

# Cystic Fibrosis Research News

**Title:**

Low body mass index as a barrier to lung transplant in cystic fibrosis

**Lay Title:**

Nutritional health and lung transplantation in cystic fibrosis

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**What was your research question?**

We wanted to determine whether people with advanced cystic fibrosis lung disease and low body mass index were listed for lung transplant less often than those with higher body mass index, and whether they faced a higher risk of death without listing.

**Why is this important?**

Among people with cystic fibrosis and advanced lung disease, lung transplantation may be a treatment option. Many factors affect consideration for transplantation, one of those being nutritional status. Body mass index, a measure based on weight and height, can be used to assess a person's nutritional health. Having a low body mass index is concerning for transplant centers, because some patients with low body mass index do not recover well after transplantation. However, a low body mass index should not necessarily prevent referral or listing for lung transplant.

**What did you do?**

Combining data from the United Network for Organ Sharing and Cystic Fibrosis Foundation Patient Registries, we identified adults with the onset of advanced lung disease between May-2005 and December-2016. We looked at the relationship between body mass index and lung



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transplantation, hoping to understand whether barriers to transplantation exist for patients with low body mass index.

## **What did you find?**

Looking at a large group of adults in the United States with advanced cystic fibrosis lung disease, we found an association between low body mass index and both listing and referral for lung transplant. People with low body mass index were less likely to be listed or referred for transplant and were more likely to die without listing, compared to people with higher body mass index. We also found that depending on the region where a person lived, body mass index made a difference in rates of listing and referral for lung transplant.

## **What does this mean and reasons for caution?**

Low body mass index appears to be a barrier to listing for lung transplant in some areas of the United States. Because body mass index seems to affect decisions in some regions more than others, it raises concerns that some people may be at a disadvantage simply because of where they live. Although our findings are concerning, there are limitations to our study. First, we only had data through the end of 2016 and since then, changes in patient care have occurred. Also, there are many factors that go into decisions about lung transplantation, not just nutritional health. Because our study is not a randomized trial, we cannot prove that low body mass index alone prevents people from being listed or referred for lung transplantation.

## **What's next?**

Our findings suggest the need for a unified approach to using body mass index in decisions about lung transplant, one that is informed by new studies suggesting that people with cystic fibrosis and low body mass index can do well after lung transplantation.

## **Original manuscript citation in PubMed**

<https://pubmed.ncbi.nlm.nih.gov/34922852/>