Bone Mass Measurement

Policy Number: HS-042

Original Effective Date: 8/25/2008


APPLICATION STATEMENT
The application of the Clinical Coverage Guideline is subject to the benefit determinations set forth by the Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations and state-specific Medicaid mandates, if any.

DISCLAIMER

Clinical Coverage Guideline
BACKGROUND
According to the Centers for Medicare and Medicaid Services (CMS), bone mass measurement (BMM) is defined as a radiologic, radioisotopic, or other procedure that meets all of the following conditions:

- is performed to identify bone mass, detect bone loss, or determine bone quality;
- is performed with either a bone densitometer (other than single-photon or dual-photon absorptiometry) or a bone sonometer system that has been cleared for marketing for BMM by the FDA; and
- includes a physician’s interpretation of the results.

United States Preventive Services Task Force (2011). Risk for osteoporosis increases steadily and substantially with age. Relative to women aged 50-54, the odds of having osteoporosis were 5.9-fold higher in women aged 65-69 and 14.3-fold higher in women aged 75-79, in a study of over 200,000 postmenopausal women. Low body weight or body-mass index (BMI) and not using estrogen replacement were also consistently associated with osteoporosis but to a lesser degree than age. Other risk factors for fracture or low bone density found in some, but not all, studies include white or Asian ethnicity, history of fracture, family history of osteoporotic fracture, history of falls, low levels of physical activity, smoking, excessive alcohol or caffeine use, low calcium or vitamin D intake, and the use of various medications. The USPSTF recommends screening for osteoporosis in women aged 65 years or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors.

POSITION STATEMENT

Applicable To:
- Medicaid – All Markets
- Medicare – All Markets

Measurement Techniques

Bone mineral density (BMD) can be measured with a variety of techniques in a variety of sites. The most commonly used techniques are Dual-energy X-ray Absorptiometry (DXA), Quantitative computed tomography (QCT), and Ultrasound Densitometry. Dual-energy X-ray Absorptiometry (DXA) is considered the gold standard because it is the most extensively validated test against fracture outcomes. In general, a central DXA measurement should be strongly considered for initial screening purposes due to its reproducibility and ability to simultaneously establish the diagnosis of osteoporosis and provide a baseline if one is needed.

Bone mass measurement (BMM) is considered medically necessary if ANY of the following criteria are met:

- A woman determined to be estrogen-deficient and at clinical risk for osteoporosis based on medical history, age and other findings; OR,
- An individual with vertebral abnormalities as demonstrated by an x-ray to be indicative of osteoporosis, osteopenia, or vertebral fracture; OR,
- An individual receiving (or expecting to receive) glucocorticoid therapy equivalent to an average of 5.0 mg of prednisone, or greater, per day, for more than 3 months; OR,
- An individual with primary hyperparathyroidism; OR,
- An individual being monitored to assess the response to or efficacy of an FDA-approved osteoporosis drug therapy.

DXA is considered medically necessary when one of the following three criteria are met (InterQual, 2014):

1. Member has suspected low BMD as evidenced by one or more of the following:
Osteopenia by x-ray; OR,
Nontraumatic vertebral fracture by x-ray; OR,
Low-impact fracture by x-ray; OR,
Height loss ≥ 1.5 inches.

OR;

2. Member has one or more risk factors for BMD as listed below:
   - Estrogen deficient state in females as evidenced by one or more of the following five criteria:
     - Premenopausal with amenorrhea ≥ 1 year by history; OR,
     - Premature menopause (age < 45); OR,
     - Postmenopausal female age < 65 and ONE of the following:
       - History of low-impact fracture in a first degree relative; OR,
       - Body weight < 127 lbs.; OR,
       - Current smoker; OR,
       - Alcohol consumption ≥ 2 drinks per day; OR,
       - 10 year probability of fracture ≥ 9.3% by the Fracture Risk Assessment Tool (FRAX)
   - Postmenopausal female age ≥ age 65; OR,
   - Postmenopausal female and indecision to start therapy for osteoporosis prevention.

OR,

- The following risk factors are present in males as evidenced by one or more of the following:
  - History of low-impact fracture in a first degree relative; OR,
  - Testosterone level < normal; OR,
  - Androgen deprivation therapy; OR,
  - 10 year probability of fracture ≥ 9.3% by the Fracture Risk Assessment Tool (FRAX)

OR,

- Corticosteroid use based on
  - Hip or rib pain; OR,
  - Low impact / vertebral fracture.

OR,

- Immobilization ≥ 12 weeks

OR,

- History of chronic liver / renal disease

OR,

- Presents with one or more of the following secondary causes of osteoporosis:
  - Asymptomatic hyperparathyroidism; OR,
  - TSH < normal ≥ 12 weeks; OR,
  - Rheumatoid arthritis; OR
  - Nutritional disorder by history / exam; OR,
  - Pre / post-transplant patient.

