The Manufacturing of Bone Diseases:

The Story of Osteoporosis and Osteopenia

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The present-day definitions of Osteopenia and Osteoporosis were arbitrarily conceived by the World Health Organization (WHO) in the early 90's and then projected upon millions of women's bodies seemingly in order to convince them they had a drug-treatable, though symptomless, disease

Osteopenia (1992)[i] and Osteoporosis (1994)[ii] were formally identified as skeletal diseases by the World Health Organization (HTO) as bone mineral densities (BMD) 1 and 2.5 standard deviations, respectively, below the peak bone mass of an average young adult Caucasian female, as measured by an x-ray device known as Dual energy X-ray absorptiometry (**DXA, or DEXA**). This technical definition, now used widely around the world as the gold standard, is disturbingly inept, and as we shall see, likely conceals an agenda that has nothing to do with the promotion of health.

Deviant Standards: Aging Transformed Into a Disease

A 'standard deviation' is simply a quantity calculated to indicate the extent of deviation for a group as a whole, i.e. within any natural population there will be folks with higher and lower biological values, e.g. height, weight, bone mineral density, cholesterol levels. The choice of an average young adult female (approximately 30-year old) at peak bone mass in the human lifecycle as the new standard of normality *for all women 30 or older*, was, of course, not only completely arbitrary but also highly illogical. After all, why should a 80-year old's bones be defined as "abnormal" if they are less dense than a 30-year old's?

Within the WHO's new BMD definitions the aging process is redefined as a disease, and these definitions targeted women, much in the same way that menopause was once redefined as a "disease" that needed to be treated with synthetic hormone replacement (HRT) therapies; that is, before the whole house of cards collapsed with the realization that by "treating" menopause as a disease the medical establishment was causing far more harm than good, e.g. heart disease, stroke

and cancer.

As if to fill the void left by the HRT debacle and the disillusionment of millions of women, the WHO's new definitions resulted in the diagnosis, and subsequent labeling, of millions of healthy middle-aged and older women with what they were now being made to believe was another "health condition," serious enough to justify the use of expensive and extremely **dangerous bone drugs** (and equally **dangerous mega-doses of elemental calcium**) in the pursuit of increasing bone density **by any means necessary.**

One thing that cannot be debated, as it is now a matter of history, is that this sudden transformation of healthy women, who suffered no symptoms of "low bone mineral density," into an at-risk, treatment-appropriate group, served to generate billions of dollars of revenue for DXA device manufacturers, doctor visits, and drug prescriptions around the world.

WHO Are They Kidding?

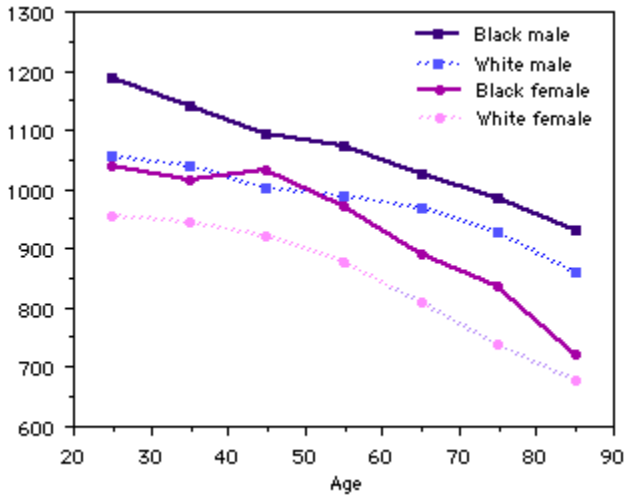
Osteopenia is, in fact, a medical and diagnostic non-entity. The term itself describes nothing more than a statistical deviation from an arbitrarily determined numerical value or norm. According to the osteoporosis epidemiologist Dr. L. Joseph Melton at the Mayo Clinic who participated in setting the original WHO criteria in 1992, "[osteopenia] was just meant to indicate the emergence of a problem," and noted that "It didn't have any particular diagnostic or therapeutic significance. It was just meant to show a huge group who looked like they might be at risk."**[iii]** Another expert, Michael McClung, director of the Oregon Osteoporosis Center, criticized the newly adopted disease category osteopenia by saying ''We have medicalized a nonproblem."**[iv]**

In reality, the WHO definitions violate both commonsense and fundamental facts of biological science (sadly, an increasingly prevalent phenomenon within drug company-funded science). After all, anyone over 30 years of age *should* have lower bone density than a 30 year old, as this is consistent with the normal and natural *healthy* aging process. And yet, according to the WHO definition of osteopenia, the eons-old programming of our bodies to gradually shed bone density as we age, is to be considered a faulty design and/or pathology in need of medical intervention.

