

Resistance training - beginners

Resistance training, also called weight training or strength training, is pitting muscles against a resistance such as a weight (for example, a dumbbell or barbell) or other type of resistance, to build the strength, anaerobic endurance, and/or size of skeletal muscles. A well-rounded program of physical activity includes strength training, to improve bone, joint function, bone density, muscle, tendon and ligament strength, as well as aerobic exercise, to improve your heart and lung fitness.

It is recommended that you do things to strengthen your muscles at least two days a week. These activities should work all the major muscle groups of your body (legs, hips, back, chest, abdomen, shoulders, and arms).

Consult with your doctor before starting any new exercise program, especially if you are overweight, over 40 years of age, have a pre-existing medical condition or haven't exercised in a long time.

Benefits of resistance training

Regular resistance training offers many benefits. You can:

- **Develop strong bones** – strength training increases bone density and reduces the risk of osteoporosis.
- **Control your weight** – as you gain muscle, your body burns calories more efficiently.
- **Build muscle** – to protect your joints from injury. It also helps you maintain flexibility and balance and helps you remain independent as you age.
- **Boost your stamina** – as you grow stronger, you won't fatigue as easily.
- **Improves your sense of wellbeing** – strength training can boost your self-confidence, improve your body image and reduce the risk of depression.
- **Get a better night's sleep** – people who regularly take part in a strength training program are less likely to have insomnia.
- **Manage chronic conditions** – strength training can reduce the signs and symptoms of many chronic conditions including arthritis, back pain, depression, diabetes and obesity.

Starting resistance training

It is important to pay attention to safety and good form to reduce the risk of injury. A registered fitness professional can help you develop a safe, effective program.

To start, a typical beginner's strength training program involves:

- Eight to 10 exercises that work the major muscle groups of the body and are performed two to three times every week
- Beginning with one set of each exercise, comprising as few as five repetitions (reps), no more than twice a week.

Your aim is to gradually increase to one set for each exercise – comprising eight to 12 reps, every second or third day. Once you can comfortably do 12 reps of an exercise you should look at progressing further.

Warming up and stretching

Before doing your strength training exercises, you need to warm up. Stretching and light aerobic exercise are good ways for warming up. Approximately five minutes is recommended for the warm up.

Examples of resistance training

There are many ways you can strengthen your muscles, whether it's at home or the gym. You may want to try the following:

- **Free weights** – classic strength training tools such as dumbbells or barbells.
- **Weight machines** – these are devices that have adjustable seats with handles attached to either weights or hydraulics.
- **Resistance bands** – these are like giant rubber bands that provide resistance when stretched.
- **Body weight** – you can do many exercises with little or no equipment using your body weight instead, such as push-ups and squats.

Basic principles of resistance training

Resistance training consists of various components. Basic principles include:

- **Program** – your overall fitness program is composed of various exercise types such as aerobic training, flexibility training and strength training.
- **Weight** – different weights, for example a three kg hand weight or fixed weight will be used for different exercises within your strength training session.
- **Exercise** – a particular movement, for example a calf raise, is designed to strengthen a particular muscle or group of muscles.
- **Repetitions or 'reps'** – the number of times you repeat each exercise in a set.
- **Set** – a group of repetitions performed without resting, for example two sets of abdominal crunches with 15 reps would mean you do 15 crunches then rest or stretch the abdominal muscles before doing another 15 crunches.
- **Rest** – you need to rest between sets. If your goal is muscle size or endurance rest for two minutes or so.
- **Variety** – switching around your workout routine, such as regularly introducing new exercises, challenges your muscles and forces them to adapt with increased size and strength.
- **Overload principle** – to gain benefits, strength training activities need to be done to the point where it's hard for you to do another repetition. The aim is to use an appropriate weight or resistant force that will work the target muscles to fatigue levels. Also make regular adjustments to the training variables such as frequency, duration, exercises for each muscle group, number of exercise for each muscle group, sets and repetitions.
- **Recovery** – muscle needs time to repair and grow after a workout. A good rule of thumb is to rest the muscle group for at least 24 hours to allow sufficient recovery time before working the same muscle groups again.

Safety suggestions

General safety suggestions include:

- Proper technique is essential. If you're not sure whether you're doing a particular exercise correctly, ask a qualified personal trainer, gym instructor or exercise physiologist for help.
- Start slowly. If you're starting out, you may find that you're able to lift only a few kilograms. That's okay. Once your muscles, tendons and ligaments get used to weight training exercises, you may be surprised at how quickly you progress. Once you can easily do 12 repetitions with a particular weight, gradually increase the weight.
- Only use safe and well-maintained equipment. Faulty equipment will significantly increase your risk of injury.
- Don't hold your breath – exhale at the point of greatest exertion.
- Control the weights at all times – don't throw them up and down or use momentum to 'swing' the weights through their range of motion.

Where to get help

- Your doctor
- Qualified gym instructor or personal trainer
- Exercise physiologist ESSA Exercise & Sports Science Australia
- Physiotherapist

Things to remember

- Resistance training increases muscle strength by pitting the muscle against weight, for example by using a dumbbell or barbell.
- Strength training can reduce the signs and symptoms of many chronic conditions including arthritis, back pain, depression, diabetes and obesity.
- Consult with professionals, such as your doctor or physiotherapist, before you embark on any new fitness program.

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