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# Bone Density

**Also called:** Bone mass

## What is bone density?

Your bones are made of living tissue. To keep them strong, your body breaks down old bone and replaces it with new bone. But when more bone is broken down than replaced, you lose bone density, also called bone mass. Bone density is a measure of the amount of **calcium** [<https://medlineplus.gov/calcium.html>] and other minerals in bone. Bones containing more minerals are denser. They tend to be stronger and less likely to **fracture** [<https://medlineplus.gov/fractures.html>] (break).

Losing bone density can weaken your bones. In some cases, it can lead to **osteoporosis** [<https://medlineplus.gov/osteoporosis.html>]. This is a disease which can make your bones more likely to break. Low bone density that is not low enough to be osteoporosis is sometimes called osteopenia.

## What can make you lose bone density?

Your bones become less dense as you age. Other factors can also make you more likely to lose bone mass, such as:

- A family history of osteoporosis or low bone mass
- Not developing good bone mass when you are young
- Having certain medical conditions, such as:
  - Endocrine diseases [<https://medlineplus.gov/endocrinediseases.html>]
  - Certain digestive diseases [<https://medlineplus.gov/digestivediseases.html>]
  - Rheumatoid arthritis [<https://medlineplus.gov/rheumatoidarthritis.html>]
  - Certain types of cancer
  - HIV [<https://medlineplus.gov/hiv.html>]
  - Anorexia nervosa, a type of eating disorder [<https://medlineplus.gov/eatingdisorders.html>]
- Taking certain medicines, such as:
  - Corticosteroids [<https://medlineplus.gov/steroids.html>]
  - Proton pump inhibitors (which treat GERD [<https://medlineplus.gov/gerd.html>])
  - Medicines to treat epilepsy [<https://medlineplus.gov/epilepsy.html>]
- Smoking tobacco [<https://medlineplus.gov/smoking.html>]
- Long-term heavy alcohol [<https://medlineplus.gov/alcohol.html>] use
- Physical inactivity [<https://medlineplus.gov/healthrisksofaninactivelifestyle.html>] or prolonged periods of bedrest

Not everyone who has low bone mass gets osteoporosis, but they are at higher risk for developing it.

## Is there a test to measure your bone health?

A **bone density scan** is the best way to measure your bone health. It compares your bone density, or mass, to that of a healthy person who is the same age and sex as you are. It can show:

- Whether you have low bone density
- Whether you have osteoporosis, a disease that makes your bones weak
- Your risk for breaking bones


- Whether your osteoporosis treatment is working

## How can I keep my bones strong?


To help keep your bones strong and help prevent osteoporosis, the best thing to do is to eat a healthy diet rich in calcium and vitamin D [<https://medlineplus.gov/vitamind.html>] . Getting regular physical activity [<https://medlineplus.gov/howmuchexercisedoineed.html>] , limiting alcohol, and not smoking [<https://medlineplus.gov/quittingsmoking.html>] can also help. In some cases, your health care provider may prescribe medicines to prevent osteoporosis.

*NIH: National Institute of Arthritis and Musculoskeletal and Skin Diseases*


## Start Here

- Bone Mineral Density Tests: What the Numbers Mean [<https://www.niams.nih.gov/health-topics/bone-mineral-density-tests-what-numbers-mean>]  (National Institute of Arthritis and Musculoskeletal and Skin Diseases)  
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/pruebas-de-densidad-mineral-osea-lo-que-significan-los-numeros>]
- Low Bone Density [<https://www.bonehealthandosteoporosis.org/patients/diagnosis-information/bone-density-examtesting/low-bone-density/>] (Bone Health and Osteoporosis Foundation)



## Diagnosis and Tests

- Bone Density Scan [<https://medlineplus.gov/lab-tests/bone-density-scan/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/densitometria-osea/>]

## Related Issues

- Exercise for Your Bone Health [<https://www.niams.nih.gov/health-topics/exercise-your-bone-health>]  (National Institute of Arthritis and Musculoskeletal and Skin Diseases)  
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/haga-ejercicio-para-tener-huesos-sanos>]

## Specifics

- HIV and Osteoporosis [<https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-and-osteoporosis>]  (National Institutes of Health, Office of AIDS Research)  
Also in Spanish [<https://hivinfo.nih.gov/es/understanding-hiv/fact-sheets/la-infeccion-por-el-vih-y-la-osteoporosis>]
- Osteopenia [<https://familydoctor.org/condition/osteopenia/?adfree=true>] (American Academy of Family Physicians)  
Also in Spanish [<https://es.familydoctor.org/condicion/osteopenia-es/?adfree=true>]
- Osteopetrosis [<https://www.niams.nih.gov/health-topics/osteopetrosis>]  (National Institute of Arthritis and Musculoskeletal and Skin Diseases)  
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/osteopetrosis>]


## Genetics

- Camurati-Engelmann disease: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/camurati-engelmann-disease>]  (National Library of Medicine)

## Test Your Knowledge

- What's Your Osteoporosis Risk? [[https://medlineplus.gov/ency/quiz/000506\\_1.htm](https://medlineplus.gov/ency/quiz/000506_1.htm)] (Medical Encyclopedia)  
Also in Spanish [[https://medlineplus.gov/spanish/ency/quiz/000506\\_61.htm](https://medlineplus.gov/spanish/ency/quiz/000506_61.htm)]

## Clinical Trials


- ClinicalTrials.gov: Bone Density [<https://clinicaltrials.gov/search?cond=%22Bone+Density%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

## Journal Articles


## References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Using probiotic supplementation to support bone health in postmenopausal women: a...  
[<https://www.ncbi.nlm.nih.gov/pubmed/40715573>]
- Article: Electrical stimulation paradigms on muscle quality and bone mineral density after...  
[<https://www.ncbi.nlm.nih.gov/pubmed/40261334>]
- Article: Concurrent effects of high-intensity interval training and vitamin D supplementation on...  
[<https://www.ncbi.nlm.nih.gov/pubmed/40259289>]
- Bone Density -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Bone+Density%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

## Find an Expert

- National Institute of Arthritis and Musculoskeletal and Skin Diseases [<https://www.niams.nih.gov/>]   
Also in Spanish [<https://www.niams.nih.gov/es/portal-en-espanol>]

## Children

- Kids and Their Bones [<https://www.niams.nih.gov/health-topics/kids-and-their-bones>]  
 (National Institute of Arthritis and Musculoskeletal and Skin Diseases)  
Also in Spanish [<https://www.niams.nih.gov/es/informacion-de-salud/la-salud-de-los-huesos-de-los-ninos>]

## Women

- Breast Cancer and Bone Loss [<https://www.endocrine.org/patient-engagement/endocrine-library/breast-cancer-and-bone-loss>] (Endocrine Society)
- Menopause and Bone Loss [<https://www.endocrine.org/patient-engagement/endocrine-library/menopause-and-bone-loss>]  
(Endocrine Society)

## Patient Handouts

- Bone mineral density test [<https://medlineplus.gov/ency/article/007197.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007197.htm>]
- Osteopenia - premature infants [<https://medlineplus.gov/ency/article/007231.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007231.htm>]
- What causes bone loss? [<https://medlineplus.gov/ency/patientinstructions/000506.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000506.htm>]



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Related Health Topics

- Fractures [<https://medlineplus.gov/fractures.html>]
- Osteoporosis [<https://medlineplus.gov/osteoporosis.html>]

National Institutes of Health

The primary NIH organization for research on *Bone Density* is the National Institute of Arthritis and Musculoskeletal and Skin Diseases [<http://www.niams.nih.gov/>]

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