

MODULE 9

THE EXERCISE SESSION

Learning Objectives

1. List the components of a complete exercise session
2. Describe what to do before and after the workout to keep older clients safe
3. Describe a functional movement preparation routine and a traditional cardiovascular warm-up routine
4. Identify general guidelines that can be applied to every workout session
5. Describe appropriate cool-down techniques

Introduction

A complete exercise session includes a warm-up or movement preparation time, robust functional training routine, and a flexibility or cool-down time. In this section we will review each of these components and present options when working with clients at different functional levels for structuring a safe and effective exercise session with older clients. We will also present the model of “Ready, Set, Go, Ready, Go” which should be followed for each and every exercise session.

READY – What to do Before the Session

Trainers should be fully prepared for their client’s session before it begins. This includes having the exercise routine developed, setting up equipment, clearing the space of any clutter, checking the environment (temperature, lighting) and being available several minutes before the session to greet and welcome clients as they arrive. Older adults, in general, appreciate and expect a high degree of organization, cleanliness and punctuality. Many also enjoy the social aspects of the exercise session just as much, or more, than the exercise itself. Therefore, it is beneficial to greet

the clients by name and spend some time hanging out with them both before and after the session. This builds rapport and trust which will motivate them to continue exercising and continue their training with you or your facility. It is equally, and potentially more, important to help clients build relationships with other clients. Small group training is a great way for clients to get to know one another and support each other. For 1-1 training clients, make a point to introduce them to other clients that are working out at the same time and to talk about clients they might know.

It is also a great time to do a pre-workout check-in with each client to make sure that there aren't any new issues or injuries that you need to be aware of. During this "pre-check" you should ask specifically if they have any soreness, joint irritation, recent injuries or physical problems of any kind that you need to be aware of. This includes any signs or symptoms related to their pre-existing conditions. For example, if a client is diabetic be sure to ask about signs and symptoms of low blood sugar (addressed later on in this manual), if they have eaten recently and if they have checked their blood sugars. If someone has knee osteoarthritis ask them how their knee is feeling that day. In addition, when you notice someone moving more poorly than usual, limping or grimacing as they move then ask probing questions to find out what the problem is. Do not let them blow you off and say "I'm fine, it's nothing to worry about" because they may be ignoring a more serious issue that could be exacerbated by exercise. You want to help them be as safe as possible while exercising and this information will help you modify their routine for the day to accommodate any issues they are having.

It is also wise to ask about medication compliance for those that manage their conditions pharmacologically especially if they are experiencing any symptoms such as fatigue, lightheadedness, dizziness, etc. There are very few medications that directly impact the exercise prescription but it is important for your clients to continue taking their medications regularly until

they are instructed by a physician or pharmacist to reduce or discontinue them. Simply asking a client if they have taken all of their usual medications today is sufficient. If they have not and they are not feeling “normal” then that is a good indication that they should skip their workout that day.

SET - Warm-Up and Movement Preparation

The traditional general cardiovascular warm-up routines, which typically include a few minutes of light intensity cardio such as walking or cycling, increase muscle blood flow, oxygenation and temperature. This type of warm-up is typically adequate when performing cardiovascular or basic strengthening but is inadequate for a functional aging exercise program because it does not adequately prepare the body for the diverse neuromuscular demands that will be placed on it. A more effective approach is to perform a movement preparation routine that is specific to the functional exercise program but also provides a light cardiovascular stimulus. This means including multi-dimensional, multi-planar movements that lightly challenge many aspects of function such as proprioception, balance, coordination, etc. in a manner that slightly elevates heart rate, blood flow and temperature

The functional preparation should ideally include both neuromuscular and cardiovascular warm-up components. This dual-benefit is accomplished by performing a variety of movements in combinations and sequences that reflect the types of physiological demands that will be placed on the body. While there will be some similarities between movement preparation routines (e.g. multiplanar, whole-body, variety of muscle contractions, etc.) they should also include aspects specific to the exercise routine and matched to the individual’s abilities. For example, if the routine will significantly challenge balance and proprioception then the movement preparation should focus more on those components. If the routine focuses on agility and mobility then the movement preparation should specifically address those areas.

