

## Benefits of a Consistent Exercise Program for Chronic Respiratory Conditions

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**L**iving with Alpha-1 Antitrypsin Deficiency (the genetic form of COPD) for many years had taken a physical, psychological, and economic toll on Dana Jones' life. Participating in a recent clinical study for a new medical device (NIOV™) that provides positive pressure and a mixture of oxygen and air volume to supplement Dana's own breathing allowed Dana to exercise for a longer period of time, reducing his symptoms of de-conditioning (a decline in muscle strength and overall all physical fitness) and shortness of breath. Now he uses this device on a daily basis and is part of a group pulmonary rehabilitation program that meets twice a week for four hours per week. His physical and psychological condition has improved, and he is able to concentrate more on his work and hobbies.

We all know that exercise is good for the body. However, because of the increase in chronic health conditions, this basic premise needs to be re-emphasized as a critical part of any treatment and maintenance plan for quality health care. Low oxygen levels in some individuals may prevent activity as there is little fuel for the body to expend energy. Reduced activity creates de-conditioning of the muscles further

preventing routine activity. This downward spiral may have a big impact on quality of life.

There is strong scientific evidence documenting the benefits of exercise for chronic respiratory conditions. Physical activity requires deep breathing to respond to the body's metabolic demands. Deep breathing opens up areas of the lungs that are not typically

open, adding to surface area for the exchange of oxygen and carbon dioxide. Increased heart rate with activity improves heart tone and circulation of oxygenated blood. By building muscle mass, the body improves its ability to use oxygen more efficiently, which in turn helps the body to do more activity with less oxygen required. An approach that has shown promising results in clinical settings is the introduction of "positive inspiratory pressure and volume" to supplement a patient's own breathing. This is called

non-invasive ventilation (NIV). Using NIV in pulmonary rehab has been shown to reduce many symptoms of chronic respiratory conditions such as shortness of breath while maintaining or increasing oxygen saturation and exercise duration.

As more people with chronic respiratory conditions discover the benefits of exercise, they are eager to share their success stories. For instance, Robert Stoker, an Alpha-1 patient living in Derry, N.H., uses the same device-- NIOV™--that Dana uses for his daily activities. "I can go out and about more often and I am able to do more including pulmonary rehab," says Robert. He believes his life has greatly improved because of exercise and that he will be better prepared for his future lung transplant if he continues on his exercise regimen.

Before you start an exercise program, consider the following:

1. Discuss your plan with your physician to review your medications (all) and ensure they are as effective as possible.
2. Make sure your diet is appropriate for exercise. A proper diet provides the proper fuel for exercise and can control carbon dioxide build up. A physician or dietitian can assist you with a diet plan.
3. If you need oxygen, make sure the system you use can meet your needs with exercise. A knowledgeable respiratory therapist can help you with your oxygen needs.
4. If you become short of breath while exercising, even after proper medication and oxygen therapy, consider using a device that provides supplemental pressure and volume. This may be helpful for your exercise program (ex: device used by Dana and Robert)
5. Make sure you are getting adequate sleep. If you feel you have a sleep disorder, discuss your treatment options with your physician.
6. Attend a pulmonary rehabilitation program to learn the basics of living with your respiratory condition.
7. If possible, exercise with a friend or group. Adding a social element to exercise has been shown to be one of the positive markers for ongoing success with exercise.
8. Stick with a program. Soon, you should feel the benefits of exercise.
9. Share your story with others!

Exercise is a valuable option in the care and treatment of people with chronic respiratory conditions. Scientific research has shown the benefits of an active life style. Give exercise a try, you'll be glad you did. 



Robert Stoker, an individual living with COPD