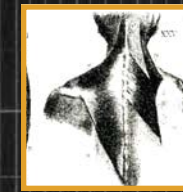
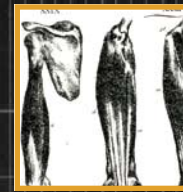


# STRENGTH TRAINING / WEIGHT LOSS



Strength training is a type of activity that helps increase lean muscle mass. Resistance or weight is used to exercise and challenge your muscles. Canada's Physical Activity Guide to Healthy Active Living recommends including strength training in your fitness routine 2-4 days a week. Strength training is an essential part of overall fitness that is important for everyone.

Strength training can also be used to help you reach and keep a healthy body weight. Since muscle uses more energy than fat, the more muscle mass you have, the more energy your body will use during activity and during rest. The body builds more lean muscle mass through a strength training routine than through an aerobic routine alone. This means the body will continue to use more energy or calories for a longer period of time following a strength training workout than an aerobic workout.

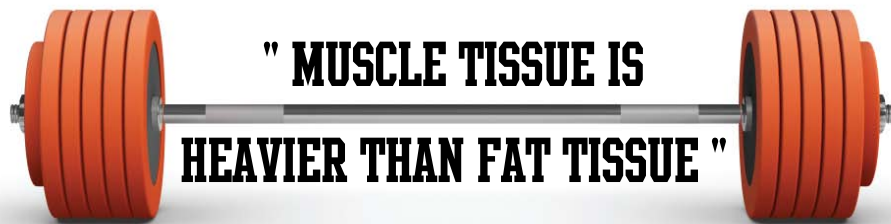
The body gets energy from the food we eat and from stored energy sources, such as fat. If the body requires more energy than it is provided through the food we eat, the body will use stored body fat as a source of additional energy. Typically when this happens, we lose body fat and weight loss occurs.

↑ lean muscle mass → ↑ energy expenditure → ↓ amount of stored body fat → ↑ weight loss

## MEASURING PROGRESS

Things aren't always as straightforward as they seem, and this equation (above) is no exception. Consider that muscle tissue is heavier than fat tissue. In other words, the same amount of muscle tissue takes up less room in the body than fat tissue, even though it weighs more. This means that once you begin a strength training routine, your overall weight may increase even though your percentage of body fat is decreasing. As a result, using only a scale to measure your progress may not be the best way. A better way is to measure your various body circumferences.

Regular measurements of your waist, mid arm, forearm, hips, and thighs. Taken at the same place using the same method each time, can give you a true picture of your overall change in your body make up. Tracking your waist circumference has the added bonus of giving you an indication of changes to your risk of developing certain chronic diseases.



**" MUSCLE TISSUE IS HEAVIER THAN FAT TISSUE "**

| MEASUREMENT         | HOW TO MEASURE  | WHAT THE NUMBERS MEAN  |
|---------------------|---|--|
| Waist Circumference | <p>You may need a friend to help with this measurement.</p> <p>Locate your waist (area of your abdomen located between your bottom of lower rib and top of your pelvic or hip bone).</p> <p>Have your friend stand beside you and measure your waist using a measuring tape. The tape should feel snug, but not tight, around your waist.</p> <p>While the measurement is being taken, relax your stomach and continue to breathe normally.</p> | <p>The more your waist circumference exceeds these values, the higher the risk for developing health problems:</p> <ul style="list-style-type: none"> <li>• Women - 88 cm (35 inches)</li> <li>• Men - 102 cm (40 inches)</li> </ul> |



**STRENGTH TRAINING** is important for everyone. Muscle mass is normally lost as we age and the weight is often replaced with fat. Regular strength training can help slow this loss of muscle. In addition, strength training can help:

- Build strong bones,
- Improve balance and posture,
- Prevent osteoporosis,
- Increase your energy levels,
- Improve the way you feel about yourself,
- Help you get a better night's sleep,
- Prevent and control chronic diseases.

## GETTING STARTED

The American College of Sports Medicine and the American Heart Association recommend including strength training in your physical activity routine at least two times each week. Here is an example of what a strength training session might include.

**WARM UP** - Before you start your strength training routine, warm up your muscles by doing five to ten minutes of stretching or gentle aerobic activity, such as brisk walking while swinging your arms.

**WEIGHTTRAIN** - Include eight to ten different strength training exercises in your routine. These exercises should target all the major muscle groups in the body: arms, shoulders, abdomen, chest, back, and legs. Sample exercises for each muscle group are listed below.

Perform each exercise 8 - 12 times. The weight used should be heavy enough that you can just lift it 12 or 14 times and no more.

When you are doing an exercise, move your joint through the full range of motion and be in full control. When the exercise is hardest, breathe out. This is when you are using force to challenge your muscle. When the exercise is easiest, breathe in. This is when you are releasing the force from your muscle. Focus on breathing as it is important.

You should give your muscles one full day to recover following strength training.

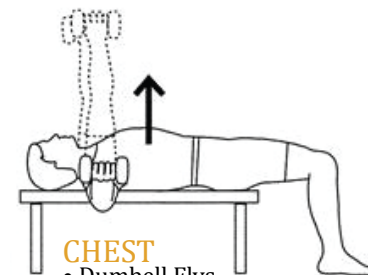
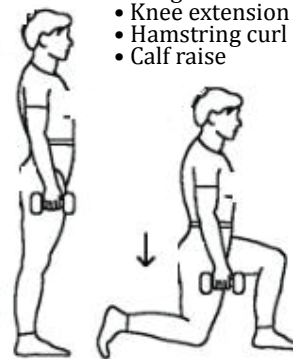
FOR EXAMPLE, if you perform a strength training routine on Monday, you should not repeat this routine until Wednesday.

## SAMPLE EXERCISES

For more detailed instructions on how to do these exercises, visit <http://www.mayoclinic.com/health/strength-training/MY00033> or <http://www.mayoclinic.com/health/weight-training/SM00041>.

### LEGS

- Lunges
- Knee extension
- Hamstring curl
- Calf raise



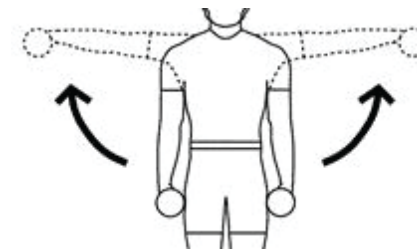
### CHEST

- Dumbbell Flys
- Chest press



### BACK

- Bent over row
- Back extension
- Lat pull-down



### SHOULDERS

- Lateral Raise
- Shoulder Fly Traps

### KEY REFERENCES

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