There are situations in which a cardiovascular component is unnecessary. For example, if you are working with a frail older client who needs to focus on basic strengthening and struggles with performing many activities of daily living then a cardiovascular focus may be difficult to include and is likely unnecessary. Performing a specific balance training routine with a high fall-risk (or frequent faller) client may not require a cardiovascular warmup and would likely benefit more from joint mobility movements instead.

A general rule of thumb is that movement preparation should last about 4-5 minutes consisting of about 30 seconds of 8-10 different movements but this varies widely depending on the abilities and needs of the individual client. For all clients and especially the very deconditioned or frail clients the movement preparation routine should be considered part of the workout rather than something you “should do” before the workout. When it is presented as an essential part of the workout then the clients are more likely to do it. In a small or large group setting the leader can obviously start the exercise session with the movement preparation routine. However, an option for 1-1 training is to have the client perform the movement preparation routine before the scheduled session. Make it their responsibility to arrive 5-10 minutes early in order to perform that day’s movement prep.

The intensity of the movement preparation routine should be light to moderate. By the end, the client should feel warm with an elevated pulse and respiration rate, similar to a cardiovascular warm-up. Intensity can gradually increase throughout the routine by manipulating spatial (range of motion, depth, stride length, etc.), temporal (speed, tempo), load and other characteristics of the movements as well as moving from easier/simpler to more difficult/complex movements.

Two sample movement preparation routines have been included. These routines are generic and not matched to a specific individual’s abilities. One routine is geared for lower functioning mature

adults and the other is geared for higher functioning mature adults. Each of the movements can be scaled up (progressed) or down (regressed) according to your group's or the individual's abilities.

Sample Functional Warm-up for lower functioning clients

Time: 4-5 min (20-30 seconds of each movement)

- Slow body weight squats or sit to stand
- Slow march-in-place (with balance aid if necessary)
- Heel Kicks
- Small Side Lunge with 1-arm reach to opposite knee/toe (alternate left and right)
- Tandem or Semi-Tandem Walk forward
- Quadruped reaches with opposite arm and leg (alternate sides)
- Glute bridges in supine
- “Dead Bugs” in supine - Lie on back with arms and legs pointed to the ceiling (knees bend to 90 degrees). Slowly extend arm overhead and opposite leg towards floor while keeping core engaged and back stable. Return to starting position and repeat with the other arm and leg.

Sample Functional Warm-up for independent to higher functioning clients

Time: 4-5min (30-40 seconds of each exercise)

March-in-place with torso twist (with hands behind head touch elbow to opposite knee)

- Small jump squats with hands behind head
- Body weight squats with alternating heel kicks
- Hand Walks (aka “inch worms”) – From standing reach both hands down to ground while keeping legs as straight as possible. Walk hands out until you are in a high plank position. Keeping back legs straight walk feet forward slowly to get as close to your hands as possible while maintaining relatively straight legs. Repeat.
- Alternating knee to chest in high plank position
- Grapevine (carioche) left and right
- Airplanes alternating left and right (single-leg deadlift motion with no load)
- Agility ladder drill at moderate speed

Joint mobility is another area that is appropriate for the pre-workout routine since many older adults have mobility restrictions that affect their ability to move well. Joints such as the ankle, hip

and thoracic spine may need some extra attention in order for the person to be able to move with better ease and less discomfort during the main training component to follow. Mobility flows can be infused into the movement preparation routine or addressed separately. Since individuals vary widely in this area it is recommended that you individualize the mobility routine for each client and have them perform it before the movement preparation and/or at home on a regular basis. When performing these as part of the pre-workout routine it is best to choose movements that do not depend on long, slow holds. Static stretching to improve joint mobility is best utilized at the end of the routine when the muscles are more compliant. Therefore, it may be appropriate to include some mobility flows before the exercise session and then end with static stretching to improve mobility at the end of the session.

GO – The Workout

Following the movement preparation routine, the client should be ready for the training routine. More information will be provided later in this manual regarding program design since this will vary widely depending on the client's functional level and needs. However, there are some general guidelines that are important to remember in every training session.

