



Detraining and Overtraining in the Dancer

Detraining in the dancer during summer lay-off is the partial loss of endurance, strength, balance, flexibility, and skill in response to an insufficient training stimulus. We all have experienced that when we stop exercising we generally begin to lose both strength and aerobic fitness. After only three months, researchers find that high level athletes lost about half of their aerobic conditioning.

Physiological effects of 4-8 weeks of detraining

- Maximal oxygen uptake: down 4-10%
- Blood volume: down 5-10%
- Heart rate: up 5-10%
- Heart stroke volume: down 6-12%
- Heart muscle atrophy
- Flexibility: Decreases
- Lactate threshold: Decreases
- Muscle glycogen levels: down 20-30%
- Aerobic enzyme activity: Decreases
- Loss of muscle power output
- Tendon durability decreases
- Decrease in muscle girth
- Increase in body fat
- Loss of flexibility

After an 8 week period of detraining, an elite athlete required 12 weeks to recover to his starting level of fitness!

Overtraining occurs when a detrained dancer returns and suffers an injury after resuming the normal repetition of classes and rehearsals. Of course, there are overtraining situations when a well conditioned dancer is injured by overdoing it. Both of these situations are preventable. When the dancer's body has lost its resilience, balance, and flexibility during a lay-off, a normal workload becomes a great challenge. There are more frequent missed steps, bad landings, and strained muscles and tendons. The most common injuries involve the tendons of the ankle and foot, ligaments of the knee, ankle and foot, and the joint surfaces of the lower extremities.

Recommendations during the off-season:

Studies have shown that the average person can maintain their cardiovascular conditioning if they exercise at least once a week. For the professional dancer, it is recommended that cardiovascular exercise is done five times a week for at least an hour.

Doing exercises that replicate the specific movements in a sport have been shown to be most effective. So, simply going to the gym to use the machines is not the best strategy. For a dancer, the best exercise is dancing. Take a dance class several times a week.

Many dance related injuries can be linked to a loss of flexibility. Follow a daily routine of stretching to maintain your flexibility. This should not consume much of your time if done at home. Thirty minutes is all it takes. Taking a Yoga class two or three times a week would be ideal

Don't forget about the core. Your foundation of strength and stability comes from your core. An abdominal class at the gym or Pilates two or three times a week would be enough to maintain your core through the summer. As an alternative, pick up a therapeutic ball and create your own core program at home.



Boston Sports Medicine would be happy to assist any of the dancers with a home core program using the therapeutic ball, the use of our facilities, and Yoga and Pilates instruction to help keep you from detraining over the summer. If you need any help, e-mail info@bostonsportsmed.com.