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## Exercise intensity

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### Summary

- You can measure exercise intensity using target heart rates, the talk test, or the exertion rating scale.
  - For maximum health benefits, the goal is to work hard, but not too hard, described as moderate intensity by *Australia's Physical Activity and Sedentary Behaviour Guidelines*.
  - If you have a medical condition, are overweight, are aged over 40 years or haven't exercised regularly in a long time, see your doctor for a medical check-up before starting any new exercise program.
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Exercise intensity refers to how hard your body is working during physical activity. Your health and fitness goals, as well as your current level of fitness, will determine your ideal exercise intensity.

Typically, exercise intensity is described as low, moderate, or vigorous. For maximum health benefits, the goal is to work hard, but not too hard – described as moderate intensity by *Australia's Physical Activity and Sedentary Behaviour Guidelines*. These guidelines recommend that for good health, you should aim for at least 30 minutes of moderate intensity physical activity on most days, in addition to a general message of moving more and sitting less. This is the same for women and men.

Pre-exercise screening is used to identify people with medical conditions that may put them at a higher risk of experiencing a health problem during physical activity. It is a filter or 'safety net' to help decide if the potential benefits of exercise outweigh the risks for you. Ensure you read through the [pre-exercise self-screening tool](#) before you embark on a physical activity or exercise program.

### Measuring exercise intensity

There are various ways to measure your exercise intensity to make sure your body is getting the most out of every workout. You may need to experiment to find out which method of measuring exercise intensity suits you best. Three different measurement methods include:

- target heart rate
- talk test
- exertion rating scale.

### Measuring exercise intensity using your target heart rate

The human body has an in-built system to measure its exercise intensity – the heart. Your heart rate will increase in proportion to the intensity of your exercise. You can track and guide your exercise intensity by calculating your Target Heart Rate (THR) range.

For moderate-intensity physical activity, a person's THR should be 50 to 70 per cent of their maximum heart rate. The maximum rate is based on a person's age. An estimate of a person's maximum heart rate can be calculated as 220 beats per minute (bpm) minus your age. Because it is an estimate, use it with caution.

Keep your heart rate at the lower end of your recommended range if you are just starting regular exercise. Gradually increase the intensity of your workouts as your fitness improves. Also, your heart rate should stay in the lower ranges during warm-up and cool-down periods.

Using a heart rate monitor is an easy way to keep track of your heart rate while you're exercising, or you can take your pulse (see below).

### Seeking medical advice about your target heart rate

If you have a medical condition, are overweight, are aged over 40 years or haven't exercised in a long time, see

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your doctor for a medical check-up before starting any new exercise program. Your heart rate target range may need to be professionally recalculated to take your health and general fitness into account.

Some medications can alter your heart rate response to exercise, so make sure you discuss the medications you are taking and how they could affect your exercise plans with your doctor. It may be necessary to use another option for monitoring exercise intensity if you are taking certain medications.

#### Target heart rate chart

| Age (years) | Target range (50 – 70% of maxHR) heart beats per minute |
|-------------|---|
| 20          | 100 – 140   |
| 25          | 98 – 137  |
| 30          | 95 – 133  |
| 35          | 93 – 130  |
| 40          | 90 – 126  |
| 45          | 88 – 123  |
| 50          | 85 – 119  |
| 55          | 83 – 116  |
| 60          | 80 – 112  |
| 65          | 78 – 109  |

#### Measuring your heart rate by taking your pulse

Taking your pulse at regular intervals lets you know whether you are exercising within your target heart rate range. Some tips include:

- Take your pulse before you warm up.
- Take your pulse again when you've been exercising for about 5-10 minutes.
- Continue taking your pulse at regular intervals.

The radial pulse is located on your inner wrist. To measure it, you should:

- Put the first three fingers of one hand against the inner wrist of the other hand just below the thumb.
- Lightly press your fingers into the hollow next to the tendon on the thumb-side – your artery lies just beneath the skin.
- Using a watch with a second hand, count your pulse for 15 seconds. Multiply this figure by four to get your beats per minute. (For example, 31 pulse beats over 15 seconds equals a pulse rate of 124 beats per minute.)

You can also take your pulse by pressing your fingers lightly against one of your carotid arteries, located on either side of your windpipe.

#### Factors known to influence heart rate

It's not just exercise that affects your heart rate. Your beats per minute could be raised by a number of internal and external factors including:

- hot weather
- caffeine intake

- time of day
- hormone fluctuations
- stress or anxiety
- cigarette smoking
- medications.

### Measuring exercise intensity using the talk test

The talk test is a simple and reliable way to measure intensity. As a rule of thumb:

- If you can talk and sing without puffing at all, you're exercising at a low level.
- If you can comfortably talk, but not sing, you're doing moderate intensity activity.
- If you can't say more than a few words without gasping for breath, you're exercising at a vigorous intensity.

### Measuring exercise intensity using the exertion rating scale

This method is based on observing your body's physical signs during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating, and muscle fatigue. To keep within a moderate intensity, aim to experience the exercise signs 3–7 in the chart below.

You can keep a diary of your exertion ratings to monitor your fitness progressions. As you become fitter, the same activity will become easier and your exertion rating will decrease. Then you'll know it's time to increase your effort.

| Level | Exertion       | Physical signs                        |
|-------|----------------|---------------------------------------|
| 0     | None           | None                                  |
| 1     | Minimal        | None                                  |
| 2     | Barely there   | Sensation of movement                 |
| 3     | Moderate       | Stronger sensation of movement        |
| 4     | Somewhat hard  | Warmth or light sweating              |
| 5     | Hard           | Sweating                              |
| 6     | Harder         | Moderate sweating                     |
| 7     | Very hard      | Moderate sweating, but can still talk |
| 8     | Extremely hard | Heavy sweating, can't talk            |
| 9     | Maximum effort | Very heavy sweating, can't talk       |
| 10    | Maximum effort | Exhaustion                            |

Your body's response to moderate intensity exercise normally includes:

- faster heart rate
- faster breathing
- feeling warmer
- slight swelling of the hands and feet
- mild to moderate perspiration
- mild muscular aches for a day or two afterwards, if you are not used to the physical activity.

Becoming aware of the intensity of your exercise will help you to ensure that you exercise at the right intensity to achieve your health or fitness goals. For maximum health benefits, you should aim for moderate-intensity activity.

### **Exercise intensity warning signs**

If you experience any of the following symptoms, stop exercising and seek medical help:

- extreme breathlessness
- breathing problems such as wheezing or coughing
- chest pain or pressure
- extreme perspiration
- dizziness or fainting
- severe muscle pain or cramps
- nausea
- severe pain in any muscles or joints
- extreme and long-lasting fatigue after exercising.

### **Where to get help**

- Your doctor
- Exercise physiologist
- Physiotherapist
- Fitness professionals

### **Things to remember**

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