Strong Seniors

NAFTA Certification

Module 1

INTRODUCTION

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Who is NAFTA

National Aerobics & Fitness Trainers Association

1996

http://www.naftafitness.org

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Requirements

Pass Successfully at 70%

CPR/AED Current Certification

15 CEUS

Current CPR/AED
1 NAFTA Homestudy

2 Years

Module 2

STATISTICS AND THEORIES

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Aging Statistics

- Active Agers are the fastest growing gym population
- Are we living longer & living healthier
- A study showed people who nap 20-60 minutes per day, feed on a Mediterranean diet of a “never starving, never stuffed” mentality and avoid smoking, live up to 40% longer than those who eat three large meals a day and stay relatively sedentary and depressed (Huppert)
- Over 10,000 people in the USA, daily celebrate a 65th birthday, many facilities across the county have not implement programs and practices for our chronologically enriched friends. By 2030, 20% of Americans will be older than 65 (70 million people).
- Baby Boomers will reach 65 by 2030. In the year 2000, 35 million people were 65 and older, which is 13% of the world’s population.
- Baby boomers” is a term that refers to people born between the years of 1946 and 1964

Strong Seniors

- The ACE Senior Fitness Manual divides people over 50 into three main groups.
- The Frail individuals are not self efficacious.
- The Independent group includes individuals who are self-efficacious and capable of participating in organized movement programs.
- The Elite/Athlete group includes those who transcend even the physical parameters addressed in most group movement classes dedicating their time to train in accordance with physical demands appropriate for those with lower chronological, biological and functional ages.

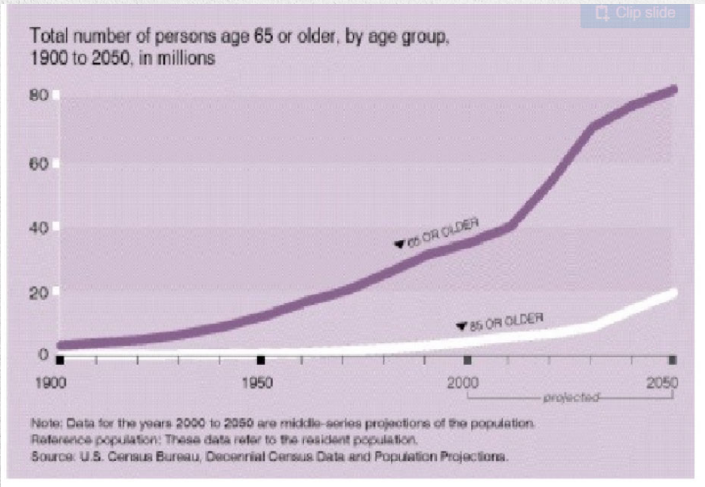
Five Major Groups of Seniors

- **Level 1-** Healthy No major medical problems: in relatively good condition for age; has exercised for the past several years
- **Level II** - Ambulatory/ Non-active No major medical problems; has never participated in a structured exercise program
- **Level III** - Ambulatory/ Disease Diagnosed as having severe coronary artery disease, arthritis, diabetes; chronic obstructive pulmonary disease
- **Level IV** - Frail Elderly Rules on partial assistance from professional staff or ADL, can stand or walk short distances (usually less than 100 feet) with an assistive device, spends most of the day sitting
- **Level V** – Wheelchair Dependent Relies on total assistance from professional staff for ADL; cannot stand or walk

Aging Clientele Categories

1. Functional Age (FA) refers to our ability to be able to accomplish the Activities of Daily Living (ADLs) that we both need and want based on our demographic and culture. We will add moments that make our participants more independently self- efficacious every day so that we decrease or improve their functional age.
2. Social Age (SA) refers to our ability to interact successfully with those in our cultural framework. When we train with success to work in small groups to accomplish task-dependent projects, science considers this appropriate training for social age
3. Psychological Age (PA) refers to our ability to use the brain's major functions to accomplish the tasks we need to demonstrate self efficacious independence on a daily basis

Total Number of Persons Age 65 or Older



National Trends

- Age >65-13%
  - 1900: 3 Million
  - 2000: 30 Million
- 2030: 1:5 will be equal to or older than 65
- Fastest growing: equal to or older than 85
  - 4 million (2000) to 19 million (2050)

