Medical Coverage Policy | Bone Densitometry

EFFECTIVE DATE: 05|08|2008
POLICY LAST UPDATED: 05|07|2013

OVERVIEW

Bone density studies can be used to identify individuals with osteoporosis and monitor response to osteoporosis treatment, with the goal of reducing the risk of fracture. Bone density is most commonly evaluated with dual x-ray absorptiometry (DXA); other technologies are also available.

PRIOR AUTHORIZATION

Prior authorization review is not required.

POLICY STATEMENT

Commercial:
Bone densitometry testing, using DXA is medically necessary for individuals considered at risk for osteoporosis, for those with a need to identify bone mass, detect bone loss, determine bone quality and to evaluate bone diseases and their response to treatment. No preauthorization is needed. All other types of testing are considered not medically necessary as there is insufficient peer reviewed scientific literature that demonstrates that the procedure/service is effective.

BlueCHiP for Medicare:
Bone densitometry testing, is medically necessary for individuals considered at risk for osteoporosis, for those with a need to identify bone mass, detect bone loss, determine bone quality and to evaluate bone diseases and their response to treatment. No preauthorization is needed. All other types of testing are considered not medically necessary as there is insufficient peer reviewed scientific literature that demonstrates that the procedure/service is effective.

All Plans:
Bone densitometry testing, bone mineral content (DPA) is considered not medically necessary as there is insufficient peer reviewed scientific literature that demonstrates that the procedure/service is effective.

Note: Covered DXA services must be provided on a device capable of performing a central DEXA and must include permanent image storage, interpretation and report.

MEDICAL CRITERIA

Not applicable.

BACKGROUND

Risk factors for fracture include low bone mass, low bone strength, a personal history of fracture as an adult, or a history of fracture in a first-degree relative. Osteoporosis, defined as low bone mass leading to an increased risk of fragility fractures, is an extremely common disease in the elderly population due to age-related bone loss in both sexes and menopause-related bone loss in women. Conditions that can cause or contribute to osteoporosis include lifestyle factors such as low intake of calcium, high intake of alcohol or cigarette smoking, and thinness. Other risk factors for osteoporosis include certain endocrine, hematologic, gastrointestinal tract and genetic disorders, hypogonadal states, and medications. Low bone mineral density (BMD) is a primary indication for pharmacologic therapy. Current pharmacologic options include

bisphosphonates such as alendronate (i.e., Fosamax), selective estrogen receptor modulators (SERMs) such as raloxifene (i.e., Evista), the recombinant human parathyroid hormone teriparatide (Forteo), and calcitonin.

BMD can be measured with a variety of techniques in a variety of central (i.e., hip or spine) or peripheral (i.e., wrist, finger, heel) sites. While BMD measurements are predictive of fragility fractures at all sites, central measurements of the hip and spine are the most predictive. Fractures of the hip and spine (i.e., vertebral fractures) are also considered to be the most clinically relevant. BMD is typically expressed in terms of the number of standard deviations (SD) the BMD falls below the mean for young healthy adults. This number is termed the T score.

The following technologies are most commonly used.

1. **Dual X-Ray Absorptiometry (DXA)**
   DXA is probably the most commonly used technique to measure BMD because of its ease of use, low radiation exposure, and its ability to measure BMD at both the hip and spine. DXA can also be used to measure peripheral sites, such as the wrist and finger. DXA generates 2 x-ray beams of different energy levels to scan the region of interest and measure the difference in attenuation as the low- and high-energy beams pass through the bone and soft tissue. The low-energy beam is preferentially attenuated by bone, while the high-energy beam is attenuated by both bone and soft tissue. This differential attenuation between the 2 beams allows for correction for the irregular masses of soft tissue, which surround the spine and hip, and therefore the measurement of bone density at those sites.

2. **Quantitative Computed Tomography (QCT)**
   QCT depends on the differential absorption of ionizing radiation by calcified tissue and is used for central measurements only. Compared to DXA, QCT is less readily available and associated with relatively high radiation exposure and relatively high cost.

3. **Ultrasound Densitometry**
   Ultrasound densitometry is a technique for measuring BMD at peripheral sites, typically the heel but also the tibia and phalanges. Compared to osteoporotic bone, normal bone demonstrates higher attenuation of the ultrasound wave and is associated with a greater velocity of the wave passing through bone. Ultrasound densitometry has no radiation exposure, and machines may be purchased for use in an office setting.