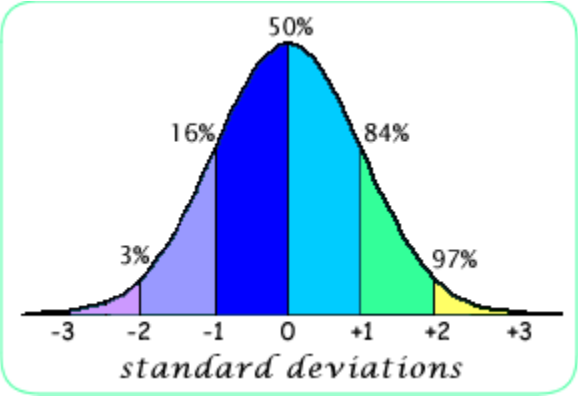
How the WHO, or any other organization which purports to be a science-based "medical authority," can make an ostensibly educated public believe that the natural thinning of the bones is not normal, or more absurdly: a disease, is astounding. In defense of the public, the cryptic manner in which these definitions and diagnoses have been cloaked in obscure mathematical and clinical language makes it rather difficult for the layperson to discern just how outright insane the logic they are employing really is.

So, let's look closer at the definitions now, which are brilliantly elucidated by Washington.edu's published online course on Bone Densitometry, which can viewed in its entirety **here**.

The Manufacture of a Disease through Categorical Sleight-of-Hand

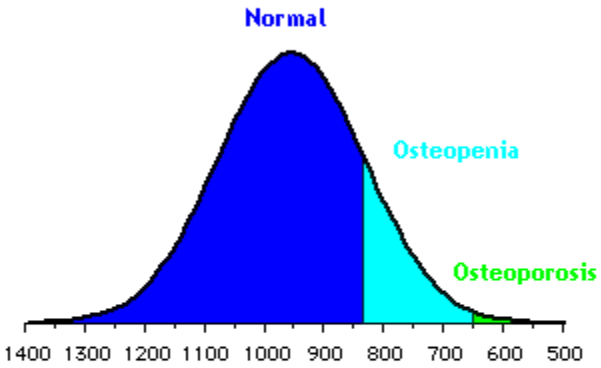


The image above shows the natural decrease in hip bone density occurring with age, with variations in race and gender depicted. Observe that loss of bone mineral density with age is a normal process.



Next, is the classical bell-shaped curve, from which T- and Z-scores are based. T-sores are based on the young adult standard (30-year old) bone density as being normal *for everyone*, regardless of age, whereas the much more logical Z-score compares your bone mineral density to that of your age group, as well as sex and ethnic background. Now here's where it gets disturbingly clear how ridiculous the T-score really system is....

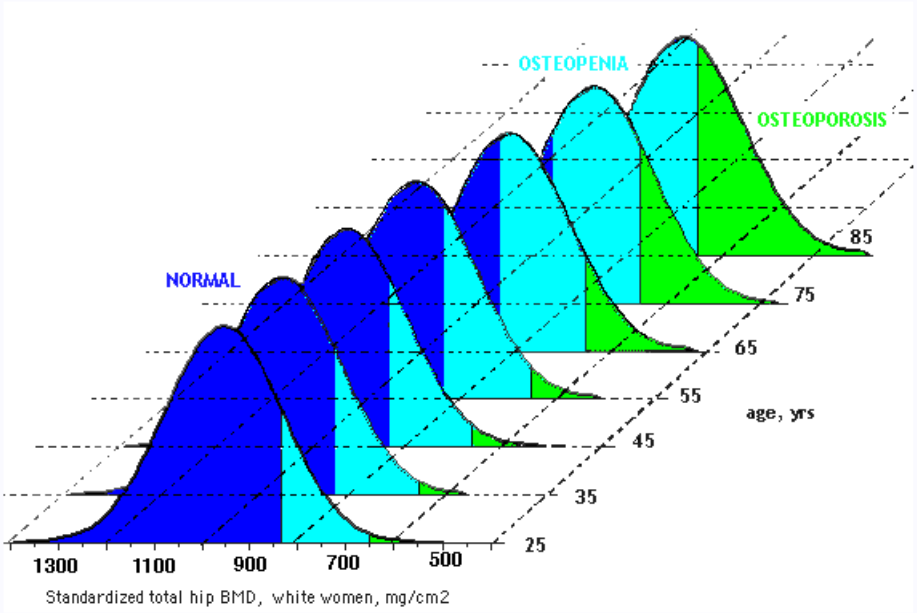
The WHO definitions



Cutoff values for osteopenia using total Hip BMD

T-score	Hologic	Lunar	Norland	Standard
-1	.820	.886	.800	833
-2.5	.637	.706	.615	648

