

Bone Health

As we get older our bones become thinner and weaker. Thinning of the bones can occur at an earlier age for people with CF.

What is bone mineral density?

Bone Mineral Density (BMD) is a measure of the level of minerals the bones contain. BMD is usually measured by a Dual Energy X-ray Absorptiometry (DEXA) scan. The measurements are an indicator of the bone mass and therefore how strong the bones are.

A DEXA scan should be performed from approximately ten years of age and repeated every one to three years. Check with your doctors when the next one is due.

What causes low BMD in CF?

It is thought this may be due to:

- Severe lung disease.
- Malabsorption and poor nutrition.
- Inactivity and reduced weight-bearing exercise.
- Certain medications e.g. steroids.
- CF related diabetes.
- Caffeine, alcohol and tobacco use.

How can low BMD be prevented and treated?

- High intensity physical activity that increases your heart rate as well as weight bearing exercise such as running and jumping can build bone strength.
- Regular DEXA scans to screen for low BMD.



- Frequent contact with a specialist CF dietitian to gain advice on how best to boost nutrition for bone health.
- Screening of vitamin D and calcium levels.
- Avoid smoking and alcohol which can have damaging effects on bone health.

Studies have shown that the time before puberty and early puberty years are very important to help increase bone health. Therefore, children and early adolescents should take part in 30 minutes of high impact weight bearing exercise three times a week, to improve bone health.

Are there any medications available?

Drugs known as Bisphosphonates may be prescribed with caution in selected people with CF.

CFTR modulator therapies may have a positive impact on bone health in people with CF by targetting the CFTR dysfunction in bone cells.

For more information, contact your CF centre or dietitian.

Useful Resources

- [Bone Disease and Nutrition in Adults \(CFWA\)](#)
- [Bone Health and Cystic Fibrosis \(NEMO\)](#)
- [Bone Disease In CF \(CFPhysio\)](#)
- [CFWA Factsheets](#)

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