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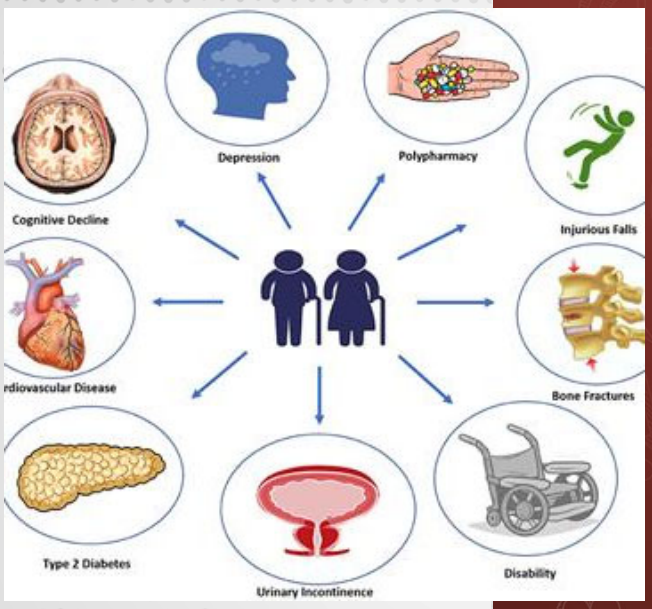

Module 3

PHYSIOLGICAL CHANGES

Musculoskeletal Changes

- Osteoarthritis, which is an inflammation of joints due to use, wear and tear. Synovial fluid becomes less viscous and decreases in amount as we age which causes more bone-to-bone friction. Cartilage which lines the joints also becomes thin which causes more friction between the bones. Ligaments and tendons both become less elastic which makes the joints feel tighter.
- Osteoporosis, which is bone loss that involves a loss of overall bone density. Bones tend to become less dense as we age because they contain less calcium. And vitamin D levels drop. Vitamin D works in conjunction with calcium.
- Osteopenia which is a lower-than-normal bone density and precursor to osteoporosis.

Musculoskeletal Changes

- Sarcopenia, which is the age-associated loss of skeletal muscle mass and usually stems from a general decrease in overall mobility. Muscle types exist primarily in two types. Type I are slow-twitch muscle fibers used for endurance like activities. Type 2 are fast-twitch muscle fibers used for short bursts of more intense activities, such as powerful movements. Most research agrees that sarcopenia involves a loss of Type 2 fibers first. Because the fast twitch type 2 fibers are lost first, movements are not as powerful or quick.
- Gout, which is a form of inflammatory arthritis caused by an overabundance of uric acid. Uric acid is a byproduct of metabolism which the body should be able to clear through the kidneys and liver.

Musculoskeletal Changes

- Fractures & falls: as we age our balance decreases which our falls and fractures.
- Dehydration: research reveals that this population is often less than adequately 14 hydrated due to many factors, including a lack of memory to drink, the fear of incontinence and a decrease in the overall sensation of thirst and hunger
- Basal metabolic rate, which is the energy required to keep the body functioning under clinical resting conditions. As the body ages, the metabolic rate drops 1- 2% per decade usually due to a shift in body composition and activity.

Hormonal/Endocrine Conditions

- Diabetes, which is an impaired control of blood glucose when the pancreas does not or cannot make sufficient amounts of insulin, is present in two types. Active agers should be most concerned with Type 2 diabetes which is the occurrence where muscle cells age due to wear and tear and the insulin receptors on the cell membrane become less sensitive to insulin
- Menopause is technically the one day in a female's life where she has been free of a period for an entire year. The hormones that change in the stage of life include testosterone, estrogen and progesterone. Following menopause estrogen levels drop to about 50% of the levels prior to menopause while progesterone can drop to zero. Testosterone levels rise as we see women take on slightly more masculine characteristics such as facial hair and an increase in visceral belly fat. The drop in estrogen decreases the pliability of the arteries so, combined with increased visceral belly fat, the risk of heart attack increases

Hormonal/Endocrine Conditions

- Thyroid dysfunction is a more common problem as we age. The thyroid is an endocrine gland in the neck that regulates the metabolism of the body. The thyroid stimulating hormone (TSH) regulates the pulsation of T3 and T4 which regulate the basal metabolic rate.

Neurological Conditions

- Dementia and Alzheimer's, which is a slow or quick loss of mental faculties including memory and brain function. The number of nerve cells in the brain typically decreases but new connections can be made in existing surviving cells.
- Parkinson's Disease is a degenerative disorder of the central nervous system mainly affecting the motor system. The motor symptoms of Parkinson's disease 15 result from the death of dopamine- generating cells in the midbrain. The causes of this cell death are poorly understood.
- Vision loss, which some research tells us occurs gradually at a rate equal or greater to the loss of hearing. This vision loss maybe due to the growth of cataracts and glaucoma, Glaucoma is a disease involving pressure on and behind the eye that must be surgically removed.
- Hearing loss, which occurs in over 40% of the population after age 50, (Gonsalves) is often due to the damage of the hairs and nerves in the cochlea. This decreases the amount of sound waves that can enter the brain.

