk walking, cycling, swimming). However, begin with exercising aerobically three times a week. If you have led a sedentary lifestyle until now, leave a day or two in between your exercise days.

### How long

The most widely accepted minimum length of time you should spend exercising is 20 minutes (which does not include the warm-up and cool-down). The maximum is one hour, depending on the exercise you choose. If you are a beginner, try starting with ten minutes.

### How difficult

The difficulty, or intensity level of your exercise is another essential factor to improving fitness. You may choose to walk for 30 minutes a day (sounds excellent), but you won't improve your cardiovascular fitness by taking a gentle stroll. Beginners should exercise at low intensities and it is important that you increase the length of time you exercise for before you increase the intensity. For example, if you begin walking, aim to increase the number of minutes you walk before you increase the intensity (by either increasing your speed or walking uphill).

The key to achieve the maximum benefit from your exercise, and to make sure that you exercise safely, is to measure the intensity level of your exercise, i.e. how hard you are exercising. This is by no means as daunting or as difficult as it sounds. There are a number of ways to measure how hard you are exercising, ranging from a very simple subjective test (e.g. ensuring that you can still talk while you exercise) to taking your pulse, either manually or with a heart rate monitor. You can choose whichever method suits

### Rating perceived exercise

6	11 fairly light	16
7 very very light	12	17 very hard
8	13 somewhat hard	18
9 light	14	19 very very hard
10	15 hard	20

Source: The Borg Scale for Rating of Perceived Exertion

you best.

## 1. The talk test

The talk test method is a subjective measure to determine how hard you are exercising. If you are able to talk during your exercise without too much effort you are within a safe level of exercise.

## 2. Rating perceived exertion

Another subjective measure is to rate how you feel on a scale from 0 to 20. You should be exercising between 12 (somewhat hard) to 16 (hard). This is the method that people should use, who do not have a typical heart rate response to exercise (e.g. those on beta blocking medications, some cardiac and diabetic patients).

## 3. Measuring your heart rate

You can measure your heart rate manually, by taking your pulse, or with a heart rate monitor. Measuring your heart rate makes sure that you exercise at the ideal level for you. If you exercise at levels which are too low, you won't improve your fitness and may become frustrated by your lack of progress. Measuring your heart rate also makes sure that you don't push yourself too hard and overexert yourself. Furthermore, you will be able to measure your progress, which is motivating, and as your fitness improves you will be able to adjust your heart rate to match your fitness, thus maintaining an optimum level of exercise.

## Taking your pulse

Use your index and middle fingers on one hand and find the pulse on the other hand on the underside and thumb-side of your wrist, just above your wrist bone. Press down lightly. If you prefer you can take your pulse from the artery to the right or left near your adam's apple.

When you have found your pulse, count the number of beats, counting the first beat as zero, for either six seconds (then multiply this number by ten) or for ten seconds (then multiply this number by six) to get the number of times your heart is beating per minute. (Bear in mind that although counting for 6 seconds is easier, the longer you count for the more accurate your results will be).

You should check your pulse about 5 minutes into your exercise and again 5 minutes before you stop. You may have to stop exercising to do this; take it immediately as your pulse rate will slow down rapidly.

## Using a heart rate monitor

All you need is a basic monitor which consists of a sensor strap which fits around your torso next to your skin and a wrist monitor. The two communicate and your heart rate is continuously displayed on the wrist monitor. They are extremely easy to use.

Although there is no initial financial cost with measuring

your heart rate manually, feeling and counting your pulse can be tricky (especially during exercise) and it is less accurate than using a heart rate monitor. A heart rate monitor is accurate and your heart rate is displayed continuously. This allows you to always exercise at the absolute optimum for you. The immediate feedback is also fun and motivational.

## Calculating your intensity level

You can easily calculate the level at which you should be exercising. Your maximum heart rate (i.e. the fastest your heart can beat) is used as the reference point for determining your intensity level. You can estimate your maximum heart rate by subtracting your age from 220. For example, if you are 40 years old,  $220 - 40 = 180$ , your maximum heart rate is 180 beats per minute (bpm). Aerobic exercise should

### Exercise intensity zones

- Zone 1:** The Healthy Heart Zone where you exercise at 50% to 60% of your maximum heart rate. This is the easiest zone within which to exercise and ideal for those who are just beginning. At this level the intensity is low, you can talk easily, it is easy to maintain, the risk of injury is low and it is beneficial for overall health. It burns a high percentage of fat, but a small number of total calories.
- Zone 2:** The Fitness Zone where you exercise at 60% to 70% of your maximum heart rate. The benefits of this zone are the same as the first with the addition that it provides more cardiorespiratory benefits and you burn more calories.
- Zone 3:** The Aerobic Zone where you exercise at 70% to 80% of your maximum heart rate. In this zone, your cardiovascular and respiratory capacity will greatly improve, you will burn fat and more total calories for less time compared with the lower zones.
- Zone 4:** The Threshold or Anaerobic Zone, where you exercise at 80% to 90% of your maximum heart rate. This is the zone for improving fitness and performance. It burns a low percentage of fat, but many more calories.

