

MODULE 12

SAFETY AND MONITORING FOR MATURE CLIENTS

Learning Objectives

1. Describe the roles of assessment, monitoring and self-monitoring play in keeping clients safe during an exercise program
2. List the warning signs for a heart attack, stroke and hypoglycemic episode and the appropriate steps to take when they are identified
3. Identify strategies for preventing falls
4. List characteristics of a safe exercise environment

Introduction

When working with any type of client their safety should be the trainer's utmost concern. With older clients this concern is of even greater importance because of the higher prevalence of risk factors, medications and chronic diseases in this population. However, trainers should not fear working with older clients simply because the potential for injury or a health complication is greater. When the appropriate steps are taken to ensure a safe exercise experience (e.g. assessment, monitoring, physical environment) the risk of an untoward event is greatly reduced.

The two major events that must be guarded against when working with mature adults in an exercise environment are cardiovascular complications and injurious falls. Older adults have the greatest prevalence of cardiovascular conditions and falls compared to other age groups. A third, but less serious threat, is orthopedic injury or aggravation of an existing orthopedic condition (especially the spine). Keeping your clients safe should be your number one priority.

In this module we will discuss methods and strategies for guarding against untoward medical complications but first, keep in mind that sooner or later someone is bound to get have a potentially dangerous event. Someone with diabetes will fail to eat properly before they workout and will have a hypoglycemic (low blood sugar) episode requiring intervention. Someone with a cardiovascular condition will push themselves too hard and trigger an arrhythmia or will develop angina (chest pain). A client working to improve their balance will trip and fall. Our expectation should NOT be to avoid any and all problems because that is just not realistic. Our goal should be to take the appropriate preventive steps in order minimize the prevalence of these events and then to respond quickly and appropriately when they do.

Assessment, Monitoring and Self-Monitoring

As discussed in greater detail earlier the first line of defense against an event is the health assessment. Knowledge is power and knowing what medical conditions your clients have; how serious they are; what medications they are on; and their physical activity/exercise history are all critical aspects that you need to know in order to develop a safe program. Sometimes this means saying no. If you get a potential client that has ongoing medical complications or conditions with which you are incapable of dealing with then refer them to a physical therapist, cardiac rehab program or some other medically supervised program. Once they successfully complete that program then you could potentially take them on as a client. This will also give you the opportunity to interact with medical professionals, develop a relationship with them, and demonstrate your expertise.

As discussed in the previous section on the exercise session is crucial to continuously monitor the clients and to check for any signs and symptoms of a medical condition. This should be accomplished through formal and informal mechanisms. Formal checks include: directly asking the clients if they are experiencing any signs or symptoms; performing heart rate and/or blood pressure checks pre-exercise, during exercise and post-exercise; asking clients pre-exercise if they have taken their medications, eaten properly or experienced any problems since their last visit; and assessing RPE, SOB (shortness of breath) and angina, using the appropriate scales, during exercise. Informal checks include: observing the client's gait pattern; checking their face for signs of distress; chatting with the clients to assess alertness; and encouraging frequent rest and water breaks. In one-on-one or small group personal training this is easy to do. It is more challenging in open gym environments or large group exercise classes but is just as important.

In addition, teaching the client to self-monitor is crucial. The trainer is not solely responsible for their clients' safety. The clients have a responsibility to themselves and to the trainer to monitor themselves appropriately. They need to understand their limitations regarding exercise type, time and intensity as well as how to recognize signs and symptoms of common problems such as low blood sugar, stroke or heart attack. These have been described below as well as the appropriate actions to take should they occur. Bear in mind that individuals experience different symptoms and to different degrees. Therefore, if the client has experienced symptoms previously, then they need to focus on the reoccurrence of similar feelings.

Signs and Symptoms of a Heart Attack

Many heart attacks involve discomfort in the center of the chest that lasts more than a few minutes or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or

stabbing pain. However, not all heart attacks are preceded by chest pain and the symptoms can vary widely from person to person including:

- Chest discomfort
- Discomfort in other areas of the body: one or both arms, the back, neck, jaw or stomach
- Shortness of breath with or without chest discomfort
- Pounding heart, change in heart rhythm
- Heartburn, nausea, vomiting, abdominal pain
- Breaking out in a cold sweat
- Nausea
- Dizziness or Lightheadedness

Women often have atypical symptoms with the following signs being most common:

- Sudden onset of weakness, shortness of breath, nausea/vomiting, indigestion, fatigue, or body aches
- Unusual feeling or mild discomfort in the back, chest, arm, neck jaw (without chest pain)
- Sleep disturbance

If a client is having heart attack symptoms call for medical help right away. The sooner they can get medical treatment the greater their chances are of surviving or minimizing the damage from a heart attack. While waiting for the medical team to arrive, keep the person calm and have them lie or sit down. If the person is not allergic to aspirin, have them chew and swallow a baby aspirin. Individuals with diagnosed cardiovascular disease may have nitroglycerin tablets that they can use in the event of chest pain (angina). If they do, have them sit down and take a tablet. If their chest pain does not subside in 5 minutes have them take another tablet and call for medical help.

In either case be prepared for the worst by having individuals trained in CPR (cardiopulmonary resuscitation) techniques and having an AED (automated external defibrillator) on hand. Do not

wait until they lose consciousness before preparing the AED. As soon as a client begins exhibiting signs of a heart attack or chest pain have someone bring the AED and get it ready for use. It is highly recommended that all fitness facilities have an AED available and everyone is trained how to use it properly.