Cardiovascular Conditions

- High blood pressure or hypertension is an increase of pressure in the walls of the arteries. The more of a certain solute such as sodium, glucose, or triglycerides increases the amount of water that is drawn into the blood stream.
- Strokes are also known as cerebrovascular accidents (CVA), cerebrovascular insults (CVI), or brain attacks and occur when poor blood flow to the brain results in cell death. There are two main types of stroke: ischemic, due to lack of blood flow and hemorrhagic, due to bleeding on the brain tissues.
- High blood cholesterol is caused by an overindulgence of saturated fat. There is also a genetic component which increases the amount of cholesterol that the liver makes. It is important to remember that cholesterol comes in basically two forms. High density lipoproteins (HDL) are made during exercise and actually play a healthy role in the body by scavenging the blood stream for low density lipoproteins (LDL).

Psychological Conditions

- Sleep issues often accompany depression and loneliness. A byproduct of dehydration, sleep deprivation also can lead to a decline in the ability of the muscles to contract as necessary for gait efficiency.
- Depression and loneliness: because of the growing importance of technology and introspection of many societies, several research reports reveal that depression and loneliness among this population is on the increase.
- COVID, isolation for extended family.

Psychological Conditions

- Therapy Dogs for Active Agers are growing in number (aspca.org). Trained, docile dogs visiting sedentary, chronologically-enriched participants can bring happiness, joy and, in some cases, movement to otherwise depressed, lonely and sedentary individuals
- Therapists will bring dogs to retirement homes to sit on laps and allow stroking and sometimes licks. In some cases, dogs offer the opportunity for adults to walk them in leashed, controlled situations and scenarios. All walks are always short and supervised because the leash connecting the adult to the dog is a potential trip hazard.

Strategies to incorporate

- Cardiovascular and strength components to reduce excessive body fat, lower high blood cholesterol and high blood pressure and boost metabolism with or without thyroid dysfunction
- Need to encourage hydration before, during and after workouts. Suggest that clients bring water to the workout in sealed, unbreakable containers that are easy to open and close.
- For vision: bright-colored clothing to assist those with visual impairments to ease of seeing movements and include movement patterns that strengthen the muscles around the eye controlling vision in all directions while simultaneously increasing neuroplasticity benefits

Strategies to incorporate

- For hearing: appropriate-level music which should be under 90 decibels according to current (OSHA, BASES) standards.
- Consider the following guidelines as well:

1. Consider starting music at 60 decibels and raising only as necessary
2. Use smartphone Apps to help learn what 90 decibels of music actually sounds like
3. Place students who either like music on the 90-decibel limit of sound or have more difficulty hearing in general nearer to the speakers and place students with more sensitive ears farther away from the speakers

Strategies to incorporate

- For sleep issues: research indicates that appropriately-intense workouts have been shown to increase sleep quality in this population, which in turn promotes greater balance and hormone generation
- For depression: we will incorporate partner and group activities with group dynamics for social age skills
- For mental health, we will incorporate neuroplasticity training, which involves brain training together with verbal tasks and movement both in individual formats and social (partner) formats, possibly incorporating riddles or other brain challenges while doing locomotor or nonlocomotory skills.

Benefits of Exercise

- Physical Benefit

1. Prevents and manages most chronic diseases and disabilities • Helps to prevent cardiovascular disease
2. Decreases blood pressure
3. Increases the good cholesterol (high density lipoprotein cholesterol)
4. Decreases triglycerides
5. Improves glucose and insulin metabolism, which helps with diseases like diabetes
6. Increases bone density, which may lead to a reduced risk for osteoporosis
7. Increases ability to perform daily activities (combing hair, getting dressed)

Benefits of Exercise

8. Increase's energy (playing with grandchildren, walking the dog)
9. Increase's balance, which may reduce the risk of falls or reduce the severity of a fall
10. Improves body composition (decreases fat, increases muscle mass)
11. Helps to prevent and reduce pain associated with chronic pain syndromes
12. Decreases risk of injury and enhances immune function
13. Increases mobility and gait

Module 4

Strong Senior Class format

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Class format

- Class design should reflect applied exercise-science principles and appropriate exercise techniques.
- Class components
  - Warm-up (5–10 minutes)
  - Conditioning (20–45 minutes)
  - Cool-down (5–10 minutes)
  - Stretching (7–10 minutes)
- The intensity and duration of each class component varies depending on the general skills and abilities of the class participants.

General categories of conditioning

- Cardiorespiratory training
  - Traditional aerobics
  - High impact
  - Low impact
  - Step aerobics
  - Kickboxing fitness
  - Group indoor cycling
  - Aquatic exercise
- Muscular strength and endurance conditioning
  - Group strength training
  - Stability ball training
  - Medicine ball training
  - Circuit training
- Mind-body exercise
  - Yoga
  - Pilates
  - Tai chi

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Strong Senior Warm-up

- Warmups need to be increased to 20-25% of the total movement time. Therefore, the warm-up should be between 11-13 minutes. This increased time allows the synovial fluid to become less viscous which allows reduced friction between bones in the synovial joint cavity. Synovial fluid has an egg white consistency and is found as a very small component of the extracellular fluid.
- Flexibility work should emphasize dynamic active stretching in the warm-up. Active dynamic stretching includes full range of motion with little or no resistance.
- The warm-up period should also include weight-bearing activity which mimics the greatest portion of the training period. This includes rehearsal moves which will also be seen in the upcoming exercises. These rehearsal moves support the specificity principle of fitness. Warm-up and train the components you want to improve in your daily life or the lives of seniors.

