Lifespan Cardiovascular Institute
Rhode Island Hospital • The Miriam Hospital
Newport Hospital
Delivering health with care®

Center For Cardiac Fitness
Pulmonary Rehab Program
The Miriam Hospital

Resistance Training Lecture

~"The method of conditioning which involves the use of any form of resistance to increase the ability to exert or resist force" ~

Benefits:

- ✓ *Improves cholesterol*
- ✓ *Reduces musculoskeletal/joint injury*
- ✓ *Improves balance*

Increases…

- ✓ *Weight loss*
- ✓ *Bone density*
- ✓ *Lean body mass*
- ✓ *Muscle strength/endurance*
- ✓ *Glucose tolerance/insulin insensitivity*

Principles:

Specificity *~ The type of demand (training regimen) placed upon the body dictates the type of adaptation that will occur*
"If you want to get better at walking- strengthen your legs!"

Overload *~ When assigned a workout or training regimen of greater intensity than the body or specific muscles are accustomed to doing*
"You need to feel like you are working (within reason-not causing pain)"

Progression *~ Gradual overload needed to produce higher levels of performance (i.e increases in strength, power, endurance, and functional status)*
"As you get stronger, you need to gradually increase your exercise"

Detraining *~ Upon cessation of a resistance program (not including recovery phase) you lose the adaptations accrued during training (i.e cellular to structural changes)*
"Once you stop exercising regularly-you start to lose the benefits"

Guidelines:

1. ***Adequately warm up!***
   Perform at least one aerobic exercise prior to starting your resistance training

2. ***Range of Motion (ROM)***
   Perform each exercise through its full ROM to maintain or enhance joint mobility

3. ***Proper Breathing***
   Maintain normal breathing pattern during execution of repetition (exhale against resistance phase);
   DO NOT HOLD BREATH!

4. ***Control Resistance***
   Perform both concentric (lifting phase) and eccentric (lowering phase) in a controlled manner
   "Control the motion both when lifting and lowering"

5. ***Proper Body Mechanics***
   Promote maximal stability and spinal support with appropriate body position

"Use good posture and technique to get the most out of the exercise"

General Resistance Training Prescription:

Sets: *1-2 per exercise*
Repetitions*: 10-15 per set with onset of muscular fatigue ("somewhat hard")*
Frequency*: 2-3 Nonconsecutive sessions per week*
"Do not lift the same weights 2 days in a row. The muscle needs to rest in order to get stronger and to avoid causing damage to the muscle tissue"
Rest interval: *30 seconds to 1 minute between sets of the same muscle group "If you do one set of 15 repetitions, take a short rest before you do the next set"*
Progression:
#1 Perform initial load to a maximum of 15 reps
#2 If your able to complete load to 15 reps with proper form and RPE (Rating of Perceived Exertion) lessens to "moderate," then you may increase the load (2-5 lbs at a time)
#3 Go ahead and add a second set!

For Example:
If you have been doing biceps curls with a 2 pound weight for 2 sets of 15 repetitions and you feel that you are not working that

hard, then increase the weight to 3-5 pounds and start with 1 set of 15 repetitions. Work your way up to 2 sets of 15 repetitions with the new weight to progress more if you are not too sore or tired.

Rating of Perceived Exertion Scale

(How hard do you feel that you are working?)

0- Nothing at all

0.5-Very, very light (just noticeable)

1- Very Light

2- Light (weak)

3- Moderate

4

5- Heavy (strong)

6

7- Very Heavy

8

9

10- Very, very heavy (maximal)

You do not want to be working any harder than a 4 on this scale!

REMEMBER: Do Not Hold Your Breath While Using Weights!