Above is an image showing how within the population of women used to determine "normal" bone mineral density, e.g. 30-year olds, 16% of them already "have" osteopenia" according to the WHO definitions, and 3% already "have" osteoporosis! According to Washington.edu's online course "One standard deviation is at the 16th percentile, so by definition 16% of young women have osteopenia! As shown below, by the time women reach age 80, very few are considered normal."



Percentage of US Caucasian women in WHO categories

	Age 25	Age 50	Age 65	Age 80
Normal	84%	66%	40%	10%
Osteopenia	15%	33%	40%	35%
Osteoporosis	1%	1%	13%	27%
Established osteoporosis	1%	1%	7%	27%

Above you will see what happens when the WHO definitions of "normal bone density" are applied to aging populations. Whereas at age 25, 15% of the population will "have" osteopenia, by age 50 the number grows to 33%. And by age 65, 60% will be told they have either osteopenia (40%) or osteoporosis (20%).

On the other hand, if one uses the Z-score, which compares *your bones* to that of *your age group*, something remarkable happens: a huge burden of "disease" disappears! In a review on the topic published in 2009 in the ***Journal of Clinical Densitometry***, 30-39% of the subjects who had been diagnosed with osteoporosis with two different DXA machine models were reclassified as either normal or "osteopenic" when the Z- score was used instead of the T-score. The table therefore can be turned on the magician-like sleight-of-hand used to convert healthy people into diseased ones, as long as an age-appropriate standard of measurement is applied, which presently it is not.

Bone Mineral Density is NOT Equivalent to Bone Strength

As you can see there are a number of insurmountable problems with the WHO's definitions, but perhaps the most fatal flaw is the fact that the Dual energy X-ray absorpitometry device (DXA) is only capable of revealing the **mineral density** of the bone, and this is not the same thing as bone **quality/strength**.

While there is a correlation between bone mineral density and bone quality/strength - that is to say, they overlap in places -- they are not equivalent. In other words, density, while an excellent indicator of compressive strength (resisting breaking when being crushed by a static weight), is not an accurate indicator of tensile strength (resisting breaking when being pulled or stretched).

Indeed, in some cases having higher bone density *indicates that the bone is actually weaker*. Glass, for instance, has high density and compressive strength, but it is extremely brittle and lacks the tensile strength required to withstand easily shattering in a fall. Wood, on the other hand, which is closer in nature to human bone than glass or stone is less dense relative to these materials, but also

extremely strong relative to them, capable of bending and stretching to withstand the very same forces which the bone is faced with during a fall. Or, take spider web. It is has infinitely greater strength and virtually no density. Given these facts, having "high" bone density (and thereby not having osteoporosis) may actually increase the risk of fracture in a real-life scenario like a fall.

Essentially, the WHO definitions distract from key issues surrounding bone quality and real world bone fracture risks, such as gait and vision disorders.[v] In other words, if you are able to see and move correctly in our body, you are less likely to fall, which means you are less prone to fracture. Keep in mind also that the quality of human bone depends entirely on dietary and lifestyle patterns and choices, and unlike x-ray-based measurements, bone quality is not decomposable to strictly numerical values, e.g. mineral density scores. **Vitamin K2** and **soy isoflavones**, for instance, significantly reduce bone fracture rates without increasing bone density. Scoring high on bone density tests may save a woman from being intimidated into taking dangerous drugs or swallowing massive doses of elemetal calcium, but it may not translate into preventing "osteoporosis," which to the layperson means the risk of breaking a bone. But high bone mineral density may result in far worse problems....

High Bone Mineral Density & Breast Cancer

One of the most important facts about bone mineral density, conspicuously absent from discussion, is that having higher-than-normal bone density in middle-aged and older women actually **INCREASES their risk of breast cancer by 200-300%**, and this is according to research published in some of the world's most well-respected and authoritative journals, e.g. Lancet, JAMA, NCI. (see citations below).

While it has been known for at least fifteen years that **high bone density profoundly increases the risk of breast cancer** -- and particularly malignant breast cancer -- the issue has been given little to no attention, likely because it contradicts the propaganda expounded by mainstream woman's health advocacy organizations. Breast cancer awareness programs focus on x-ray based breast screenings as a form of "early detection," and the National Osteoporosis Foundation's entire platform is based on expounding the belief that increasing bone mineral density for osteoporosis prevention translates into improved quality and length of life for women.