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Warm-up exercise selection

- Specificity
  - Warm-up movements should mimic movements that will be used later in the conditioning portion of class.
  - This allows the involved motor units to “rehearse” movement patterns slower or at a lighter intensity prior to training.
- Elevating core body temperature
  - Begin with small, isolated movements and progress to larger, full-body movements.
  - Exaggerated movements using many muscle groups will aid in increasing internal body temperature.
- Dynamic flexibility
  - Research on the benefits of stretching prior to exercise is inconclusive.
  - Stretching in the group fitness class warm-up should be dynamic in nature.
  - Range-of-motion exercises should focus on important postural muscle groups (i.e., anterior shoulder, hip flexors, low-back, hamstrings, calves) and those that will be used later in class.

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Three phases of the conditioning component

- Post-warm-up phase
  - Prepares the cardiovascular, cardiorespiratory, and musculoskeletal systems for more intense activity
  - Emphasizes continuous, large-muscle movements that further increase body temperature and heart rate
- Peak phase
  - Intensity and heart rate build gradually.
  - This is the target training zone for class participants.
- Cool-down
  - Allows the body to gradually re-establish equilibrium at a lower intensity
  - Intensity and heart rate should reach the lower end of the target range.
  - Cardiac complications are more likely to occur with the cessation of exercise. Therefore, an appropriate cool-down may:
    - Prevent excess pooling of the blood in the lower extremities for at-risk individuals
    - Promote faster removal of metabolic wastes

Functional Applications and Group Exercise

- Functional training places the neuromuscular and skeletal systems under a variety of physical demands with an emphasis on multiplanar, integrated movements.
- The goal is to safely enhance:
  - Activities of daily living
  - Occupational performance
  - Exercise and/or sport performance

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Functional training

- Interdependent physical demands managed by the neuromuscular system
  - *Acceleration*—requires force production
  - *Deceleration*—requires force reduction
  - Dynamic stabilization—occurs in all three planes of motion

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Functional training

- Functional demands can be seen in a task as simple as standing up and sitting down:
  - Standing up requires the quadriceps, gluteals, and hamstrings to concentrically contract to produce enough force to overcome gravity to pull the body up from the chair (accelerate).
  - Sitting down requires the quadriceps, gluteals, and hamstrings to eccentrically contract to resist gravity and lower the body down in the chair (decelerate).
  - Throughout the actions of standing up and sitting down, the hip abductors and adductors work to stabilize the pelvis so the movement is performed efficiently and in the appropriate plane of motion (dynamic stabilization).

Exercises that promote function

- Squats and lunges
- Presses
- Reaches
- Planks
- Balance movements
- Progression:
  - Begin with the least challenging movements and progress to more advanced exercises.
  - Move from most stable to least stable positions.
  - Always provide modification options for balance-challenged participants.

Why Strength Training for Seniors is Essential

1. Preventing Bone Fractures

- Bone fractures and breaks are all too common in older adults because of loss of bone density and osteoporosis. While there can be other causes of osteoporosis, and it may need to be managed medically, there is plenty of evidence that exercise can improve bone density. Weight-bearing aerobic exercise and strength training increase density and reduce the risks of breaks.

2. Strength Training Increases Muscle Mass

- By the age of 70, the average adult has lost 25 percent of muscle mass. And this is due mostly to disuse and inactivity. Any kind of exercise can reverse this loss and build muscle mass and strength, but weightlifting, strength training, and resistance training are best.

Why Strength Training for Seniors is Essential

3. Improving Functional Movement

- Increasing strength through training is essential for improving overall function. Older adults can gain more mobility, walk farther, and even reduce the need for assistive devices like canes and walkers with regular strength training.
- Building strength also helps with all kinds of other functional movements, like sitting or getting in the bathtub. This in turn just makes life easier and opens up access to more activities.

4. Better Body Composition

- Older adults, especially women, tend to gain more fat while they lose muscle mass. This puts them at risk for chronic illnesses. All kinds of exercise help to maintain good body composition, and strength training is an important component.

Why Strength Training for Seniors is Essential

5. Strength Training for Seniors Benefits Mental Health

- Just as important as physical health in aging is mental health. Getting older can put you at risk for loneliness and social isolation, depression, and other mental health issues. Building strength, which increases mobility and function and improves overall health, boosts mood and overall quality of life.

Strength Training Safely

- Safety should always be top of mind, regardless of the age of your client. But seniors require extra caution. Many older clients who come to you may have little to no experience with training. Those who have trained in the past may want to push to do more than their current bodies can safely handle. It's your job to guide them slowly through safe and progressive strength training.