be at levels which are between 60% and 85% of your maximum heart rate. Between this range are zones. You can match your current level of fitness, and your exercise goals, with the appropriate zone. This way, you achieve exactly what you want from your exercise. To achieve a range of benefits you could aim to exercise at several intensities. Measuring your heart rate is not a completely reliable

Step 1	Step 2
Estimate your maximum heart rate (220 minus your age)	To calculate intensity levels for zone 1 multiply your maximum heart rate by 50% (0.50) and 60% (0.60)

Example for a 40 year old	
Maximum heart rate is $220 - 40 = 180$	For 50%, $180 \times 0.50 = 90$ For 60%, $180 \times 0.60 = 108$

**Heart rate should be between 90 and 108 beats per minute for zone 1**

method by itself to ensure that you don't push yourself too hard. There may be days when you find it more difficult to achieve your desired heart rate because you are tired, you have a cold or are feeling a bit low for example. Rather than push yourself, take into account how you are

## The successful combination

- ◆ You have to apply (i) the frequency (ii) the length of time and (iii) the intensity level of your exercise together to achieve the results you are working towards. For example, if you exercise for 20 minutes at an appropriate intensity level, but only once or twice a week, you won't improve your fitness. The recommendation is 20-60 minutes, three to five times a week at 60-85% of your maximum heart rate.
- ◆ To improve fitness, you have to work your body harder than it is used to. If you haven't done any exercise for a while, it won't take much to do this.
- ◆ As you become more fit, you will need to increase the frequency, intensity and/or time of your exercise to continue to improve your fitness.

## The right combination for you

You may prefer to exercise more often, for example on six days a week at a lower intensity or you may prefer to exercise three to four times a week at a higher intensity.

Be careful not to over-exercise, either by over-exerting yourself during your exercise or exercising too often for too long at a level which is difficult for you. You can monitor the

former either subjectively and/or by measuring your heart rate. The latter may make you feel tired rather than energised, so adjust your exercise pattern, either by taking days out from exercise or reducing the intensity level and the amount of time you exercise for. Fatigue, insomnia and irritability are signs of exercising too much.

So far, this page has been about improving cardiovascular fitness, but as outlined at the beginning, there are three other aspects of exercise: strength, endurance and flexibility. As well as improving cardiovascular fitness, aerobic exercise can also improve strength/endurance (e.g. walking, swimming) and flexibility (by stretching after the warm-up/cool-down). Exercise classes (e.g. keep fit/aerobics) also usually combine all four aspects.

There are other options to improve strength, e.g. going to a gym or joining a Pilates class. To improve flexibility, stretches can be incorporated into everyday life (e.g. when you get undressed at night or in the shower). Yoga also improves flexibility, as well as helping with relaxation and circulation, and certain styles of yoga can also improve strength and endurance.

## How to start

One of the main reasons for not exercising is not knowing where to start. Here are some tips on how to start exercising.

### A summary

- 1 Each exercise session should follow this pattern: warm up, stretch, aerobic exercise, cool down and stretch.
- 2 Begin exercising for a short time (e.g. ten minutes) on non-consecutive days (e.g. three days a week) with a small amount of effort.
- 3 Gradually increase the frequency, time and/or intensity of your exercise; increase the length of time you exercise for before you increase the intensity; increase your exercise time by five to ten minute increments.

### Choose your exercise

Remove as many hurdles to exercising as possible, so choose an exercise which (i) you enjoy (ii) is convenient (iii) is affordable and (iv) you can assimilate into your lifestyle. Don't be tempted to take up an exercise which you think will be 'good for you' rather than one which you think is fun: it is likely to become a chore and you won't stick at it. If time is a constraint, try to choose one which is convenient, e.g. walking, jogging or cycling from home; swimming on the way back from work. If you have children, try taking up an activity which you can enjoy as a family, e.g. cycling.

You may not know which activity (or activities) will suit you so take the time to try a few. You may find that you prefer to vary your activities because you either find just one form of exercise boring or different activities on different days fits in with your lifestyle better (e.g. an aerobic class or swimming in lunch breaks/after work; walking with a friend at the weekend). If you have chosen an out-

door activity, find an indoor activity for bad weather days.

A common myth is that walking is too easy to be beneficial. Walking is an ideal form of exercise, particularly for beginners, which can make you fit as long as you walk at an appropriate level of difficulty and for enough time. Swimming is another ideal exercise. It is a gentle aerobic activity which is ideal for those who are recovering from an injury, have joint problems, are overweight or who are pregnant. If you measure your heart rate, it won't get as high as with other aerobic activities, but if you swim at a level which you find somewhat hard to hard you will still be exercising aerobically.

