



## Resistance Training

Weight training is a form of resistance training, which simply means any kind of exercise in which the muscles exert force against a resistance. Weight training uses weight training machines and free weights to provide resistance. One of the biggest advantages of weight training is that resistance can be applied in a progressive, measured fashion. After your strength increases enough to lift a certain weight easily, you increase the weight.

The most well known **benefits** of weight training are an increase in muscle size (i.e. hypertrophy) and strength. The benefits of weight training, however, go far beyond this. In our sedentary society, many orthopaedic problems are the result of weakness and inflexibility, which are after shrugged off and attributed to the aging process. Much of this loss of physical function, however, is due to inactivity and a consequent decline in physical fitness, rather than to aging.

Another important result of weight training is that connective tissue structures, such as tendons, ligaments and joint capsules, increase in strength. Weight training has also been shown to increase bone strength by maximising deposition of bone mineral (namely calcium) and therefore prevent or at least decrease the loss of bone strength and the onset of osteoporosis in later life.

People trying to lose weight are usually told to participate in aerobic exercise, because it burns more calories than weight training. Whilst this is true, weight training still plays an important role in **weight loss** for two very important reasons.

*Firstly*, weight training will help preserve or even increase muscle tissue mass. Since metabolic processes occur at a much faster rate in muscle tissue than in



fat tissue, an overall increase in muscle mass will create an increase in your *metabolic rate* which in turn will allow you to burn more fat, even at rest.

*Secondly*, weight training may help prevent injuries, especially for people who currently have a low level of fitness. Many injuries that occur in new exercisers are due to pushing a deconditioned body to do too much, too soon. The cardiovascular and respiratory systems of a new exerciser are often ready to do more than their muscular and skeletal systems.

Perhaps one of the greatest benefits of weight training is that it may help prolong independence in older adults. Being stronger makes everyday tasks easier to do.

### **Importance of an Individualised Program**

Since weight training has traditionally been perceived as a very demanding form of exercise, most people have assumed that it is appropriate only for the already athletic. Fortunately, however, this is not the case as people with limited physical ability can benefit from an appropriate weight-training program. The key is matching the weight training program to an individual's current fitness level and health concerns.

While it is important for anyone new to weight training to receive instruction by a qualified professional, it is essential that anyone with any kind of limitation seek the guidance of a health professional in designing an exercise program.