OR;
3. Member is conducting a follow-up study based on one or more of the following:
   - Osteopenic BMD 1.0 SD to 2.5 SD below young adult mean by prior DXA; OR;
   - Osteopenic BMD ≥ 2.5 SD below young adult mean by prior DXA.

   AND

   - Member is active by using weight-bearing exercises and taking Vitamin D, calcium and one of the following:
     - Hormonal prescription; OR,
     - Bisphosphonate; OR,
     - Denosumab and bisphosphonates contraindicated / not tolerated

   AND

   - Member has had a prior DXA ≥ 2 years OR has a new fracture and prescribed medication ≥ 1 year.

*Frequency Standards*

BMM screening is considered medically necessary once every 2 years (given at least 23 months have passed since the month the last covered BMM was performed).

More frequent BMM is considered medically necessary for, but not limited to, the following indications:
- Monitoring members on long-term glucocorticoid therapy of more than three months
- Confirming baseline BMMs to permit monitoring of members in the future

The use of single and dual photon absorptiometry 78350 and 78351 is considered investigational, and is NOT a covered method of bone mass measurement.

*Non Covered Indications*

Peripheral DXA absorptiometry is NOT recommended due to the possibility of inconclusive readings. CMS states that single-photon and dual-photon absorptiometry are not covered under Medicare because they are not considered reasonable and necessary.

*CODING*

**Covered CPT®* Codes**

- 76977 Ultrasound bone density measurement and interpretation, peripheral sites, any method
- 77078 Computed tomography, bone mineral density study, one or more sites; axial skeleton (e.g., hips, pelvis, spine)
- 77080 Dual-energy X-ray absorptiometry (DXA), bone density study, one or more sites; axial skeleton (e.g., hips, pelvis, spine)
- 77082 Dual-energy X-ray absorptiometry (DXA), bone density study, one or more sites; vertebral fracture assessment

**Covered HCPCS Level II®* Codes**

- G0130 Single energy x-ray absorptiometry (SEXA) bone density study, one or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel)

**Non-Covered CPT®* Codes**

- 78350 Single photon absorptiometry bone density (bone mineral content) study, one or more sites
- 78351 Dual photon absorptiometry bone density (bone mineral content) study, one or more sites

**ICD-9-CM Procedure Codes**
Bone Mineral Density Studies

DRAFT ICD-10-PCS Codes

Refer to the following ICD-10-PCS table(s) for specific PCS code assignment based on physician documentation.

NOTE: Per ICD-10-PCS Coding Guidelines, “ICD-10-PCS codes are composed of seven characters. Each character is an axis of classification that specifies information about the procedure performed. Within a defined code range, a character specifies the same type of information in that axis of classification. One of 34 possible values can be assigned to each axis of classification in the seven-character code”.

BR0GZZ1 Imaging, Axial Skeleton, Except Skull and Facial Bones, Plain Radiography; Whole Spine, Densitometry
BQ00Z1 Imaging, Non-Axial lower bones, Plain Radiography, Right Hip, Densitometry
BQ01ZZ1 Imaging, Non-Axial lower bones, Plain Radiography, Left Hip, Densitometry

Covered ICD-9-CM Diagnosis Codes
252.01 Primary Hyperparathyroidism
733.00 - 733.09 Osteoporosis
733.10 - 733.19 Pathologic fracture
733.90 Osteopenia
805.00 - 806.9 Fracture of vertebral column
V07.4 Hormone replacement therapy (postmenopausal)
V49.81 Asymptomatic postmenopausal status (age-related) (natural)
V58.65 Long-term (current) use of steroids [glucocorticoid therapy]

Covered Draft ICD-10-CM Diagnosis Codes
E21.0 Primary hyperparathyroidism
M80, M84, M48.5, M80, M84 Pathologic Fracture
M80.80 - M80.90 Other osteoporosis with current pathological fracture
M81.0 - M81.8 Osteoporosis without current pathological fracture
M85.80 - M85.9, M85, M89, M94 Other specified disorders of bone density and structure
S12.9XXA - S12.9XXS Fracture of neck, unspecified (cervical vertebra NOS)
S22.009A - S22.009S Fracture of thoracic vertebra, unspecified
S32.009A - S32.009S Fracture of lumbar vertebra, unspecified
Z78.0 Asymptomatic menopausal state
Z79.51 Long term (current) use of inhaled steroids
Z79.52 Long term (current) use of systemic steroids
Z79.890 Hormone replacement therapy (postmenopausal)


REFERENCES

MEDICAL POLICY COMMITTEE HISTORY AND REVISIONS

Date Action
6/5/2015, 7/10/2014 • Approved by MPC. No changes.
7/11/2013 • Approved by MPC. Updated criteria and USPSTF recommendation for osteoporosis screening.
7/5/2012 • Approved by MPC.
12/1/2011 • New template design approved by MPC.
8/2/2011 • Approved by MPC. No changes.