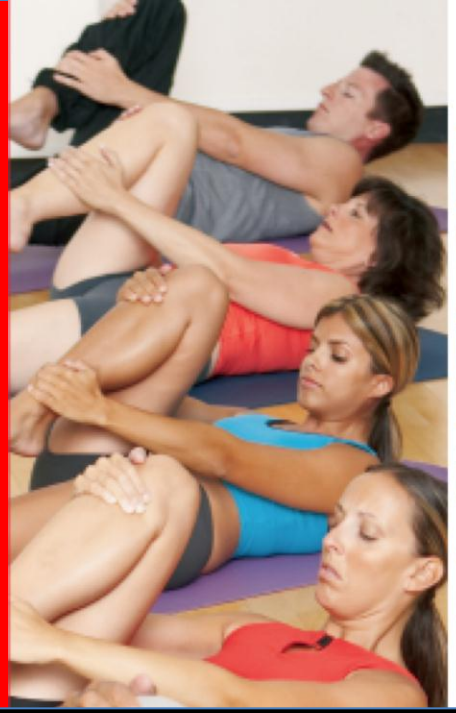

ACE Group Fitness Instructor University Curriculum

Chapter 3: Group Exercise Program Design

Learning Objectives

- Upon completion of this chapter, you will be able to:
  - Explain general group exercise recommendations for healthy adults
  - Determine the difference between student-centered and teacher-centered instruction
  - Identify the principles of a safe and effective warm-up
  - Design a safe and effective cardiorespiratory segment
  - Program safe and effective exercises for a muscular strength and endurance segment
  - Offer safe and effective choices for improving range of motion (ROM) in a flexibility segment

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Introduction

- Today, group exercise program design potentially involves:
  - Empowering people with the ability to improve their quality of life
  - Expanding participants' social engagement by connecting them with others
- Individuals who participate in physical activity for enjoyment and to achieve goals are more likely to have better self-efficacy.
- Social support contributes to motivation for, and adherence to, physical activity.

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General Group Exercise Recommendations for Healthy Adults

- American College of Sports Medicine (ACSM, 2010) exercise programming guidelines for healthy adults include:
  - Frequency
  - Intensity
  - Time (duration) or repetitions
  - Type (activity)
- A table of these recommendations is presented on the next slide.
- Guidelines and appropriate group exercise design help promote physical activity.

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General Exercise Recommendations for Healthy Adults

General Exercise Recommendations for Healthy Adults				
Training Component	**Frequency** (days per week)	**Intensity**	**Time (Duration) or Repetitions**	**Type (Activity)**
Cardiorespiratory	>5 or >3 or 3–5	Moderate (40% to <60% $\dot{V}O_2$R/HRR) Vigorous (≥60% $\dot{V}O_2$R/HRR) Combination of moderate and vigorous (40% to <60% $\dot{V}O_2$R/HRR; or ≥60% $\dot{V}O_2$R/HRR)	>30 minutes* 20–25 minutes* 20–30 minutes*	Aerobic (cardiovascular endurance) activities and weightbearing exercise
Resistance	2–3	60–80% of 1 RM or RPE = 5 to 6 (0–10 scale) for older adults	2–4 sets of 8–25 repetitions (e.g., 8–12, 10–15, 15–25; depending upon goal)	8–10 exercises that include all major muscle groups (full-body or split routine); Muscular strength and endurance, calisthenics, and neuromuscular (balance and agility) exercise
Flexibility	>2–3	Stretch to the limits of discomfort within the ROM, to the point of mild tightness without discomfort	>4 repetitions per muscle group Static: 15–60 seconds; PNF: hold 6 seconds, then a 10–30 second assisted stretch	All major muscle-tendon groups Static, PNF, or dynamic (ballistic may be fine for individuals who participate in ballistic activities)

*Continuous exercise or intermittent exercise in bouts of at least 10 minutes in duration to accumulate the minimum recommendation for the given intensity

Note: $\dot{V}O_2$R = $\dot{V}O_2$ reserve; HRR = Heart-rate reserve; 1 RM = One-repetition maximum; RPE = Ratings of perceived exertion; ROM = Range of motion; PNF = Proprioceptive neuromuscular facilitation

Source: American College of Sports Medicine (2010). *ACMS's Guidelines for Exercise Testing and Prescription* (8th ed.). Philadelphia: Wolters Kluwer/ Lippincott Williams & Wilkins.

