NATIONWIDE CHILDREN'S
When your child needs a hospital, everything matters.℠

Helping Hand™

Bone Density Scanning (DEXA, DXA)
Dual Energy Bone Density

❒ No Sedation	❒ With Anesthesia
	See Page 3 for instructions
APPOINTMENT: Date_____ Procedure Time _____	APPOINTMENT: Date_____ Procedure Time _____
Please arrive **10 minutes before the procedure** time to allow time to register.	Please arrive **2 hours before the scan time**. This allows time to register and to get the child ready for the test. An anesthesiologist (an ess thee zee AHL oh jist) will talk to you about the medicine to make your child sleepy, and to get consent.
Bring your child to:	Bring your child to:
❒ **Radiology Dept. Registration Desk**, first floor of the old hospital building of Nationwide Children's Hospital. A parent or guardian must be present at registration.	❒ **Crossroads Registration Area**, main campus of Nationwide Children's Hospital. You will be called the night before the scan and given instructions.
❒ Other _____	❒ Other _____
If you need to cancel your appointment or reschedule, call (614) 722-6200.	If you need to cancel your appointment or reschedule, call (614) 722-6200.

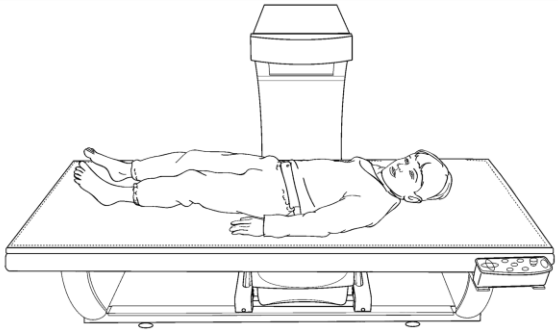
Bone density scanning uses X-rays to measure the mineral density in the bones. This test is also called Dual Energy X-ray Absorptiometry (DEXA or DXA, pronounced DECK sah) or bone mineral density test. The more mineral a person has in the bone, the greater their bone density and bone mass (**Pictures 1, 2,** and **3**).

This is the most accurate test available for detecting osteoporosis (AWS tee oh poor OH siss). Osteoporosis, which means "porous bone," may be caused by a variety of conditions. Porous bones are more likely to fracture (break) because of the loss of bone mass.

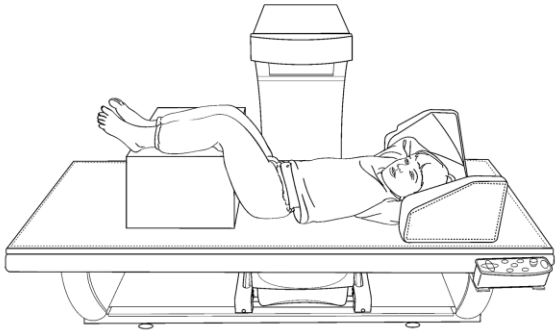
The DXA scan can help the doctor to find out how quickly your child is losing bone mass. It can help to predict the risk of a fracture in the future. This test is also used to follow the course of the disease and the effects of various treatments. Bone density of the spine and whole body are typically measured in children, because these measures are the most accurate for determining and following bone mineral density. On occasion, and in certain age groups and conditions, hip bone mineral density may be measured as well. (**Pictures 2** and **3**).

DXA scanning uses two different X-ray beams. The amounts of each X-ray beam that are blocked by bone and soft tissue are compared to each other. Bones with higher mineral density (more calcium) allow less of the X-ray beam to pass through them.

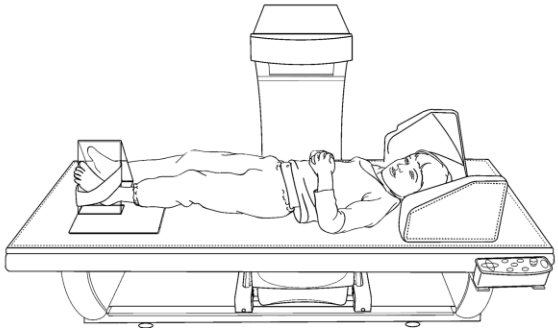
The amount of radiation is very small. It is less than the standard chest X-ray. The test compares your child's bone density with what is expected in someone of the same age, gender, race and size.



