

# How bioDensity Turns Back the Clock on Bone Health

## What is Bone Age?

Bone Age is a measurement of the health of an individual’s bones, based on measuring Bone Mineral Density (BMD) as expressed in grams per square centimeter (g/cm<sup>2</sup>). As people age, the amount of bone material and density decreases. This decrease in BMD serves to weaken the bone, leading to Osteopenia and Osteoporosis, making it susceptible to fracture. The University of Washington recently conducted a study on BMD expressed as g/cm<sup>2</sup>, broken down by ethnicity and gender, and age.

## How bioDensity Lowers Bone Age

Activity on a bioDensity machine exposes the body to very short periods of compressive forces on the major bones of the body—arms, legs, hip, shoulders and spine. This “axial loading” has been shown to improve BMD in subjects on average 7.0% in the hip and 7.7% in the spine when used just once a week for a period of one year. (By contrast, clinical trials on Boniva were shown to improve BMD by only 3.1% in the hip and 6.4% in the spine over a 3-year period).

## Why is this Important?

A 50-year old woman has the same likelihood of dying from a hip fracture as they do from breast cancer. Studies show that a 10% loss in BMD increases the likelihood of a hip fracture 2.5 times, and as women reach menopause, BMD naturally decreases due to changes in hormones.

By improving BMD by 7%, subjects actually “turn back the clock” on their bones, lowering Bone Age by as much as 10 years or more, lowering the risk of Osteopenia and Osteoporosis, and the corresponding risk of a debilitating fracture.

Age	25	35	45	55	65	75	85
Cohort	grams/square centimeters (g/cm <sup>2</sup> )						
Black Male	1.20	1.14	1.09	1.07	1.04	1.00	0.95
White Male	1.05	1.04	1.00	0.98	0.96	0.93	0.87
Black Female	1.04	1.02	1.04	0.97	0.88	0.84	0.73
White Female	0.95	0.94	0.92	0.87	0.82	0.74	0.68
A 7% improvement potentially improves g/cm <sup>2</sup> to:	1.02	1.01	0.99	0.94	0.88	0.80	0.73
<b>Which lowers "Bone Age" in White Females:</b>		<b>from 35 to &lt;25</b>	<b>From 45 to &lt;25</b>	<b>From 55 to 35</b>	<b>From 65 to 54</b>	<b>From 75 to 66</b>	<b>From 85 to 74</b>