Signs and Symptoms of a Stroke

A stroke, or "brain attack," occurs when a blood vessel in the brain becomes blocked or bursts. The brain cannot store oxygen, so it relies on a network of blood vessels to provide it with blood that is rich in oxygen. A stroke results in a lack of blood supply, causing surrounding nerve cells to be cut off from their supply of nutrients and oxygen. When tissue is cut off from its supply of oxygen for more than three to four minutes, it begins to die. A transient ischemic attack (TIA) has the same symptoms as a stroke, but they only last several minutes, or up to 24 hours. Unlike a stroke, a TIA does not kill the brain cells, so there is no lasting damage to the brain. A TIA is considered a serious warning sign of stroke and should be treated immediately. About 1 in 3 people who have a TIA will go on to have a stroke.

Stroke presents differently than a heart attack. The acronym **BE FAST** is a helpful tool to remember the signs of a stroke.

Balance:	Loss of balance, headache or dizziness
Eyes:	Blurred vision
Face:	One side of the face is drooping
Arms:	Arm or leg weakness
Speech:	Speech difficulty
Time:	Time to call for an ambulance immediately

As with a heart attack, women can experience some different symptoms including:

- Pain in the face or legs
- Overall weakness

- Nausea
- Hiccups
- Chest pain
- Shortness of breath
- Rapid heart beat

If a client is showing signs of a stroke the best thing to do is to call for medical help immediately. As with a heart attack, the earlier treatment can be administered the better. Write down or make a note of the time that the first symptoms developed. This is important to be able to tell the medical professionals since some treatments must be administered within a certain period of time from the onset of symptoms. It is unlikely that a person will lose consciousness during a stroke but if they do then administer CPR if they are not breathing or has no pulse. Do not let the person go to sleep or talk you out of calling for medical assistance. A stroke often causes people to feel tired and want to go to sleep but time is of the essence. Do not give them any kind of medication, food or drink. Unlike a heart attack administering aspirin can potentially make the stroke worse. Since a stroke often affects a person's ability to swallow you don't want to give them anything to eat or drink. Finally, do not drive the person to the hospital and do not let them drive themselves.

Signs and Symptoms of Low Blood Sugar

Most people have symptoms of low blood sugar (hypoglycemia) when their blood sugar is less than 60 mg/dl but diabetics are more likely to have low blood sugar episodes. When blood sugar is low, the body gives out signs that it needs food. Different people have different symptoms of low blood sugar so diabetics need to learn their symptoms in order to respond appropriately. Episodes of low blood sugar can occur during, or several hours after, an exercise session. Common early symptoms of low blood sugar include the following:

- Feeling weak
- Feeling dizzy
- Feeling hungry
- Trembling and feeling shaky
- Sweating
- Pounding heart
- Pale skin
- Feeling frightened or anxious

Late symptoms of low blood sugar include:

- Feeling confused
- Headache
- Feeling cranky
- Poor coordination
- Bad dreams or nightmares
- Being unable keep your mind on one subject
- Numbness in your mouth and tongue
- Passing out

If a client (especially a diabetic client) experiences symptoms of low blood sugar follow these steps:

1. Stop exercising and sit the client down in a chair (preferably one that has arms)
2. Alert another trainer or manager in the facility about what is happening and have them bring you some fast-acting sugar while you stay with the client
3. Give the client about 15 g of fast-acting sugar which can be in the form of:
 - Glucose tablet
 - 1 tablespoon (15mL) of honey
 - 1 tablespoon (15 mL) sugar in water
 - 2/3 cup (150 mL) or juice or regular soft drink
 - Candy (15g) such as 6 LifeSavers
4. Wait 15 minutes and check blood sugar if they have a monitor
5. If blood sugar is above 4.0 mmol/L then they should be okay to leave but advise them that they should eat their next meal within the hour
6. They should not drive until their blood sugar is above 5 mmol/L

Falls

Common sense and proper spotting can help prevent most fall-related injuries. Balance training is inherently risky because in order to overload the balance systems they must be challenged to the point where the client may lose their balance. Even high-functioning clients are at risk of falling when performing high-level or complex dynamic balance and agility exercises. To spot clients properly stay close to them while they perform the movements without impeding their movement or distracting them. That way you are there to help steady them if they were to lose their balance or trip. For lower-functioning clients that are unsteady on their feet a gait belt could be useful. The belt goes around the person's hips and provide a secure handhold for the trainer in case of a stumble or trip. Always perform balance and mobility exercises in an open room away from equipment such as treadmills or resistance machines. It is helpful to perform many gait and balance movements next to a wall so the client can use it to steady themselves if they need to. Whenever possible, provide stable balance aids such as a ballet bar, chair or walking poles.

The physical environment plays a significant role in the safety of your clients. In general, the facility should be very well-lit, well organized, free from clutter (such as electrical cords), have non-slip (and preferably padded) flooring, keep a reasonable temperature with good air flow, be free from busy visual distractions, and not too loud. The outside of the facility is important as well. The parking lot, sidewalks and entrance need to be taken into consideration if you are going to serve those with gait or balance issues or that use an assistive device such as a cane, walker or wheelchair. While these seem to be common sense on the surface it is amazing how many facilities violate many of these basic guidelines.

Every facility should adhere to the following guidelines:

- An AED placed in a central, easy to access location
- All staff current in Basic Life Support or CPR with AED training
- Emergency protocols established to deal with any emergency situation
- Practice emergency drills for staff conducted on a periodic basis
- First aid kit placed in a central, easy to access location
- Conduct regular equipment safety checks
- All staff should be aware of high-risk clients
- Perform routine locker room checks during the day

As long as the appropriate preventive measures are taken to ensure client safety from an individual and facility perspective the number of accidents and medically related events should be held to a minimum.