Phase 1 – Knowledge is Power

- For one to two weeks spend most of your time educating your client. This should include teaching good form and safety measures, for the gym and training sessions, but also in case they want to try the exercises at home. In addition to working on form for a variety of exercises, train your client how to breathe during each movement.

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Strength Training Safely

Phase 2 – Train Don't Strain

- Now you can get into a regular routine of strength training moves. Try to hit all the muscle groups in each session. A good goal is to get in one or two sets of each exercise for eight to 15 reps. Continue to work on form and practice breathing.
- This is also the right time to work with your client on listening to their bodies. Talk about the difference between good pain from fatiguing muscles and bad pain, which may be joint pain or an injury. Don't progress during this one- to two-week phase. Just get the routine in and focus on safety.

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Strength Training Safely

Phase 3 – Going Strong

- When you feel your client is educated enough in good form, breathing, and safety, and has mastered their current moves, you can start to change things up for greater gains. Vary the workout for each individual client and consider:
- Increasing weights.
- Adding more reps or sets.
- Adding in new moves.
- Modifying any exercises as needed.
- Trying different types of strength training, like resistance bands or bodyweight exercises.

Stretching

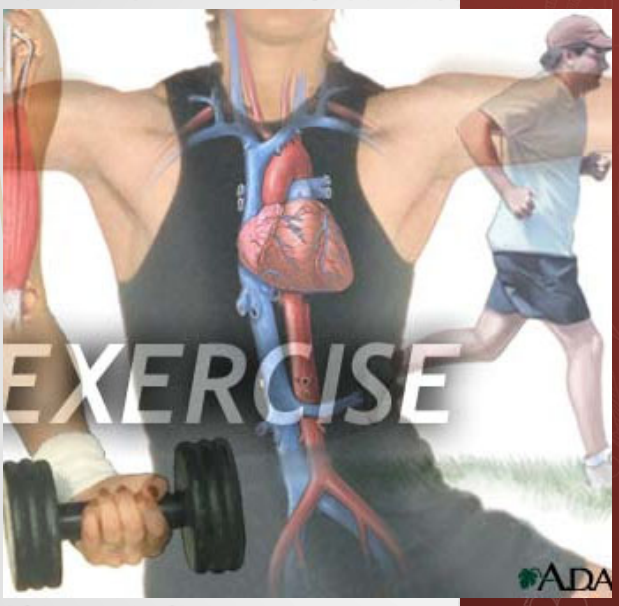
- Primary goal is to enhance flexibility (range of motion)
- Stretching “warm” muscles reduces tissue damage and increases the potential for the muscle elongation to remain after the stretch is removed.
- Static stretching of low force and long duration is recommended.
- Stretches should emphasize commonly tight postural muscles (i.e., anterior shoulder, hip flexors, low-back, hamstrings, calves) and the major muscle groups used during class.
- Stretching in combination with slow, deep breathing may also offer stress reduction and relaxation benefits.

Incorporating modifications

- Group fitness classes often consist of participants with varying levels of fitness and skill.
- Instructors must be aware of specific modifications for varying the intensity to accommodate all class participants.
- Music tempo
  - In a class with multiple participant skill levels, bpm should accommodate the least fit.
  - The more advanced participants can use larger arm and leg movements to increase intensity.
- The size of arm and leg movements
  - Longer lever-based movements increase intensity.
  - Shorter lever-based movements decrease intensity.
- Instructors should demonstrate different levels of intensity each time a new move is introduced.
- Instructors should spend most of their time performing the less-intense versions of the exercises in a class with varying participant skill levels.

Exercise progression

- Progression in every class
  - Rarely does an instructor introduce a new class and continue to have the same participants time after time.
  - Intensity needs vary from one participant to another.
  - Gradually building complicated movements in a step-by-step manner in each class will ensure that participants of varying levels of skill and fitness will be successful.
- Progression over time
  - For situations when an instructor starts with a beginner-level class and progresses the participants to a more advanced level, knowledge of appropriate progression principles is important.



Module 5

Aerobic Exercise Intensity

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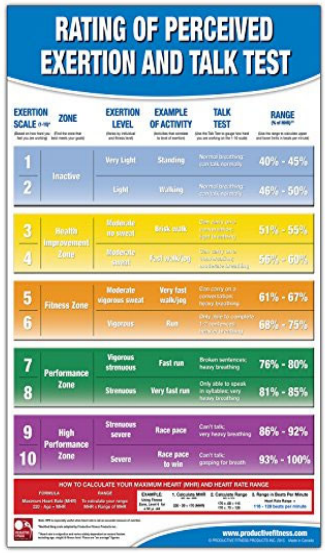
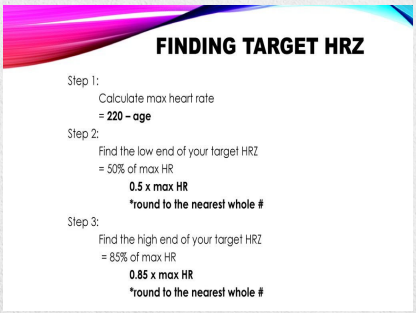
Borg Scale

- Developed by Dr. Borg, the RPE scale provides a standard means for subjective self-evaluation of exercise intensity level.
  - Original scale: 1 to 20
  - Revised category ratio scale: 1 to 10
- Medications
  - Participants who take substances that may affect heart rate (e.g., beta blockers, cold medications with sympathomimetic activity, nicotine, caffeine) should use RPE as the method for monitoring exercise intensity.



