

# **Bone Health and Cystic Fibrosis: Patient Information Part 1**

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## **Introduction:**

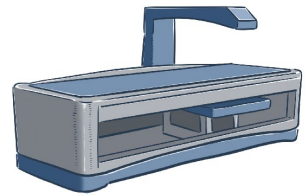
Our bones are strongest when we are young adults. Regular exercise and adequate nutrition, including vitamin D, help create stronger bones. As we get older, our bones become thinner and weaker. For individuals with Cystic fibrosis (CF), certain risk factors may contribute to increased fractures, osteopenia (weak bones) and osteoporosis (very weak bones). Assessment of bone health plays an important role in identifying people who are at greatest risk for poor bone health and who need treatment to reduce this risk.

## **What causes weaker bones or low bone mineral density in people with CF?**

Many factors contribute to low Bone Mineral Density (BMD) in CF. These include low body weight, low vitamin D levels, a history of severe lung disease or recurrent infections, long-term use of glucocorticoids (steroids), limited physical activity, later onset of puberty, and a history of diabetes. Your team will work with you to optimize your bone health if you have any of these risk factors. They will also talk to you about treatment options if your Z-score is low.

## **How do we measure bone strength?**

DXA (dual energy x-ray absorptiometry), also known as a bone density scan, can be used to evaluate BMD, a measure of bone strength. The radiation amount to which you are exposed during a DXA scan is less than a chest x-ray. The total scan time will likely be less than 25 minutes and may include the following sites of your body: spine, hip, wrist, or whole body.



## **When should I have a DXA scan?**

All adults with CF over 18 years of age should have a DXA scan to check their bone mineral density. Your clinical team may also recommend undergoing a DXA scan if you are a child or adolescent depending on your clinical history. Depending on your results, your clinical team may recommend a repeat DXA scan in 1-3 years.

## **What do my DXA results mean?**

Bone mineral density measures from a DXA are reported as a score compared to a larger population average. On your report you will see your results listed as T-scores or Z-scores. In people with CF, low bone mineral density is reported when the Z-score is less than -2.

## **Talking to Your CF Health Care Team:**

Bone health is important for the overall health of an individual with CF. If you are concerned about your bone health or risk of fractures, please address this with your CF health team. Monitoring your bone health can help identify health concerns and improve your overall CF care.

## **For More Information:**

<https://www.cff.org/managing-cf/bone-disease-and-cf>

<https://www.cff.org/what-are-causes-bone-disease-cf>

<https://www.cysticfibrosis.org.uk/what-is-cystic-fibrosis/how-does-cystic-fibrosis-affect-the-body/symptoms-of-cystic-fibrosis/bone-disease>