



Cystic Fibrosis Research News

Citation:

Sutton S, Rosenbluth D, Raghavan D, Zheng J, Jain R. Effects of puberty on cystic fibrosis related pulmonary exacerbations in women versus men. *Pediatr Pulmonol.* 2014 Jan;49(1):28-35.

What was your research question?

Does the onset of hormones during puberty affect health outcomes differently for women and men with cystic fibrosis (CF)?

Why is this important?

It has been established that women with CF have worse health than men, but we do not know the cause for this difference. One cause may be female sex hormones, which are produced starting with puberty. If we can identify puberty as a time when women's health begins to decline more than men's, we may be able to intervene and narrow the gender gap in health outcomes for people with CF.

What did you do?

We used data from the CF Foundation Patient Registry over a 30-year period to evaluate patients, aged 9-19, before and after puberty. The onset of puberty in both women and men were determined by height. We then analysed patients' lung function and number of lung infections 10 years before and after puberty.

What did you find?

We found the timing of puberty for patients with CF who are well-nourished is not significantly different than the general population. We also found an increase in lung infections in women with CF compared to men beginning between 2 and 6



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years after puberty. The presence of women's hormones, including estrogen and progesterone, may play a role in these worse outcomes.

What does this mean and reasons for caution?

Women with CF appear to be at higher risk for poorer outcomes than men with CF. Women tend to have more lung infections and earlier colonization with bacteria than men. There may be other causes of the gender outcome disparity in CF, and more work needs to be done to explain the disparity.

What's next?

Data shows that as teenagers and young adults, women with CF tend to fare worse than men. The next step is understanding of the role hormones play in airway disease.