

Causes of death shifting in patients diagnosed with COPD

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Patients suffering from chronic obstructive pulmonary disease (COPD) who are on long-term oxygen therapy (LTOT) have more to worry about than breathing difficulties. According to a new study by researchers in Sweden, COPD patients on LTOT today face an increased risk of death from cardiovascular disease and other non-respiratory ailments. The study's results suggest physicians need to carefully monitor for these conditions and treat them to help decrease the risk of mortality in these patients.

The findings were published online ahead of the print edition of the American Thoracic Society's [American Journal of Respiratory and Critical Care Medicine](#).

"In recent decades the demography of patients starting LTOT for COPD has changed markedly," said Magnus P. Ekström, MD, respiratory medicine physician and researcher, Blekinge Hospital, Karlskrona, Sweden. "In Sweden, the mean age of patients starting LTOT increased from approximately 66 to 73 years between 1987 and 2000. There has also been a significant increase in the proportion of women receiving LTOT for COPD; in fact, the majority of patients starting LTOT are now women."

"In this study, we wanted to determine if these changes had resulted in a shift in the causes of [death](#) for COPD patients with long-term oxygen therapy," he said.

The researchers enrolled 7,628 adult patients who started LTOT for COPD between January 1987 and December 2004. Patients remained in the study until LTOT was suspended or until death. Study participants were followed for a median of 1.7 years; 5,497 patients died during the course of the study. The underlying causes of death were obtained from the Swedish Causes of Death Register.

The researchers found that while the risk of death decreased annually for both respiratory disease (2.7 percent) and lung cancer (3.4 percent), there were annual increased risks of circulatory disease (2.8 percent) and digestive organ disease (7.8 percent). The overall risk of death also increased by 1.6 percent per year during the study period. In total, the risk of death for [cardiovascular disease](#) increased by 61.5 percent between 1987 and 2004, the authors noted.

"In oxygen-dependent COPD, mortality has decreased for respiratory disease and increased for non-respiratory causes, such as cardiovascular disease," Dr. Ekström said. "This supports the importance of optimized diagnostics and treatment of coexisting diseases and conditions to improve survival in severe COPD."

Dr. Ekström said the shift in mortality is partly attributable to an increase in the age of patients starting LTOT, which in turn may be related to decreases in tobacco use in the country. The risk of death from cardiovascular disease has been shown in previous studies to increase with age, he noted.

"Tobacco exposure has decreased overall in Sweden, resulting in a delay in the decline of lung function, which means patients are generally older when they require LTOT," he said. "However, although smoking has decreased overall, the rate of decrease has been greater in men than in women. Previous studies have also shown women may be more likely to be adversely affected by smoking, which may also contribute to an increase in the number of women developing COPD and requiring

LTOT.

"In our view, the mechanism that underlies the increases in both overall mortality and [mortality](#) due to non-respiratory causes is that the patients have a progressively higher burden of coexisting diseases and conditions, and become more vulnerable with increasing age," Dr. Ekström said.

"Physicians who treat COPD with LTOT need to be aware of these shifts and to monitor for other conditions that may influence the risk of death in these [patients](#)."

Provided by American Thoracic Society

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