Functional Assessment and Exercise for the Aging Adult

Strengthening Principles
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Note to Participants: There are interactive pop-up questions throughout this lecture. If you choose to pause the lecture and return at a later time, a natural break time would be after answering the interactive questions. (You are able to pause at any time and the presentation will “remember” where you were. It’s just a more natural time to pause after the interactive questions.) For your convenience, this outline reflects where/when within the lecture the interactive questions occur.

This lecture has 116 slides and is 115 minutes in duration.

I. Introduction
   A. Definition of evidence-based exercise prescription
   B. Course objectives
   C. Questions to consider
   D. Barriers to effective exercise prescription
   E. Why strengthening exercises?
   F. What is strength loss?
   G. A historical perspective of strengthening exercise

Interactive Questions – slide 18 @ 20 minutes

II. Principles of strengthening interventions
   A. Physical stress theory
   B. General principles of exercise interventions
      1. Overload
         a. What is overload?
            i. Overload for aging adults
            ii. Intensity and frail adults
         b. How to determine intensity
            i. 1 repetition max
            ii. 10 repetition max
         c. Frequency
         d. Detraining
         e. Sets
         f. Repetitions

Interactive Questions – slide 46 @ 62 minutes

2. Specificity
   a. Type
   b. Relationship between strength and function
      i. Functional strength vs. absolute strength
ii. Strength vs. power
iii. Type II fibers
c. Power and function
d. Optimal intensity for increasing muscle power
   i. Velocity training
   ii. Power is task-specific
e. Functional activities and task specificity
   i. Theory behind exercise specificity
   ii. Importance of specificity during exercise training
f. Eccentric vs. concentric exercise
g. Parameters to consider

Interactive Questions – slide 65 @ 89 minutes

h. Number of exercises necessary for strengthening (and compliance)
i. Injuries
j. Progression
k. How long before results are seen?
l. Contraindications
m. Exercise prescription for strengthening
n. Functional strengthening

Interactive Questions – slide 83 @ 103 minutes

3. Adapt vs. challenge
   a. What happens once the client is safe?
b. Tasks required for community living
c. Patient/client goals
d. How to challenge...
   i. Gait
   ii. Transfer ability
   iii. ADLs
   iv. Balance

Interactive Questions – slide 99 @ 111 minutes

III. Examples of strengthening exercises