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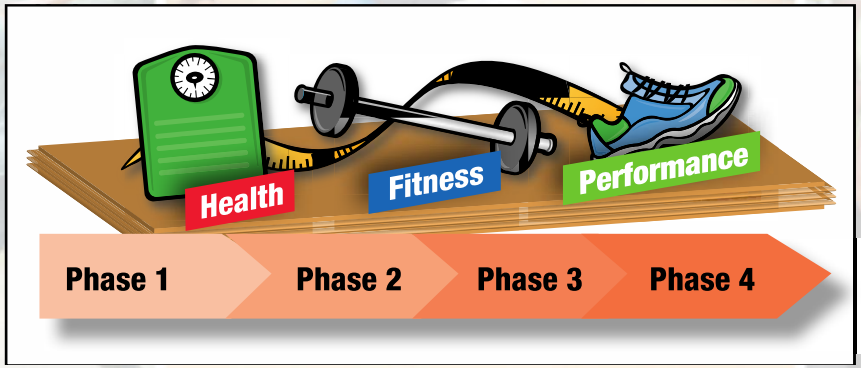
ACE Integrated Fitness Training™ Model

- A model for exercise program design developed to guide personal trainers
- GFIs can apply the core concepts of the model in a group fitness setting.
- The ACE Integrated Fitness Training (ACE-IFT™) Model consists of two components, each of which is divided into four phases.
  - The two components are functional movement and resistance training and cardiorespiratory training.
  - Rapport is the foundation for success throughout the model.
- A table that describes the ACE-IFT model is presented on the following



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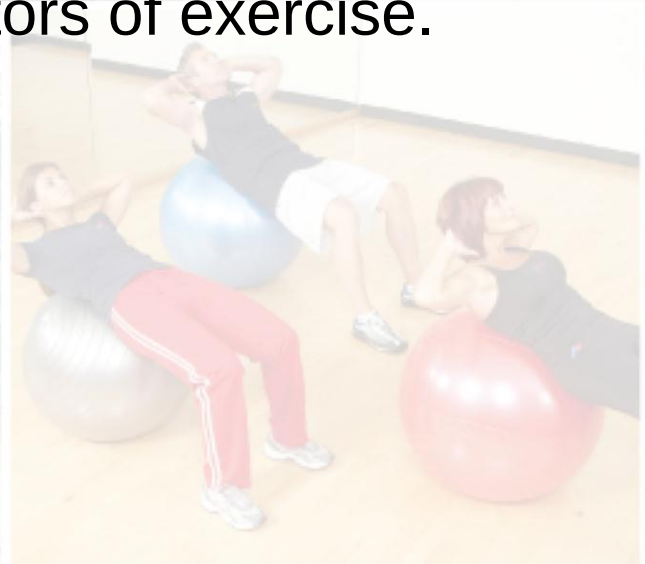
ACE-IFT Model–
Training Components and Phases

ACE Integrated Fitness Training Model— Training Components and Phases				
Training Component	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**
Functional Movement & Resistance Training	Stability and Mobility Training	Movement Training	Load Training	Performance Training
Cardiorespiratory Training	Aerobic-base Training	Aerobic-efficiency Training	Anaerobic-endurance Training	Anaerobic-power Training

Group Exercise Professionalism and Attitude

- Safe and effective group exercise instruction requires a high level of effort and a positive attitude on the part of the GFI.
  - Leaders with a positive mood transfer their positive attitude to the group members.
- For long-term participant adherence, a GFI should focus on the health- and enjoyment-related factors of exercise.



