Health Risks and Safety Considerations

Exercise may play a role in both preventing and provoking heart disease. Thus, all exercise carries some risk (albeit very small for most participants). Physical activity increases the metabolic demands on the heart and increases sympathetic nervous symptom activity—both of which could trigger a heart attack in individuals with underlying heart disease. Because there are many people with undiagnosed heart disease, screening new exercise participants is necessary to ensure safety. Prior to beginning an exercise program, an exerciser's level of risk should be evaluated to decide if it is reasonably safe to proceed. A simple health-screen form, such as the Physical Activity Readiness Questionnaire (PAR-Q) (Figure 4-1), is a minimal prerequisite for individuals between the ages of 15 and 69 who are planning to start a new exercise program. Answering "yes" to any of the seven questions on the PAR-Q indicates there may be a health risk present and that the individual should seek a doctor's clearance before beginning to exercise.

If it has been determined that a potential exercise participant has no health risks, or if a potential exerciser has been cleared for physical activity by his or her physician, an exercise program can be initiated. However, a fitness professional still needs to be aware of important safety considerations during an exercise session. Understanding the difference between normal responses to exercise versus unfavorable warning signs is an important skill for fitness instructors to develop. Responses to exercise that are considered normal include an elevation in heart rate, increased respiration (or breathing rate), sweating, mild to moderate muscular cramping, fatigue, and having an appearance of redness in the face. Warning signs that indicate exercise should be stopped, and in some cases indicate that the emergency medical system should be activated, include squeezing pressure in the chest, extreme shortness of breath, profuse sweating or no sweating, intense pain, nausea, and a red, hot appearance. Table 4-13 lists normal responses to exercise, along with some warning signs that could indicate cardiovascular or other types of complications.

Another important safety consideration is the application of rest, ice, compression, and elevation (**RICE**) after a traumatic injury such as a muscle strain, joint sprain, or bone fracture. Rest refers to not using, or staying off of, the injured body part. This is important because it decreases the length of time that the injured tissues remain in the inflammatory (or swelling) phase. Ice refers to the application of ice or ice packs to the injured area. Cold helps to control pain and swelling and can prevent further tissue damage at the site of injury. The application of ice or ice packs directly to the skin should be avoided due to the potential for frostbite of the skin over or around the injury. Instead, a towel or other type of cloth material should be placed between the skin and the ice. Additionally, ice should be applied no longer than 20 to 30 minutes at a time per hour. Compression describes the act of wrapping the injured area for the purposes of decreasing swelling and pain by stabilizing the recently traumatized tissues. Along with ice and compression, elevation of an injured body part is useful because it can decrease swelling by decreasing blood flow to the area. Elevation can be accomplished by resting the site of injury at a level that is slightly above the heart. For example, a sprained ankle could be elevated by having the injured party lie down and prop the lower leg on pillows to raise the ankle above heart level.