The research, however, is not going away, and eventually these organizations will have to acknowledge it, or risk losing credibility.

Journal of the American Medical Association **(1996):** Women with bone mineral density above the 25th percentile have 2.0 to 2.5 times increased risk of breast cancer compared with women below the 25th percentile.

Journal of Nutrition Reviews **(1997):** Postmenopausal women in the highest quartile for metacarpal bone mass were found to have an increased risk of developing breast cancer, after adjusting for age and other variables known to influence breast cancer risk.

American Journal of Epidemiology **(1998): Women with a positive family history of breast cancer and who are in the highest tertile bone mineral density are at a 3.41-fold increased risk compared with women in the lowest tertile.**

Journal of the National Cancer Institute **(2001): Elderly women with high bone mineral density (BMD) have up to 2.7 times greater risk of breast cancer, especially advanced cancer, compared with women with low BMD.**

Journal *Breast* (2001): Women in the lowest quartile of bone mass appear to be protected against breast cancer.

Journal *Bone* (2003): Higher bone density (upper 33%) is associated with a 2-fold increased risk of breast cancer.

***European Journal of Epidemiology* (2004): Women with highest tertile bone mineral density (BMD) measured at the Ward's triangle and at the femoral neck are respectively at 2.2-and 3.3-fold increased risk of breast cancer compared with women at the lowest tertile of BMD.**

View additional citations on the breast cancer-bone density link.

High Bone Density: More Harm Than Good

The present-day fixation within the global medical community on "osteoporosis prevention" as a top women's health concern, is simply not supported by the facts. The #1 cause of death in women today is heart disease, and the #2 cause of death is cancer, particularly breast cancer, and not death from complications associated with a bone fracture or break. In fact, in the grand scheme of things osteoporosis or low bone mineral density does not even make the CDC's top ten list of causes of female mortality. So, why is it given such a high place within the hierarchy of women's health concerns? Is it a business decision or a medical one?

Regardless of the reason or motive, the obsessive fixation on bone mineral density is severely undermining the overall health of women. For example, the mega-dose calcium supplements being taken by millions of women to "increase bone mineral density" are known to increase the risk of heart attack by between 24-27%, **according to two 2011 meta-analyses** published in *Lancet*, and 86% according to a more **recent meta-analysis published** in the journal *Heart*. Given the overwhelming evidence, the 1200+ mgs of elemental calcium the National Osteoporosis Foundation (NOF) recommends women 50 and older take to "protect their bones," may very well be inducing coronary artery spasms, heart attacks and calcified arterial plaque in millions of women. Considering that the NOF name calcium supplement manufacturers Citrical and Oscal as corporate sponsors, it is unlikely their message will change anytime soon.

Now, when we consider the case of increased breast cancer risk linked to high bone mineral density, being diagnosed with osteopenia or osteoporosis would actually indicate a **significantly reduced risk of developing the disease.** What is more concerning to women: breaking a bone (from which one can heal), or developing breast cancer? If it is the latter, a low BMD reading could be considered cause for celebration and not depression, fear and the continued ingestion of inappropriate medications or supplements, which is usually the case following a diagnosis of osteopenia or osteoporosis.

We hope this article will put to rest any doubts that the WHO's fixation on high bone density was designed not to protect or improve the health of women, but rather to convert the natural aging process into a blockbuster disease, capable of generating billions of dollars of revenue.

Learn more on the GreenMedInfo database:

- **Osteoporosis**
- **Bone Drugs**
- **T-Score/Z-Score Mythology**

References

[i] WHO Scientific Group on the Prevention and Management of Osteoporosis (2000 : Geneva, Switzerland) (2003). "Prevention and management of osteoporosis : report of a WHO scientific group" (PDF). Retrieved 2007-05-31.

[ii] WHO (1994). "Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. Report of a WHO Study Group". World Health Organization technical report series 843: 1-129. PMID **7941614**.

[iii] Kolata, Gina (September 28, 2003). **"Bone Diagnosis Gives New Data But No Answers"**. New York Times.

[iv] Ibid

[v] P Dargent-Molina, F Favier, H Grandjean, C Baudoin, A M Schott, E Hausherr, P J Meunier, G Bréart Fall-related factors and risk of hip fracture: the EPIDOS prospective study. Lancet. 1996 Jul 20;348(9021):145-9. PMID: **8684153**

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