Karvonen Formula

- The Karvonen Formula is a mathematical formula that helps you determine your target heart rate (HR) training zone. The formula uses maximum and resting heart rate with the desired training intensity to get a target heart rate.
- 220 – age – RHR x % intensity + RHR = TARGET
- Karvonen Heart Rate Calculator



Intensity

- Start gradually, especially in frail elders
- Moderate exercise can usually be prescribed safely without an ETT (more on this later)
- Moderate exercise = 60-79% MPHR (MPHR is 220 – age)
- 3-4 MPH walk, comfortable, can continue more than 20 minutes

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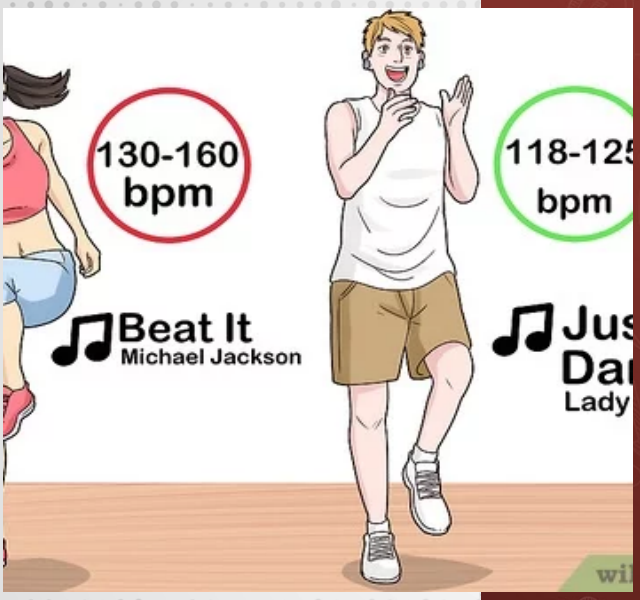
Monitoring intensity in the group exercise setting

- If using music and measuring heart rate, turn off the music so the beats do not interfere with pulse counting.
- A peripheral pulse (e.g., radial) is encouraged over the use of the carotid pulse; if using the carotid pulse, press lightly.
- Check intensity during the middle of the conditioning segment so it can be modified if necessary.
- When checking a pulse, keep participants moving to prevent pooling of the blood in the lower extremities.
- Use a 10-second pulse count if using target heart rates.
- Give modifications based on results and encourage participants to work at their own pace.

Specific Precautions and Modifications

- Worrisome signs and symptoms
- Drug-exercise interactions
  - diuretics
  - vasodilators
  - beta-blockers
  - insulin
  - sympathomimetics
- Adjust for illness, climate changes
- Risks of exercise



Module 6

Music Selection

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Music selection

- Music beats
  - Regular pulsations that are an even rhythm and occur in a continuous pattern
  - *Downbeat*—strong pulsations
  - *Upbeat*—weak pulsations
  - *Tempo*—speed of music expressed as beats per minute (bpm)
- General guidelines for selecting music tempo
  - Less than 100 bpm: post-cool-down stretching
  - 120–160 bpm: warm-up, pre-stretch, aerobic conditioning, and cool-down
  - 110–130 bpm: floor and resistance-training exercises
- Strong Senior: BPM 110 - 132

Module 7

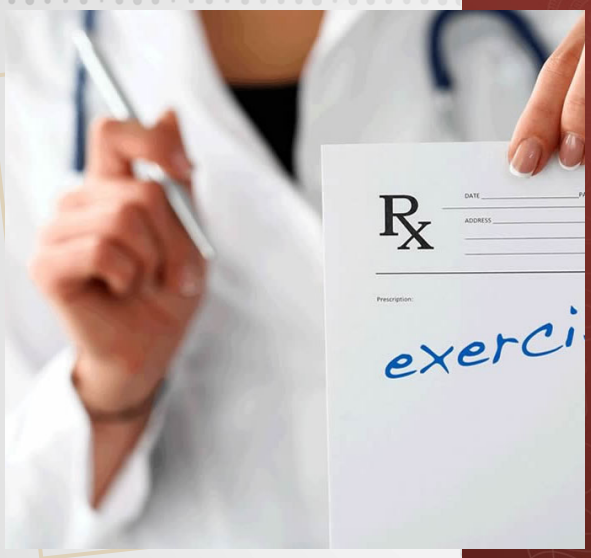
Equipment

Exercise equipment

- Equipment should be assembled and stored per the manufacturer's instructions.
- A schedule of regular service and repair should be established.
- Group fitness instructors should instruct class participants on equipment safety and proper use.
- Instructors should check equipment prior to use.