Build self-efficacy – Older adults are often new to exercise and don't have much confidence in their ability to exercise properly. The average older adult has not engaged in regular exercise, sports or other challenging movements. They often don't understand exercise terminology or have any familiarity with standard exercise equipment. This is magnified for those that have chronic conditions, balance issues and other functional problems. An individual with osteoarthritis, for example, typically experiences symptoms such as pain, discomfort, and reduced range of motion during their daily activities and expect exercise to exacerbate those symptoms. They fear injury and are hesitant to try new movement patterns or challenge themselves. A beneficial concept is to

start with success. This means starting out with simple, low-intensity movements that they can perform successfully with minimal pain and discomfort.

Focus on Movement Quality: Getting clients to move well is just as important as getting clients to move more. While we want our clients to exercise intensely we also want them to be able to move better. Don't sacrifice movement quality in order to increase intensity. This is especially true for the more complicated, multi-dimensional movements. How well they perform more complicated movement patterns can tell you a lot about their overall movement capability and the level of progress they are making. Remember the "90% Rule" when progressing their program.

Be Ready to Adapt: The exercise program is created for the client and not the other way around so be ready to adjust the program as needed during the session. Even with a thorough pre-check before the session there is often the need to make changes due to the client's energy levels, pain or motivation. Monitoring your clients closely while they exercise and soliciting their feedback can help you determine when a change of course is beneficial. This can include regression or progression of specific movements or moving from one kind of program (i.e. skill-based, strength-focused) to another or simply adjusting the intensity.

Shorter May be Better: While it is common for training sessions to last 60 minutes there are benefits to using shorter sessions of 30-45 minutes. It is difficult for frail and pre-frail clients and those with specific conditions (such as Parkinson's and Dementia) to have the energy and endurance to workout for very long so shorter sessions are more appropriate. Clients of all ages are busy and do not have a lot of time for exercise so shorter sessions are more appealing to many. Shorter sessions cost less and are therefore more affordable for a larger number of people which means more potential clients. It may seem challenging to create an effective exercise routine that only lasts 30 minutes but it is not as difficult as it might initially seem if some adjustments are

made. For one, the movement preparation and post-workout stretching portions may need to be performed on their own outside of the 30 min session. Secondly, the routine needs to be as efficient as possible by moving quickly from one movement to the next. This doesn't mean rushing through the routine or creating a high metabolic demand but simply not wasting time in between exercises.

READY – The Cool-Down

Following, or at the tail end of, a workout should be a cool-down period to ensure that clients are safe to leave. For most non-metabolic workouts, it is sufficient to take 2-3 minutes of lower intensity work to allow their heart rate and respiration to decrease. In these situations, there is usually no need to check heart rates. However, for a higher-intensity metabolic workout it may take 5-10 minutes of lower intensity work to allow for recovery and checking heart rates is advisable to ensure that they have recovered. A longer cool-down (10 min) is recommended for some conditions, such as hypertension.

This is also the most appropriate time to perform static stretching which can be pre-formatted based on the routine or individualized for each client. Hold each stretch for 30-60 seconds while encouraging the client to relax as much as possible and to continue breathing deeply. You may choose to play relaxing music during this time while you help them with their stretching form, provide encouragement for their effort during the workout and give them instructions for what to do as they leave (see GO section to follow).

GO – What to do as Clients Leave

End the session as it began – with a personal check-in with each client and farewell. The check-in is to make sure they did not experience any undue discomfort or aggravation during the workout and to get their feedback on the exercise experience. For any clients that report experiencing any issues during the workout ask them to stay for a couple of extra minutes so that you can address

them in private. It is best to not allow a person experiencing any kind of unusual symptoms to leave on their own without someone to continue monitoring them.

The farewell should be positive, encouraging and upbeat. Smile, give high-fives or hugs, and let them know you can't wait to see them again for their next training session. Even if the workout was challenging for them or they didn't enjoy it as much as usual, ending with lots of positive energy will help them to leave on a high note. For new clients this is especially important as they may have been apprehensive about the session or feel that they did not do "well". This type of low self-efficacy is common among older adults who have never exercised so you want to reassure them so that they continue exercising.