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Student-centered Instruction

- Student-centered instruction enhances participants' interests and addresses their needs.
- Teacher-centered instruction does not create an ideal environment for participants, as it fosters:
  - Dependence
  - Intimidation
  - Unattainable goals
  - Quick fixes
- The student-centered instructor strives to establish an atmosphere of:
  - Independence
  - Encouragement
  - Attainable goals
  - Realism

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Additional GFI Leadership Styles

- Visionary
  - Inspires by articulating a heart-felt shared goal and then giving feedback about progress toward the goal
- Coaching
  - Addresses an individual's personal aspirations by asking him or her what they are and then provides feedback as the individual moves toward the goal
- Democratic
  - Draws on what others in the group know to make better decisions for the group as a whole
- Affiliative
  - Builds emotional capital and harmony through having fun together

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Creating a Healthy Emotional Environment

- Enjoyment during exercise is optimized when a positive and supportive leadership style is coupled with a supportive environment.
- To tap into participants' positive emotions, GFIs should:
  - Greet participants by name as they enter the room
  - Use positive words and expressions
  - Move around the room and interact with participants
  - Wear a variety of exercise clothing
  - Encourage participants to use mirrors as a form of exercise technique feedback rather than a way to judge themselves

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Class Format

- The major considerations for most group fitness classes are:
  - Warm-up
  - Cardiorespiratory exercise
  - Muscular strength and endurance training
  - Flexibility exercise/cool-down
- Regardless of the specific class format, offering a variety of options and not being restricted to a typical 60-minute class duration is likely to meet more people's health goals.

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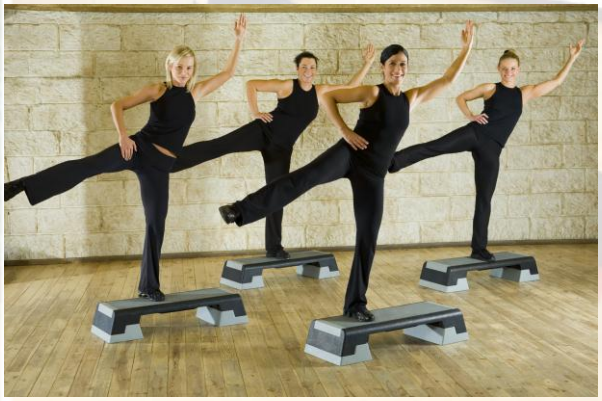
Warm-up

- Appropriate dynamic movement in the warm-up:
  - Raises internal body temperature
  - Allows important physiological reactions to take place
  - May reduce the risk of injury
- Rehearsal moves allow participants to practice movement, which leads to success.
- If static stretches are included, they should be performed after temperature elevation.

Cardiorespiratory Segment

- GFIs can promote independence and self-responsibility.
  - Encourage participants to work at their own pace.
- Gradually increasing intensity is necessary to facilitate important physiological reactions.
  - Blood flow redistribution
  - Heart rhythm adaptations
  - Respiratory changes
- GFIs can reach participants of all fitness levels by offering intensity and/or impact options.



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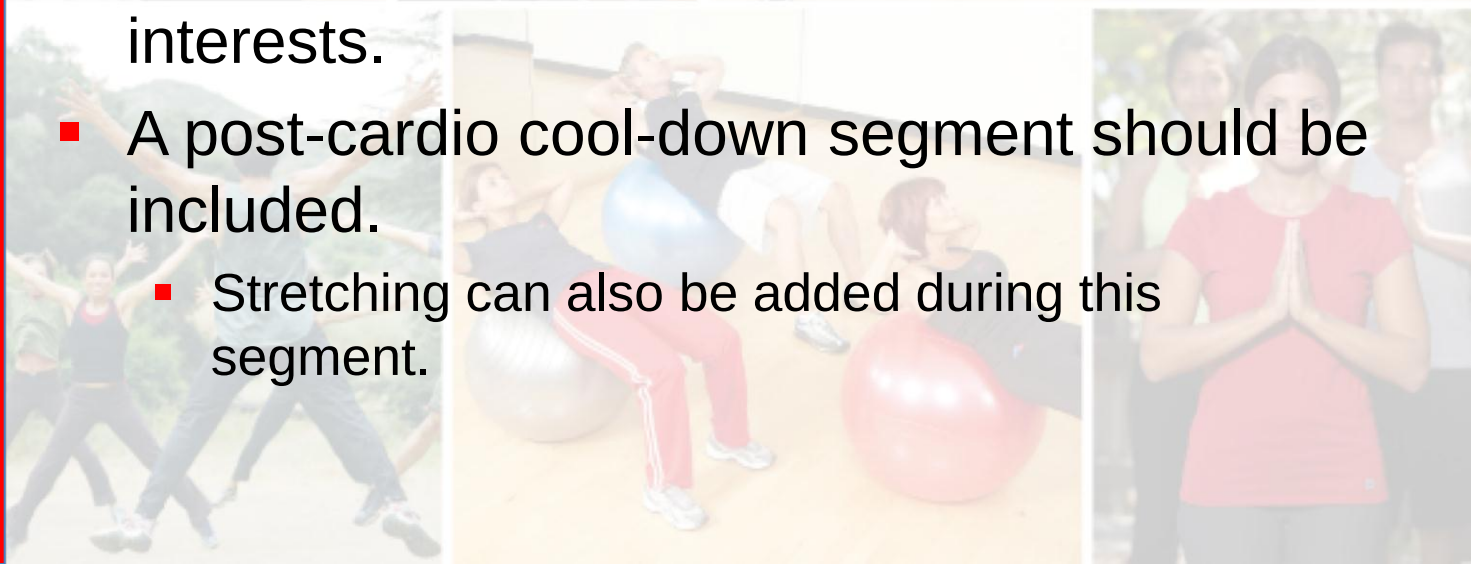
Cardiorespiratory Segment

