

## Special Populations

### Obesity

- Begin with exercises that support body weight (bike vs. treadmill, machines vs. free weights or body weight exercises)
- Include Nutritional counseling

### Diabetes

- Counter the possibility of acute low blood sugar resulting from combination of exercise and insulin supplementation
- Keep fruit juice or sugared foods handy
- Nutritional counseling may be indicated
- Be aware that Type I diabetics who are taking beta blockers are at risk for hypoglycemia because the drugs mask the symptoms of an insulin reaction

### Cardiovascular Disease

- Post coronary patients advised to start with low intensity (40% IRM)
- Proper breathing is important
- Avoid isometric contractions that induce the Valsalva maneuver
- The American Association of Cardiovascular and Pulmonary Rehabilitation Guidelines for Cardiac Rehabilitation Programs (1995) recommended training weightloads that can be comfortably performed for one set of 10-15 repetitions (about 60% of IRM)
- Proper warm up and cool down is especially important
- Monitor heart rate and perceived exertion during training sessions
- Avoid overhead activities initially during training

### Osteoporosis

- For best results start with 50 – 60% of IRM and progress to 70-80% of IRM.
- Avoid spinal flexion exercises or twisting exercises
- Avoid Hip adduction / abduction exercises against resistance machines

## Special Populations (cont)

### LB Pain

- Include trunk flexion and extension exercises
- Include education on proper bending, lifting, positioning

### Arthritis

- Avoid exercises that increase joint pain
- Brief sessions may be tolerated better than longer sessions
- Decrease program variables during periods of exacerbation
- Maintain wrists in neutral
- Avoid overhead lifts with resistance
- Pool programs especially beneficial

### Depression

- Start with beginner workout
- Studies have shown higher intensities to be more effective in decreasing depression (Singh, Clements, Fiatarone 1997)

### Visual / Auditory Impairments

- Proper lighting
- Good acoustics
- Not overcrowded or too many distractions
- Face clients
- Demonstration may be more beneficial than verbal explanation
- Speak slowly

### General Frailty

- Start with a single set
- Lighter workloads
- Fewer exercises
- Progress gradually