



# Cystic Fibrosis Research News

## **Title:**

**Sex Differences in Treatment Patterns in Cystic Fibrosis Pulmonary Exacerbations**

## **Lay Title:**

Evaluating Pulmonary Exacerbation Treatment Differences in Women and Men with CF

## **Authors:**

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## **What was your research question?**

We looked to see if women and men with CF received the same therapies for treatment of a pulmonary exacerbation.

## **Why is this important?**

Pulmonary exacerbations, commonly referred to as worsening of respiratory symptoms and/or a drop in lung function requiring antibiotics, can lead to worsening respiratory disease or death in people with CF. Studies have shown that women with CF have more pulmonary exacerbations per year and are less likely to recover to their baseline lung function after receiving treatment for a pulmonary exacerbation. Evaluating whether women and men receive similar treatment therapies for a pulmonary exacerbation has not been studied before. If women and men are being treated differently, this might help explain why women with CF have worse outcomes.

## **What did you do?**

Using data from the Standardized Treatment of Pulmonary Exacerbations (STOP) cohort, we evaluated information on 220 people with CF who were admitted to the hospital for treatment of pulmonary exacerbation with IV antibiotics. We evaluated if women were more likely to have a longer treatment course of IV antibiotics and/or a longer hospital admission

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We also evaluated whether the types of antibiotics used as well as prescription of additional therapies, such as steroids, differed between women and men. We also looked to see if lung function and respiratory symptoms scores were different between women and men across 4 study visits.

## **What did you find?**

We found that women with CF were more likely to have a longer treatment course with IV antibiotics. We found no differences in hospital admission length of stay, number of IV antibiotics used, antibiotic selection or prescription of additional therapies. We found no differences in lung function between women and men across the four study visits. Even though women were more likely to receive more days of IV antibiotics, they reported worse respiratory symptoms at the end of IV therapy compare to men although this difference wasn't seen 28 days after IV completion.

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

We performed one of the first studies showing that people with CF receive similar therapies when being treated for a pulmonary exacerbation which suggests the differences in clinical outcomes between women and men with CF do not appear to be due to a treatment disparity. Our study focused on people with CF who required treatment with IV antibiotics and may not be applicable to those people with CF who can be treated with oral antibiotics for a pulmonary exacerbation. In addition, our study was done prior to widespread use of cystic fibrosis transmembrane conductance regulator (CFTR) modulator therapies.

## **What's next?**

Understanding why women with CF have worse clinical outcomes compared to men with CF remains a high priority for the CF community. Future studies in CF should look for any differences in treatment or clinical response between women and men with CF to help understand why these differences exist.

## **Original manuscript citation in PubMed**

<https://pubmed.ncbi.nlm.nih.gov/34090802/>