



## TRAINING THROUGH MUSCLE SORENESS

When a body part experiences skeletal muscle pain a day or two after exercise, it is difficult to ascertain as to whether a person should:

- (a) continue training;
- (b) reduce the amount of training or;
- (c) lay off training all together.

*Let us explore these possible courses of actions once we understand why we have pain associated with exercise...*

Delayed onset muscle soreness (DOMS) is the skeletal muscle pain that occurs following strenuous workouts and hard physical activity in a time period of approximately 24 hours to 72 hours following the session. This muscle soreness can be produced by movements that resist gravity or forward momentum, such as downhill running, lowering heavy weights or by conducting plyometrics.

These muscle actions produce tension as the muscle is forced to lengthen. This is known as the eccentric phase of the exercise, or more commonly referred to as the negative part of the movement. An example of the negative phase in the squat exercise would be the lowering of the weight downwards as a person bends their knees.

Popular explanations for DOMS include lactic acid accumulation or acute muscle damage. The lactic acid theory does not get a lot of support as most of the lactic acid has disappeared within an hour of concluding the training session. However, movements that cause muscle soreness have been shown to produce localized damage to the muscle fibre membranes and contractile elements.

This muscle damage can result in the release of chemical irritants such as histamines which can irritate pain receptors in muscles. Such damage can often result in a swelling in the muscle tissue, which can create enough pressure to stimulate pain receptors.

*So back to what to do when you are experiencing pain associated with training...*

Unfortunately deciding on the appropriate course of action as identified earlier is not straight forward. Consideration should be given to individual fitness levels as to decide whether to continue training, reduce the amount of training or lay off training altogether.

Many people train through DOMS, but often experience a loss of strength and aerobic capacity. As to whether DOMS is required to stimulate a muscle to grow is not clear. However, muscle tissue can grow without experiencing a lot of soreness from training, as the muscles become accustomed to new work loads.

As DOMS can have a negative effect upon further training sessions and no effective treatment has been identified, training sessions that cause DOMS should allow for a specified recovery period or lighter sessions should follow to allow for recovery. Any new training programs should be gradual and progressively increased in intensity and duration over several weeks. This should help minimize the soreness and allow a person to adapt properly to the new training regime.

*This may explain why some sessions are harder than others. Ken takes the time to plan and review training sessions to ensure that you get the most out of each and every session. Consideration is given to ensure that in a given week each session compliments the previous session to give a good all round workout.*

The recovery process to DOMS involving Massage, Stretching, Cold Water immersion or applying heat have not properly been explored. Research is not conclusive regarding these solutions and information appears to be anecdotal.

It is always advisable in the event of severe DOMS to back off the intensity and frequency of the training sessions to allow sore muscles time to recuperate. Time allows muscles affected by DOMS to heal...

Remember it is important to incorporate rest days into your training cycle with DOMS to allow muscle time to recover and repair.

*Source: Essential Strength Training and Conditioning  
Thomas R. Baechle, Roger W. Earle 2000.*