

Are you ready to rumble? Transplant Games 2004

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In just a few months thousands of people will gather in St. Paul, MN for **The NKF Transplant Games 2004**. We will come together to remember and honor the people who have donated the most precious gift of all, organs and tissues, so others can continue to live. We will gather to celebrate life by sharing the love and laughter of friends and family. We will gather to create public awareness of organ and tissue donation by demonstrating the depth of our dedication through competition.

I spent many hours behind the scenes at the Games 2002 games watching people give their all. I evaluated many athletes who had lunged a bit too far or whose muscles complained that they had been overworked during that competitive event. Just like world class athletes, all the participants of the Games accept the risk of injury during competition. You can not avoid being in the wrong place when that elbow comes towards your nose. Or prevent the twist of the foot you land on while trying to rebound the basketball. However, the risk of injury can be minimized by proper training. So lace up those sneakers and let's get ready!

Every good training program begins with a good general fitness program. There are three basic energy systems you need to train to provide a good foundation for competition. One of the systems is the aerobic energy system. Most of us know this type of exercise as "cardio" or cardiopulmonary training. Training your aerobic energy system allows the body to use oxygen efficiently to make energy so you can participate in an activity like jogging or swimming for long periods of time with difficulty. Aerobic fitness can be achieved by participating in an exercise that involves the large muscle of the body in a repetitive manner for at least twenty minutes.

When selecting an aerobic exercise it is important to consider your fitness level, the demands of your sport, and the amount of time you have to prepare for the competition. There is a training principle referred to as *Specificity*, which basically means your body will adapt itself according to activity you engage in. For example, if you train by riding a bike, then you will be a better cyclist, not necessarily a better swimmer. If your sport is going to be basketball, tennis, or running in track events, your aerobic exercise should focus on jogging. Speed walking would be a good training activity for sports like badminton, table tennis, bowling, golf, and field events. If

you have at least twelve weeks before your big event, it is also important to vary your training program to avoid overuse injury or boredom and to provide you with a general fitness. This could mean jogging some days and cycling or swimming on alternate days.

Your goal for aerobic training should be to work up to thirty to forty minutes. You should begin exercising at a low to moderate exercise intensity and progress to a moderate to somewhat hard workload. You can gauge your intensity by either monitoring your heart rate or by using the Rate of Perceived Exertion Scale that was described in the previous Transplant Chronicle. You should train your aerobic energy system three to four days per week.

The second energy system is the anaerobic system. This system allows you to complete an intense activity for a short period of time, up to 90 seconds, such as running once around the track or swimming the length of the pool as quickly as possible. These type of activities are usually completed as fast as you can and result in the build up of lactic acid in your muscles which make them “burn” and cause you to slow down and stop. Many sports in the Games will require this type of fitness; sprinting down the court in a break away basketball play or a quick volley exchange during tennis or badminton match.

You can train this system by participating in sport specific activities or completing short burst, highly intense periods of your aerobic exercise. If you are walking at three mph for thirty minutes for aerobic training, the anaerobic exercise would be to ...walk as fast as you can or run for thirty to ninety seconds for five intervals with scheduled rest period between each bout of exertion. For tennis, basketball or volleyball, you might run court sprints, rapidly serve for sixty seconds, or complete as many jump shots as you can in thirty seconds. It is recommended that you complete five to ten trials of these intense activities two to three times a week. It is important between each bout of exercise you complete a rest period between each exercise bout. It should be some low level of exercise that involves those fatigued muscles to allow for recovery. So between each sprint or serving bout walk back to the start line with emphasis on moving your arms back and forth. Completely stopping exercise to rest does not allow the muscles to recover as quickly and may lead to more muscle soreness.

The third energy system is the power anaerobic system, which allows you to complete a very short burst of activity, less than ten seconds. This system is used for the short one-time type of activity like a 50-yard sprint, a spike in volleyball, bowling for a strike, putting a shot, or teeing off. This part of your fitness comes from a good strengthening program and practicing sport specific activities. Allow yourself one to two minutes to rest between these intense bouts of exertion to fully recover.

Whatever your sport it is important to participate in a well rounded strengthening program to prevent injuries. You should complete a strengthening program two to three times a week that focuses on the large muscles of your pelvis and legs, back and abdominal, and muscles around your shoulders. These large muscles are the “work horse” for sports as well as house or yard work and are susceptible to atrophy or weakening due to the chronic use of steroids or

inactivity. Each strengthening exercise should be done with a resistance or weight that you can complete ten to twelve repetitions with good form and repeat each exercise two to three sets.

Along with strengthening it is vital to dedicate time to stretching. With your strength training and participation in sports you will develop muscle tightness that can increase your risk of straining a muscle during play or work. Stretch tight muscles, not to a point of pain, but to the point of tension and hold for thirty to sixty seconds and repeat three to five times. It is particularly important to stretch muscles around your shoulders and hips, knees and ankles.

While preparing for the Games one good training principle is to practice the different skills of your sport. This is a good technique to get your body used to the specific demands of your sport and to improve your skill level. This means driving or putting a bucket of balls, practicing your bumping skills in volleyball or practicing the baton exchange for a relay race.

Finally it is time to put all your training efforts together and practice your sport in its entirety. It is advised you begin play at 60-70% of your competing intensity. This will allow yourself to complete your fitness. You can vary the intensity of play and or the time of play. For an example let's imagine your goal is to complete the mile race in twelve minutes. It would be a good training practice to first try to complete the distance under seventeen minutes and slowly increase your speed until you could perform the distance in at least thirteen to fourteen minutes. You could also vary your training at the competition speed for a quarter mile and slowly increase your distance. Another option might be to play one 7-point table tennis game and slowly increase the number of games you can play in a row and increase the points per game until you are able to play three 15-point games.

As the time grows close to the Games it is advised to actually practice as if it is game day. You will want to experience both the effort and the duration at which you will be competing. If your sport will require you to play repeated games in one day or on consecutive days, you should plan to produce this experience a week or two before the big day. This will prepare you both physically as well as mentally for your competition.

One part of training that frequently gets overlooked is getting your body used to the weather conditions particularly if your sport is outdoors. Many athletes had difficulty at the 2002 Games with the heat. You need to slowly expose yourself to the sun, rain, humidity, and wind. Those of you who will be playing indoor court sports may also have problems if the gym is hot or humid. Part of preparing for competition is having your body adapt to efficiently consume the extra fluids. You need to talk to your transplant coordinator and physician about any fluid restrictions before changing your intake. It is advised to drink about six ounces of fluid every fifteen to twenty minutes during competition. It is best that it be mostly water. I treated many athletes in 2002 either because they were dehydrated and suffering severe muscle cramps, low blood pressure, and fatigue, or because they only drank sports drinks, which caused nausea, vomiting, and cramps. It is recommended that the sports drink only make up about a fourth to a third of the total fluid. You can either alternate sport drinks and water or mix the sports drink and water

together. As part of your training, make sure you incorporate hydration so you minimize any distress, which can also dampen your fun at the Games.

The Transplant Games is a special event to celebrate life, make new friends, and experience the exhilaration of competition. The preparation you dedicate to getting yourself ready for the games will only make your games more pleasurable for you. It will decrease your risk of injury. Although the medical support team would love to meet every one of the athletes and their family members, we would like to keep you off the examining tables and on the playing fields. So get yourself ready properly, and in July, just stop by and say hello.