Exercise equipment

- Instructors must be able to demonstrate varying levels of intensity using a variety of exercise equipment.
- Instructors should be familiar with basic non-equipment exercises that replace those that are performed with equipment.
- Knowledge of common group fitness exercise equipment is important, such as:
  - Exercise bands
  - Stability balls
  - Medicine balls
  - Hand-held weights
  - Weighted bars
  - Step benches



Module 8

EXERCISE PRESCRIPTION

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Writing an Exercise Prescription

- Approaches to increasing exercise
  - Does writing a prescription increase exercise?
- Improving compliance with Rx
- FITTS
  - Frequency
  - Intensity
  - Time
  - Type (warmup, exercise, cooldown)
  - Specific precautions and modifications

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RX Exercise: FITTS

- Frequency 3X week
  Intensity Comfortable, HR 60-79% MPHR
  Time 20 minutes, 5 minutes warm up and cool down
  Type Walking, stretching before and after

- Specific precautions and modifications
  Increase gradually, don't exercise when joints inflamed

Approaches:

- Strategies
  - Public Health Strategy
  - Primary Care Strategy
    - Primary Care Providers will routinely assess and counsel patients on frequency, duration, type, and intensity of physical activity
  - Health Systems strategy
    - Combines public health and primary care models

Does MD Advice make a Difference

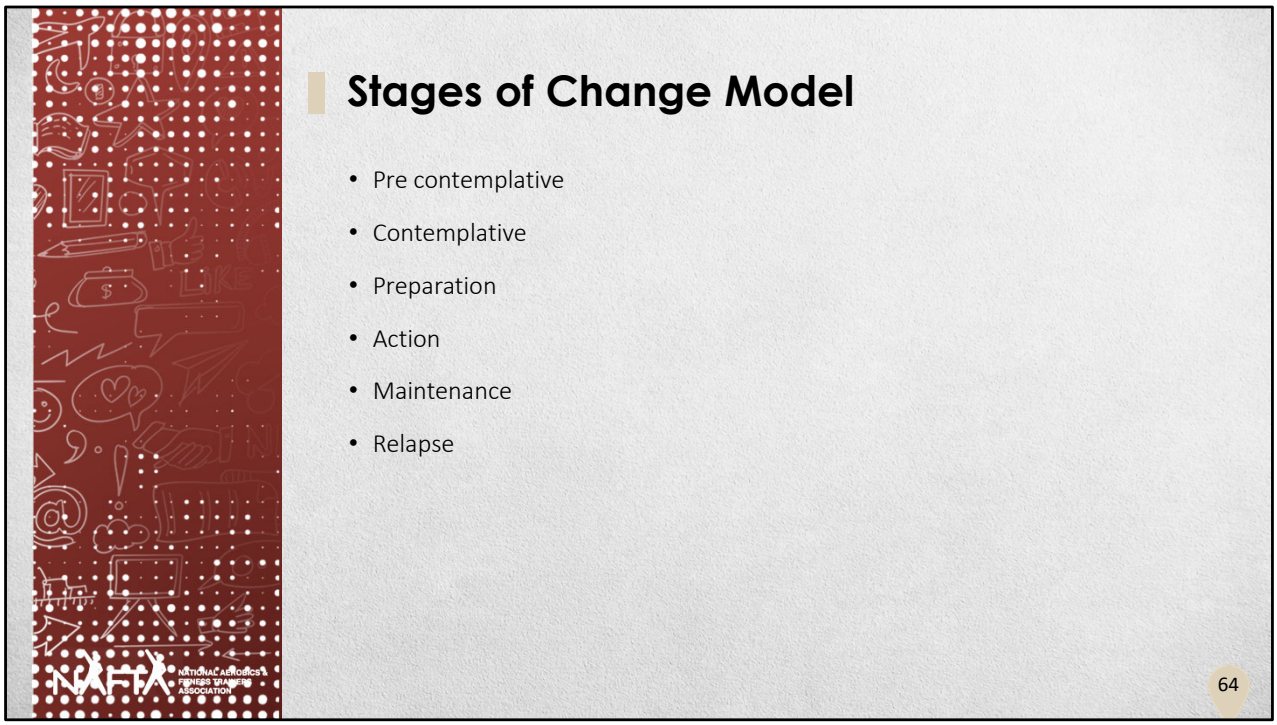
- Factors predicting enrollment in a community-based exercise program for seniors
- Seniors who had “ever” been prescribed exercise by a physician were 60% more likely to enroll in an exercise program than those who had “never” been prescribed
- RCT of educational program on health promotion for older people
- 42 general practitioners and 267 patients followed for 1 year
- Intervention group exercised about 45 minutes more per week than control group
- Another study suggests writing Rx increases likelihood of exercising

US Preventative Health Service Task Force

- "We found it difficult to assess the efficacy or effectiveness of the interventions examined. Although research suggests that counseling can be effective in some specific situations, the evidence is insufficient to generally conclude that counseling is effective. Existing studies do not provide a clear picture of the specific features of counseling that relate to its effectiveness."

