

COPD and Exercise

COPD is a progressive lung disease that causes persistent airway obstruction. This can happen because of emphysema, or chronic bronchitis. A COPD sufferer will have a lot of difficulty in breathing and may have a chronic cough or wheezing. Other signs and symptoms include reduced lung elastic recoil and limitation in air flow; breathing will become much harder to do; the breathing muscles will become weak because of hyperinflation, which overly stresses these muscles; and other ventilation-related signs. People with COPD will have difficulty in emptying their lungs and impaired gas exchange in emphysema because of destruction of the alveolar-capillary membrane.

However, exercise can improve the use of oxygen, exercise (work) capacity, and can lower the anxiety level of COPD patients. Some of the direct benefits of exercise in this case include:

1. Cardiovascular reconditioning
2. Lowered need of ventilation at a given rate of effort
3. Lowered hyperinflation
4. Reduction in shortness of breath (dyspnea)
5. Better muscle strength
6. Better flexibility
7. Improved body composition – more muscle, less fat
8. Improved balance

Exercise is critical for all those with COPD – but communication between the trainer and the medical personnel is vital, to account for changes in clinical status. If any important change happens, the exercise program must be reviewed and reassessed.

What are the exercise options for this group? For aerobic improvement, large muscle activities are best, such as cycling, swimming or walking. The goal in aerobic exercise is to increase the lactate threshold and ventilatory threshold – better quality breathing; to reduce incidents and severity of shortness of breath; to develop healthier breathing patterns; improve ADLs (activities of daily living). Do 1-2 sessions per day of aerobic activity at a moderate pace, 3-5 days per week. As with all exercise in this population, it's important to monitor quality of breathing.

To increase strength, free weights and tubing can be used to increase the maximum number of

reps and sets a person can do. This will increase lean body mass, reduce body fat, and improve ability to do ADLs. Perform lots of reps with low resistance 2-3 days per week.

To increase a person's Range of Motion (ROM), activities such as daily stretching (after exercise or at the end of the day), or Tai Chi will improve ROM and flexibility which in turn can reduce level of pain and muscle stress.

Neuromuscular activities such as walking and balance exercises will help to improve a person's gait and balance, and so improving the overall quality of life.