

Are all bone density tests the same?

If you are reading this newsletter, especially if you are a postmenopausal woman, you have probably had a bone density test. You probably assumed that the test was done correctly, providing accurate results that were correctly interpreted. However, that is not always the case, because bone density tests are not all the same.

DXA, which stands for dual-energy X-ray absorptiometry, is the gold-standard method for measuring bone density. It is used to diagnose osteoporosis, assess the risk of breaking bones, and monitor the effects of treatment. Having a bone density test is simple and fast, but the technology and skill that goes into doing it right is complex.

The DXA instrument must be maintained according to rigorous calibration standards. The patient must be positioned in a precise manner by a skilled technologist. This is especially important in follow-up DXA tests, as a very tiny change in positioning, such as the degrees of internal rotation of the hip, may result in a large difference in bone density measurement. In order to know whether an apparent change in bone density is real or simply within the range of error of the measurement, something called “precision assessment” must be done. This allows the DXA facility to calculate the “least significant change” (LSC), the smallest change in bone density that is statistically significant. The computer-generated image and data must be carefully reviewed and adjusted if not

correct. The interpretation and reporting of the test must be done according to well-established international standards that are updated on a regular basis.

Sound confusing? It is. But there is help. The International Society for Clinical Densitometry (ISCD) has developed “Official Positions” and “DXA Best Practices” for exactly this reason. A good quality DXA facility should be familiar with these and comply with the standards.

How do you know that you are getting a good bone density test at a high quality facility? Here are 3 questions you can ask. If the answers are not acceptable, consider going somewhere else, if possible. Of course, there may be restrictions according to your health insurance.

- 1. Are the DXA technologist and interpreter certified by an accredited agency, such as the ISCD, or at least in training to do so?** Certification tells you that a basic level of knowledge in DXA testing has been acquired by passing a test.
- 2. Is the facility accredited for DXA?** This provides a high level of assurance that the knowledge acquired to become certified is actually being applied and that standard operating procedures are being followed.
- 3. What is the LSC?** A facility that does not know the LSC cannot tell you whether or not there is a significant change in bone density.

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Clinical Research

Are you interested in participating in a research study?

Our clinical research program is recruiting patients to participate in studies to test new medications and evaluate new uses for currently available drugs. By participating in a study, you will have the opportunity to use one of these medications, have free examinations and tests, and receive reimbursement for your time and travel if you qualify. If this interests you, please take a few minutes to read the major criteria for participation.

If you think you may qualify for a study or have questions about participating in research. Please call a study specialist for more information at: (505) 923-3232.

Feel free to pass this newsletter to a friend or relative who may be interested. The drug study information is updated often, since we are continually starting new studies and closing existing studies. Call and give your information to a study specialist for consideration for future studies. If there is nothing for you now, there may be one soon.

Male Osteoporosis Study

This is a study for male patients not currently being treated for their Osteoporosis or Osteopenia. You may qualify if:

- You are between the age of 40 to 85
- No kidney stones in the last 5 years

Radius BA058-05-019

Low Testosterone Replacement

This study is for men diagnosed with Low Testosterone and increased risk for cardiovascular disease. You may be eligible to participate if you:

- Are 45 to 80 years old
- Currently not being treated with testosterone in the last 6 months.

Abbvie M16-100

Diabetic Kidney Disease

This is a study for patients with diabetic kidney disease. If you have high diabetic urine protein with a history of a cardiovascular event, or have very high diabetic urine protein you may be eligible to participate if you:

- Are 18 years of age or older
- Have a history of Type 2 diabetes and are taking hypertension medication

Bayer 17530_16244 DKD

Gout

This study is for patients who have Gout and Moderate Kidney impairment. If you are taking a urate lowering therapy, you may be eligible if you:

- Are 18 years of age or older
- Taking at least 200 mg of Allopurinol or minimum dose of Febuxostat

RDEA594-401

Osteogenesis Imperfecta

This study is a genetic disorder that causes brittle bones. If you have been diagnosed with or have a history of fractures you may be eligible to participate, if you:

- Are 18 years of age or older
- Have experienced one or more fracture in the past 24 months

MBPS205

Osteoporosis Drug Holiday

This study is a drug holiday for postmenopausal women or men who are taking Alendronate (Fosamax) or Risedronate (Actonel) for 5 or more years. You may be eligible to qualify for this study if you are:

- > 50 years, Men or Postmenopausal Women, diagnosed with osteoporosis
- Taken Alendronate or Risedronate for 5 or more years

NBHADHI

Type 2 Diabetes

This is a study for patients who have been diagnosed with Type 2 Diabetes Mellitus and are on Metformin. You may be eligible if you:

- Are 18 years or older
- On Metformin alone, for Type 2 Diabetes

EFC14838

A word from our provider:



Becky Wittenburg, CNP, MSN

Are you at risk for type 2 diabetes?

ALERT!DAY
TYPE 2 DIABETES AWARENESS

- WRITE YOUR SCORE IN THE BOX.**
- How old are you?
 Less than 40 years (0 points)
 40-49 years (1 point)
 50-59 years (2 points)
 60 years or older (3 points)
 - Are you a man or a woman?
 Man (1 point) Woman (0 points)
 - If you are a woman, have you ever been diagnosed with gestational diabetes?
 Yes (1 point) No (0 points)
 - Do you have a mother, father, sister or brother with diabetes?
 Yes (1 point) No (0 points)
 - Have you ever been diagnosed with high blood pressure?
 Yes (1 point) No (0 points)
 - Are you physically active?
 Yes (0 points) No (1 point)
 - What is your weight category?
 See chart at right.

