

# Load Management Advice

## Load Management

Our body's tissues (tendons, muscles, ligaments and cartilage) have a load capacity. If we overload the capacity of these tissues it can cause pain.

Overload can be a result of multiple factors; it can be from doing an everyday activity more frequently, or due to carrying extra weight.

### For example

- Moving house and negotiating stairs multiple times or carrying heavy boxes.
- An increase in body weight due to becoming more sedentary then trying to increase activity levels too quickly.
- Going for an 8 mile run when your normal route is only 3 miles.
- Trying to beat your previous running time by increasing your speed.
- Going for a long beach walk or run when you normally road run or walk.

Normally the pain will settle with a short period of rest from the activity. However sometimes pain can persist and we need to improve the tissues' load capacity by practicing loading or strengthening exercises.

## Exercises

It can be frustrating when you are practicing your exercises but are not seeing improvements in your symptoms. A common problem is having poor technique and therefore not loading the muscles effectively.

You need to feel muscle fatigue/tiredness when completing exercises targeted to strengthen your muscles. This should feel different to your typical pain.

It is important to work within your pain level. A discomfort that settles within an hour is acceptable. Research recommends using a pain scale of 0 being no pain – and 10 being the worst pain imaginable. Aim to exercise within pain levels of approximately 2/10. If you find that the more you continue an exercise the worse your pain becomes, or you experience more lasting stiffness the next morning, you are overloading the tissue's capacity. You need to modify the exercises to reduce the load by reducing the weight, number of repetitions or range of motion.

For example if you were to do a squat exercise whilst carrying a weight aiming for 3 sets of 15 repetitions your muscles should feel tired by the last repetition and struggle to complete any more. If your muscles do not feel tired you should increase the load/weight. You could either add a weight or progressing the exercise. Equally if you are finding the exercise too painful or are only able to complete a few repetitions then you could reduce the weight. Your load capacity may vary day to day depending on what other activities you have been doing.

## General Exercise

Load management also needs to be considered when continuing or returning to activities such as walking, cycling or running. Research suggests that we should not increase our load by more than 10% in a week. When considering load this includes the time, distance and terrain.

For example if a runner goes for a run and runs faster uphill and for longer simultaneously, this is likely to overload the tissues.

## Other factors that influence load

**Weight-** Being overweight puts more load through our tissues. Scientific studies in osteoarthritis of the knee have found that if you are overweight, reducing your weight by 10% can have a significant improvement on your pain.

**Hormones-** Hormonal changes in pre or postmenopausal women does alter the load capacity of our tissues.

**Steroids-** Long-term use of steroids can affect the quality of our tissues and reduce the load capacity.

**Biomechanical Changes/Footwear-** Changing running style e.g. a forefoot to a heel strike or changing foot wear will change the load through our tissues

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