Picture 1 Children must hold very still while having the test.



Picture 2 Having a bone density scan of the spine.



Picture 3 Having a scan of the hip.

How to Prepare for the Test

Always schedule the DXA test before having other X-ray exams that use a contrast medium. It may take 3 to 5 days for the contrast material to clear out of your child's body. Examples of these tests include nuclear medicine (radioisotope scans), CT (contrast) or barium studies.

If your child is having sedation or anesthesia, see page 3 for special instructions.

- Female patients must tell the doctor if they think they could be pregnant.
- Children who are **not** having sedation or anesthesia may eat, drink and take their usual medicines.

Continued on page 3.

How to Prepare for the Test, *continued*

Child Care: please try to arrange for childcare for other children in the family.

Stroller: if your child will be sedated or have general anesthesia, it may be helpful to bring your stroller from home.

Sedation or General Anesthesia

If your child is having **general anesthesia** to make him sleep through the test, you will get a call from the Procedure Center the evening before the procedure. They will tell you where and when to bring your child and will give you further instructions about eating and drinking.

A parent or legal guardian needs to be here if your child is to be sedated or have general anesthesia. The parent or guardian will need to give information on the child's health and sign a form giving consent for sedation. If a parent or guardian is not available, please have a phone number where he or she can be contacted at the time of the test.

Having the Test

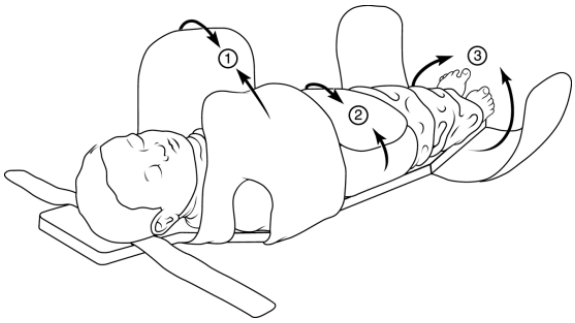
The test takes about 20 minutes.

The test is given by a trained technologist. No needles or injections are involved.

One or more of these areas will be scanned: spine (lower back), left hip, or whole body. Not all patients will have all 3 scans.

- Remove all jewelry and all metal objects (earrings, necklaces, rings, belly button rings, metal hair clips, etc.).
- Dress your child in loose-fitting clothes (no zippers, belts, metal buttons, etc.). The technologist will tell you if your child needs to wear a hospital gown.
- Your child will be asked to lie flat on a padded table as shown in the pictures.
- Your child must hold very still during the test.
- The detector slowly passes over the areas being scanned and produces images on a computer monitor.
- A papoose board (**Picture 4**) may be used for infants and some older children.

A forearm scan may be done only if the child cannot be positioned correctly on the exam table or if things like spinal rods prevent other scans from being done.



Picture 4 A papoose board helps a child hold still during a scan.

After the Test

- There are no after-effects from the test. If your child has not been sedated, he may resume normal activities.
- If your child has had Anesthesia, home-going instructions will be given by your recovery nurse.
- Your child needs to be awake before going home and **must be supervised by a parent or other caregiver the rest of the day.** He should not return to school or childcare the day of the test. The DXA scan will be read by a radiologist (a doctor who specializes in X-ray testing).
- A report will then be sent to your child's doctor. It usually takes 2 to 3 days for the doctor to get the results. Information from the DXA scan will show whether your child's bone density is within normal range.
- If scans have been done in the past, this test can also show if there is a normal increase in mineral density that is expected during childhood.

If you have any questions about your child's test, be sure to ask the doctor, nurse, or technologist or call the location where the test was scheduled.