Height	Weight (lbs.)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+

1 point	2 points	3 points
If you weigh less than the amount in the left column: 0 points		

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009.
Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher:

You are at increased risk for having type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes, a condition in which blood glucose levels are higher than normal but not yet high enough to be diagnosed as diabetes. Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, Native Americans, Asian Americans, and Native Hawaiians and Pacific Islanders.

Higher body weight increases diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weight than the rest of the general public (about 15 pounds lower).

ADD UP YOUR SCORE.



The good news is you can manage your risk for type 2 diabetes. Small steps make a big difference in helping you live a longer, healthier life.

For more information, visit us at diabetes.org/alertday or call 1-800-DIABETES (800-342-2383).

American Diabetes Association.

Osteoporosis Foundation of New Mexico (OFNM)

Educational Presentations

Coronado Villa Resort Lifestyle Retirement Community
6900 San Vicente Ave. NE
Albuquerque, NM 87109

(This is two streets north of San Antonio west from Louisiana)

RSVP to 505-857-3956

2018 Meetings

(All are 1:30-3:00 PM)

Thursday, August 9, 2018
Janet Popp, PT
"Fall Prevention and Physical Therapy"

Thursday, November 8, 2018
Liz Quintana, PHD, RD, CDE
"Nutrition and Calcium for Bone Health"

These meetings are open to the public. It is a great opportunity to talk to osteoporosis experts for as long as you want. There is limited space, so please sign up by calling 857-3956 in order to attend. A \$1 contribution is requested in order to cover the cost of educational material. You may donate more if you wish.

Directions to facility:
From San Antonio, go north on Louisiana. Turn west on the second street. Coronado Villa is behind Grace Church.



If you enjoyed this newsletter and would like to be placed on an electronic mailing list, email ybrusuelas@nmbonecare.com.

Ask Dr. Lewiecki about . . . OSTEOPOROSIS

Dear Dr. Lewiecki – I have osteoporosis according to results of a bone density test. I feel fine and have never broken a bone, but on the advice of my doctor I started taking alendronate over a year ago. I just had a repeat bone density test that showed a 28% decrease in my bone density. After a year of taking this medicine, it is not working. I’m worried. What should I do?

Sylvia Q., Gallup, NM.

Dear Sylvia – I understand your concern, but I would not worry. I commonly see situations like yours and almost always it is a mistake with the bone density test, not something wrong with the patient.

A 28% change in bone density over one year is almost impossible. Our bones simply do not change that fast. An untreated person who is a rapid bone loser might have a decrease of about 5% in one year. With alendronate, assuming it is taken regularly and correctly, well absorbed, and nothing unusual is going on with your bones, bone density usually improves.

So what is going on here? The first thing to do is validate that the bone density tests were done correctly and are comparable. The best way to do this is to have an experienced bone densitometrist look at printouts (not a photocopy or fax) of the bone images and data. It often turns out that something is wrong with one or both of the tests. For example, bones in the spine may be labeled differently in the two tests, which amounts to trying to compare “apples with oranges.” Sometimes a bone should not be measured in the first place, such as where it has been surgically removed, as with a laminectomy. Other times the computer makes a mistake by incorrectly placing a line in the wrong place, away from the edge of your bone. There are other things that can go wrong as well. My best guess is that this is what has happened with you.

Of course, in the very unlikely situation that your bone loss is genuine, then you need to have a thorough evaluation by an osteoporosis specialist.

Mike Lewiecki

From the editor: If you have a question for Dr. Lewiecki, please send it by mail to the address on the front page of this newsletter or drop off at the office. It is not possible to respond to all questions submitted. Those that are of general interest will be considered for publication.

RARE BONE DISEASES

There are many bone diseases other than osteoporosis that cause low bone density and broken bones.

This is one of the reasons everyone with a bone disease should be tested to find out what is causing it in the first place. Starting treatment for osteoporosis in someone who has another type of bone disease may be ineffective and sometime harmful. As an example, severe vitamin D deficiency may cause **osteomalacia**, a disease that looks the same as osteoporosis on a bone density test. Treatment with an osteoporosis medication in such a situation could cause the blood calcium level to go too low, resulting in severe muscle cramps that may require hospital care.

How do you know whether you have a rare bone disease? Usually this can be determined from a medical history and some simple lab tests. If there is a family history of unusual bone problems or if you have had broken bones or dental problems as a child, tell your doctor. You could have a problem such as **osteogenesis imperfecta** or **hypophosphatasia**. Genetic testing may be helpful. A problem with bone pain that is not due to arthritis? It could be **Paget’s disease of bone**.



Support osteoporosis education in New Mexico. Help to reduce the burden of osteoporotic fractures. Osteoporosis Foundation of New Mexico is a local non-profit 501(c)(3) foundation. Consider a tax-deductible donation or bequest. Donations may be mailed to Osteoporosis Foundation of New Mexico at 4600 B Montgomery Blvd NE, Suite B-200, Albuquerque, NM 87109. For more information, go www.ofnm.org or call 505.857.3956.