

## Cross-Training

Getting back into shape after an injury or illness, or working to become fit are very positive actions for your health and well-being. It is important when undertaking a program of physical activity that you do it safely so as to help prevent overuse injuries. The best way to avoid injury is to understand the concept of cross-training. It is also important to take a long-term perspective on becoming fit so that you can allow the time necessary for your body to safely attain this important goal.

Training for cardiovascular fitness requires activity that, at a minimum, raises your maximal heart rate to three-quarters of that maximum for at least 30 minutes three times a week. In order to do this safely, it is important to realize how the body works as it is trained. Each time we exercise our bodies or undertake any physical activity this event will cause our bodies to "tear down." If given the chance, the body then responds by healing those structures to a level stronger than where it was before. If the body is not given enough time to heal between these episodes of physical stress it will continue to "tear down." If that pattern goes on long enough the body structures can be weakened to the point where we start to experience physical symptoms (usually pain).

When we cross-train, we stress the body's physical structures in different ways with each different event of training. For example, if we run one day, that uses certain muscles such as the hamstrings and is a weight-bearing activity. The next day if we train again, it would be wise to do an activity such as bicycling, which is nonweightbearing and utilizes other muscle groups, such as the quadriceps. During that second day, your hamstrings and the weight bearing structures of your lower extremities get a chance to recover before they are stressed again at some later date.

Also, patients frequently do not think about what they do in their normal lives and how it affects their body in relation to doing some subsequent physical training activity. In other words, if I am on my feet all day at work on hard surfaces (i.e. concrete) and then come home at night and train by walking on hard surfaces (sidewalks or roads), I am essentially stressing my body the same way during both activities. Eventually, that could lead to some type of overuse injury. If I wanted to better protect my body and I worked on my feet all day standing on hard surfaces, then in the evening it would be wise to perform an exercise such as bicycling or swimming, which is nonweightbearing and stresses other structures.

A proper training program has two aspects to it. One is intensity and the other is duration. Intensity is how hard the training is. Duration is how long that training is undertaken. When progressing with an exercise program, one should not increase both aspects of training at one time. In other words, we would either increase the intensity of the training or the duration at any one time. This would then give our body a chance to accommodate to that change before making any further changes. Also, another good rule of thumb is to not increase either aspect of our training more than 10% at a time. Again, this is taking a long-term perspective. If we want to be fit for all of our lives, taking months or even years to reach a level of fitness and then maintain it is not too much to ask.

If you have any questions about these issues, please feel free to talk to a physical therapist, one of our trainers, physician assistants, or physicians in more depth.