   These techniques dominate BMD testing. Single and dual photon absorptiometry (DPA) and radiographic absorptiometry are now rarely used and may be considered obsolete.

   Initial or repeat bone mineral density (BMD) measurement is not indicated unless the results will influence treatment decisions.

   An initial measurement of BMD at the hip or spine may be considered **medically necessary** to assess fracture risk and the need for pharmacologic therapy in both women and men who are considered at risk for osteoporosis. BMD testing may be indicated under the following conditions:
   - **a.** Women age 65 and older, regardless of other risk factors;
   - **b.** Men age 70 and older, regardless of other risk factors;
   - **c.** Younger postmenopausal women about whom there is a concern based on their risk factors;
   - **d.** Men age 50-70 about whom there is a concern based on their risk factors;
   - **e.** Adults with a condition or taking a medication associated with low bone mass or bone loss.

There is evidence that bone mineral density measurements predict fracture risk and may be useful for individuals at increased risk of fracture who are considering pharmacologic therapy. The greatest amount of support is for central BMD measurements using DXA. There is less evidence on serial or repeat measurement of BMD. The available evidence and the consensus of clinical opinion support at least a 2-year interval in BMD measurement to monitor response to treatment. In addition, the available evidence suggests that at least a 3- to 5-year timeframe is reasonable for repeat measurement of BMD in individuals who initially tested normal.

Repeat measurement of central (hip/spine) BMD for individuals who previously tested normal (does not require pharmacologic treatment) may be considered **medically necessary** at an interval not more frequent than every 3–5 years; the interval depends on patient risk factors**.**

Regular (not more frequent than every 2–3 years) serial measurements of central BMD to monitor treatment response may be considered **medically necessary** when the information will affect treatment decisions such as duration of therapy.

Medicare allows repeat testing not more frequently than every 2 years.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the Evidence of Coverage, Subscriber Agreement, Benefit Booklet for applicable Diagnostic Imaging, Lab and Machine Tests benefits/coverage.

CODING

The following CPT code is **medically necessary** for **BlueCHiP for Medicare only**, and is **not medically necessary** for all other product lines:

76977

The following CPT codes are **medically necessary for all product lines:**

77078

77080

77081

The following codes are **not separately reimbursed** for **all product lines:**

77082

The following codes are **not separately reimbursed** for **BlueCHiP for Medicare members,** and **not medically necessary** for all other product lines:

G0130

The following CPT codes are considered **not medically necessary** for **all product lines:**

78350

78351

RELATED POLICIES

Not applicable.

PUBLISHED

Provider Update	Jul 2013
Provider Update	Apr 2012
Provider Update	May 2011

Provider Update	Jun 2010
Provider Update	May 2009
Provider Update	Jun 2008
Policy Update	Jul 2006
Policy Update	Sep 2004

REFERENCES

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2. Centers for Medicare and Medicaid Services (CMS). NCD for Bone (Mineral) Density Studies (150.3) with Indications and Limitations of Coverage contained in CMS Manual System. Pub. 100-02 Medicare Benefit Policy. Transmittal 70. Change Request 5521. Chapter 15, Section 80.5. Retrieved on 02/26/09 from: http://www.cms.hhs.gov/transmittals/downloads/R70BP.pdf.
3. Cummings, S. et. al. (2002) Clinical Use of Bone Densitometry. Journal of the Americal Medical Association;October 16, 2002;288(15):1889-1897.
4. WHO Fracture risk assessment tool. Available online at: http://www.shef.ac.uk/FRAX/tool.jsp
5. Technology Assessment, Blue Cross and Blue Shield Association, **"**Vertebral Assessment Using Dual-Energy X-ray Absorptiometry for Osteoporotic Fracture Risk Assessment" Volume 19, No. 14, December 2004.
6. Technology Assessment, Blue Cross and Blue Shield Association, "Screening for Vertebral Fracture with Dual X-ray Absorptiometry", Volume 20, No.14, February 2005.
7. Gourlay ML, Fine JP, Preisser JS et al. Bone-density testing interval and transition to osteoporosis in older women. N Engl J Med 2012; 366(3):225-33.

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