Surgical Options for COPD Treatment

When do doctors consider surgery for COPD treatment, and what types of procedures may be used?

By Madeline Vann, MPH
Medically reviewed by Cynthia Haines, MD

For some patients with chronic obstructive pulmonary disease (COPD) who have persistent symptoms despite efforts to control them, surgery can improve quality of life and reduce the risk of severe COPD symptoms by 30 percent during the year following surgery.

COPD Treatment: Considering Surgery

There are many factors involved in finding out whether you can — or should — have an operation to treat COPD. Some examples:

- Your smoking status (you cannot smoke for six months prior to surgery)
- Your participation in a pulmonary rehabilitation program
- The balance between the benefit of surgery in improving your health and the risks of the surgery itself
- Your age
- Your ability to carry out daily activities, such as walking, dressing, etc.
- Other mental and physical health diagnoses, such as cancer or depression

Once you and your doctor determine that surgery may be a good COPD treatment for you, the next step is deciding which type of surgery you’ll need. There are three basic types of surgical options for COPD treatment:

- Lung volume reduction surgery (LVRS)
- Bullectomy
- Lung transplant

COPD Treatment: LVRS

One of the changes that occur over the course of COPD is that your lungs may have more open space than you can really manage. The theory is that increase in lung volume is part of the disabling factor in lung diseases. The problem is not in breathing in but breathing out.

Many people with COPD cannot fully empty their lungs. It is the increased effort by your body to do so that creates the sensations of shortness of breath and chest tightness. LVRS is seen as a possible solution to the problem of having more lung space than you are able to use. In this surgery,
a surgeon will take out some of the damaged tissue in your lungs, thereby reducing the amount of space available.

However, LVRS is not an option for all patients. For example, patients with certain types of emphysema do not do well with this surgery, and patients who can be physically active without severe symptoms do not gain enough from the surgery to justify it. LVRS patients are 65 years old on average, and some do go on to receive lung transplants as COPD progresses.

For those who are candidates, however, LVRS has been shown to:

- Improve lung function
- Improve quality of life
- Improve ability to be physically active
- Reduce the risk of dying within three years
- Reduce the risk of severe symptoms by up to 30 percent
- Reduce or eliminate the need for oxygen

**COPD Treatment: Bullectomy**

Patients with a specific type of emphysema (bullous emphysema) develop "air bubbles" called bullae due to the destruction of the walls between the air sacs in their lungs. In a bullectomy, the surgeon removes these bubbles. Surgery is typically done for people struggling with symptoms, or who have large areas of involvement in the lungs.

This can improve quality of life and extend life somewhat — but is not an option for everybody with COPD, unfortunately for most people, the bullae eventually return. The success of this surgery depends on the size and number of the bullae and how much undamaged lung tissue is present.

**COPD Treatment: Lung Transplantation**

For younger patients (under age 60) with severe COPD, getting a new lung or set of lungs is a good option. Nearly two of every three single lung transplants (58 percent) are in people with idiopathic emphysema (where the cause is not known) or those with the inherited form of emphysema, which strikes at earlier ages than most COPD. The five-year survival for lung transplants is about 50 percent.

Donors are rare, which means you could wait up to two years or more. Although a lung transplant significantly improves breathing and quality of life, it is a major surgery, and you will always have to take medications that suppress your immune system to help your body accept the new organ.

Surgery isn't an option for all patients with COPD. But for people with severe COPD that is no longer responding to other forms of COPD treatment, there may be several surgical options to consider for improving quality of life.