Improving Compliance with Rx

- Understand Clients values and goals:
  - Function: What activities do you value?
  - What benefit will you achieve?
  - How much social and emotional support do you have (or need) to be active?
  - What barriers to reaching your goals do you see?
  - What lifestyle changes are you willing to make?



Pre Contemplative
What, me exercise?
Identify barriers
Identify patient's conception of physical activity
Provide information/education
"Think about becoming active, think about what benefits you might gain, talk to other people who are active"

Contemplative
Well, maybe…
Praise, reinforce interest in change
Assess/increase patient's self efficacy
Identify barriers
Provide information/education
Keep the door open

Preparation
I want to join a health club…
Assess barriers ($, transportation, social)
Assess/increase patient's self efficacy

Provide information/education
Write a Prescription that has 70% chance of success

Action
I'm doing it!
Praise/reinforcement
Articulate goals
Tangible rewards
Follow up

Maintenance/Relapse
Praise/reinforce progress
Injury prevention
Relapse prevention (avoid, adapt, adopt)
Prevent demobilization with lapses

Compliance

- Convenience
- Social benefits/peer group experience
- Safety
- Fun
- Cost
- Patient's competence and confidence
- Might be greater adherence to lower rather than greater intensity RX

Exercise: Resistance Training

- ⇧ strength and muscle mass
- Cross training effect
- ⇧ lean body mass
- ⇧ tendon strength, flexibility, ROM
- May improve balance
- May be required before endurance training possible

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Exercise: Endurance Training

- Improves all age-related changes except maximum HR
- Improved body composition
- Little effect on strength or balance
- Magnitude of response similar in older and younger persons

Exercise: Balance

- Most studies use high-tech/multimodal interventions
- Unclear which type of exercise is best
- Tai Chi promising and available
- Emphasize movements needed for function
- Beware fall risk

Exercise: Cool Down

- Goal = gradual decrease in vasodilatation and heat to decrease risk of dizziness and syncope
- Especially important in patients with CAD
- 5-10 minutes
- Slow walking or stretching

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RX Exercise: FITTS

Frequency	3X week
Intensity	Comfortable, HR 60-79% MPHR
Time	20 minutes, 5 minutes warm up and cool down
Type	Walking, stretching before and after
Specific precautions and modifications	Increase gradually, don't exercise when joints inflamed

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Module 9

Fitness Tips & Goals

Safety First

- Exercise is safe. However, helping the older adult to follow a few safety recommendations can help him/her stay injury free and active. Prior to starting an exercise program, the safety recommendations list below should be reviewed with the older adult, who should be encouraged to ask questions and raise any of his/her own safety concerns. Providing the older adult with the safety recommendations list may be beneficial.
- The older adult should speak to his/her doctor or health care provider before initiating an exercise program or if he/she has concerns.
- If the older adult has any of the symptoms listed on the previous page, medical advice/attention should be sought.
- If the older adult experiences chest pain/pressure, trouble breathing or shortness of breath, light-headedness or dizziness, or nausea during exercise a doctor should be contacted.
- Activities inducing sharp pain should be avoided.

5 Myths about Exercise and Older Adults

- There is no point to exercising. I am going to get old anyway.
- Elderly people should not exercise. They should save their strength and rest.
- Exercise puts me at risk of falling down.
- It is too late. I am already too old to start exercising
- I am disable. I can not exercise sitting down.

Physical Health Benefits of Senior Exercise and Fitness

- Exercise helps seniors maintain or lose weight.
- Exercise reduces the impact of illness and chronic disease
- Exercise enhances mobility, flexibility, and balance in seniors.

Senior Exercise and Fitness: Tips for Getting Started

- Get medical clearance
- Consider health concerns
- Start slow
- Recognize problems

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Goal Setting Guide

- Goals should be set because goals…
- Increase motivation to succeed
- Increase confidence
- Provide an individual with direction
- Increase effort Increase chances of success/goal attainment

Goals must be... SMART

- **S**pecific : describe exactly what the older adult will do, when and how much
- **M**easurable: set goals with a standard that must be reached (for example, workout 30 min/day)
- **A**djustable: adjust goals in case of a setback or a faster than expected progression
- **R**ealistic yet challenging set moderately difficult goals
- **T**ime-based: set a deadline to prevent putting it off or trying to go too fast

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- Thank you so much for your interest and attention.
- Your Exam, will be loaded to your account
- If you have any question, please do not hesitate to contact the NAFTA Corporate office.

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