## Choose your time

Decide how often you are going to exercise a week, choose the most convenient days and times of day and set aside those times as you would for other essential commitments.

## Start slowly

Start with small amounts of time and little effort and increase gradually. Don't try and do too much too soon, you may feel unwell and lose motivation to continue. A key to successful exercising is to start slowly, particularly if you have led a sedentary lifestyle. You will finish your exercise with a sense of achievement, feel better and give yourself the motivation to continue. It is also essential to start slowly to prevent injury.

## Increase gradually

With increasing levels of fitness you will need to alter your exercise (frequency, time and / or intensity) to make sure you are still working your body more than it is used to. It is important to increase your exercise gradually. If you make your exercise too difficult or try to increase your difficulty level too soon before you are ready you might feel ill with the result that you begin to dislike exercising and lose motivation to continue.

## Keep a diary

Keeping a diary of your exercise, i.e. how much time, how often and how difficult, can keep you motivated as you see your progress. You may also wish to record how you feel. A diary can also be useful in helping you decide when to increase your exercise in terms of frequency, time and intensity.

## Invest in good equipment

If you choose to walk, it is very important to invest in a good pair of walking shoes which offer support for your spine, hips, knees, ankles and feet. You will also enjoy walking more with a comfortable, supportive pair of shoes. Incorporating walking into your daily activities is an excellent way to lead a more active lifestyle and for this you don't necessarily need walking shoes, but if you are going to walk for a long period of time and with effort, it is advisable to wear shoes which will make the experience more enjoyable and support your body. If you progress to jogging, it is

even more essential that you invest in a pair of good running shoes.

## Some other do's and don'ts

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Don't exercise until two or three hours after a meal. It is important to drink water before, during and after exercise to keep your body hydrated. Don't exercise strenuously during very hot or humid weather.

## Aches and pains

During exercise, if you feel sore or ache, rest if you feel you need to. It is not unnatural to feel sore or to ache after exercise if you are just beginning or have not exercised for a while. If however, you feel pain, stop exercising and check with your doctor.

## Staying motivated

There are going to be days when you don't feel like exercising, everybody has them. Here are some tips to help you stay motivated.

## A lifestyle approach

Think of exercise as essential to your well-being like good nutrition and sleep. If something is part of your lifestyle, you do it whether you feel like it or not, like brushing your teeth. If you regard exercise as a hobby (something to be done when you feel like it) you may not exercise regularly, not reap the benefits and lose motivation.

## An on-going process

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Rather than having an all-or-nothing attitude towards exercise, think of it as an on-going process. There may be days when you have to miss your exercise or you may be unwell. It doesn't matter. Just continue when you can.

## Set goals

Set yourself short-term goals and be realistic. For example, your aim may be to increase the distance you walk from 10 minutes to 15 minutes or to increase your pace so that your intensity level increases from the low end of zone 1 (50% of your maximum heart rate) to the high end of zone 1 (60% of your maximum heart rate).

## Reward yourself

Reward yourself when you have achieved each goal, e.g. with a small luxury or a new item of exercise clothing.

## Keep a diary

Keep an exercise diary to record your progress and success. It could also help to identify your barriers to exercise. For example, you may find it difficult to exercise after work if you go home first, so exercise immediately after you leave work before going home.

## **Vary your exercise or try a different one**

If you become bored with your current activity, try altering it if you can (e.g. taking a different walking/jogging route) or try another activity.

## **Exercise with others**

It can help to exercise with your partner or a friend. You can motivate each other and as you have made a commitment to another person, you won't want to let them down. You can also try activities which involve your family, e.g. cycling or swimming.

## **Wear appropriate clothes**

Wear comfortable and appropriate clothes which make you feel good, rather than cast-offs.

## **Provide entertainment**

If you exercise alone, use a Walkman to listen to music or books on tape.

## **Tips to incorporate exercise into your lifestyle**

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A healthy lifestyle is an active one. As well as planned exercise (e.g. 30 minutes three times a week) you should also incorporate activity into your day-to-day life. The following are some ideas to help you to incorporate physical activity into your lifestyle.

- √ Take the stairs instead of lifts or elevators.
- √ If you work in a large office, walk to talk to your colleagues, rather than picking up the phone.
- √ If you use buses, get off a stop or two earlier and walk.
- √ Don't worry about finding a car park next to the supermarket or shop entrance. By the time you have found a close park you could have walked from a further, empty and less stressful space!
- √ For small amounts of shopping or other errands use a bicycle instead of the car, saving you money and the hassle of finding a park. If you live in a town, you will probably save time and if you live in the country you can enjoy the countryside.
- √ If you have a cordless phone, walk and talk.

This article was written by Dr Kate Parmenter in 2001 using best information on exercising that could be found at that time.