- Building sequences can be included when teaching complex movements.
- A variety of muscle groups can be targeted to balance muscles used in other daily activities.
- Enjoyment of exercise is enhanced when music selection matches participants' interests.
- A post-cardio cool-down segment should be included.
  - Stretching can also be added during this segment.



Adding Weight to a Cardiorespiratory Workout

- The use of 1- to 3-lb weights can increase exercise heart rate (HR) by five to 10 bpm.
- Weights greater than 3 lb are not recommended.
- Wrists weights are preferred over hand-held weights.
- The beneficial effect of using ankle weights is lower than upper-extremity weights.
  - The use of ankle weights is not recommended.
- The use of weighted vests during exercise can be beneficial.
  - The weight of the vest should not exceed 5–10% of the participant's body weight.

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Muscular Strength and Endurance Segment

- The GFI's focus should be on achieving muscle balance.
  - Helps to promote functional fitness
- The GFI must demonstrate proper form and then teach it to individual participants.
- Giving appropriate cues is one of the most important aspects of the muscular strength and endurance segment.
  - Verbal
  - Visual
  - Physical

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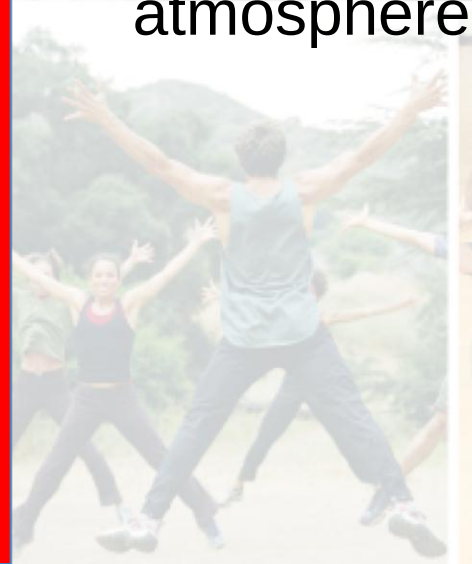
Muscular Strength and Endurance Segment

- Resistance-training equipment can be used to provide muscle overload and a fun environment.
  - The key is to individualize exercises for various ability levels.
- Music and exceptional cueing can be used to create an effective instructional atmosphere.




Flexibility Segment

- It is important to stretch muscle groups that:
  - Have been used in the group exercise activity
  - Are commonly tight
- Stretching should be comfortable for participants.
  - Stretching to the point of shaking should be discouraged.
- Invoking the stretch reflex through ballistic stretching should be avoided.
- Relaxation and visualization can be used during the flexibility segment.

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Summary

- This chapter covered:
  - General group exercise recommendations for healthy adults
  - The difference between student-centered and teacher-centered instruction
  - Principles of a safe and effective warm-up
  - Designing a safe and effective cardiorespiratory segment
  - Programming safe and effective exercises for the muscular strength and endurance segment
  - Offering safe and effective choices for improving range of motion (ROM) in a flexibility segment

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