PriorityHealth

MEDICAL POLICY
No. 91494-R6

BONE DENSITY STUDIES

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Date Of Origin: January 19, 2005	**Status: Current**

I. POLICY/CRITERIA

Priority Health will limit coverage for BMD studies to central DXA only. Any other BMD studies (e.g. peripheral, such as wrist, finger and heel) are not medically/clinically necessary and, therefore, not covered.

BMD studies do not require prior authorization by Priority Health.

Guidelines on the appropriate use of BMD include information from the National Osteoporosis Foundation and Priority Health's guidelines in conjunction with the Michigan Quality Improvement Consortium.

A. A one-time measurement of BMD, using one method only, may be considered medically necessary to assess fracture risk and the need for pharmacologic therapy in the following patients considered at risk for osteoporosis, who are also considering treatment to prevent osteoporotic fracture:

   1. All women aged 65 and older regardless of risk factors.
   2. Men or women with a fracture risk (10-year probability of fracture using FRAX of 9.3%)
      a. A FRAX Assessment is done to identify patients for BMD testing when any of the following criteria are met:
         i. Personal history of fracture as an adult
         ii. History of fragility fracture in a first degree relative
         iii. Estrogen deficiency at an early age (<45 years)
         iv. Current cigarette smoking
         v. Low body weight (<127 lbs)
         vi. Alcohol 3 or more units per day
         vii. Use of oral corticosteroid therapy for more than 3 months
         viii. History of osteopenia or osteopenia diagnosed via x-ray
         ix. History of Depro-Provera® use
         x. Individuals who are at increased risk for fractures due to diseases, conditions or treatments including, but not limited to primary hyperparathyroidism, renal failure (patients on dialysis), decreased mineralization noted on other studies, lifelong low calcium intake, impaired vision, dementia, recent falls, low physical activity, poor

health/frailty, and long-term anti-convulsant therapy (e.g., phenytoin therapy).

(Calculate FRAX @ **http://www.shef.ac.uk/FRAX/index.aspx**)

3. Individuals beginning or on glucocorticoid therapy, provided intervention is an option. The most commonly used glucocorticoids include prednisone, prednisolone, betamethasone, dexamethasone and decadron.
4. Transplant patients
5. Men with hypogonadism or receiving androgen deprivation treatment.
6. Post menopausal women who present with fractures (to confirm diagnosis and determine disease severity).

B. If the initial BMD measurement was medically necessary as defined above, serial measurements of BMD to monitor treatment response may be considered medically necessary when performed no more frequently than 24 months apart and when a change in treatment plan may be made based on BMD results. When the need for serial measurements is anticipated in high risk patients who are likely to require treatment, and for obtaining serial measurements, a central DXA BMD measurement should be obtained, as treatment related changes in BMD are not observed at peripheral sites.

C. More frequent bone mass measurements may be considered medically necessary in any of the following circumstances:
   1. Monitoring individuals on long-term glucocorticoid (steroid) therapy of more than 3 months duration; **or**
   2. For a confirmatory baseline bone mass measurement to permit monitoring of individuals in the future if the initial bone mass test was performed with a technique that is different from the proposed testing method; **or**
   3. Monitoring of individuals with uncorrected primary hyperparathyroidism.

II. MEDICAL NECESSITY REVIEW

☐ Required ☒ Not Required ☐ Not Applicable

III. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- **HMO/EPO:** ***This policy applies to insured HMO/EPO plans.***
- **POS:** ***This policy applies to insured POS plans.***

- **PPO:** ***This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.***
- **ASO:** ***For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.***
- **INDIVIDUAL:** ***For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.***
- **MEDICARE:** ***Coverage is determined by the Centers for Medicare and Medicaid Services (CMS); if a coverage determination has not been adopted by CMS, this policy applies.***
- **MEDICAID/HEALTHY MICHIGAN PLAN:** ***For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.***

IV. DESCRIPTION

Bone mineral density (BMD) can be measured with a variety of techniques in a variety of sites. Sites are broadly subdivided into central sites (e.g. hip or spine) and peripheral sites (e.g. wrist, finger, heel). While BMD measurements are predictive of fragility fractures at all sites, central measurements of the hip and spine are the most predictive. Additionally, fractures of the hip and spine (e.g. vertebral fractures) are the most clinically relevant. The most commonly used techniques are Dual 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 BMD 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. This approach is endorsed by the National Osteoporosis Foundation's Clinician's Guide to Prevention and Treatment of Osteoporosis as well as the Michigan Quality Improvement Consortium Guideline: Management and Prevention of Osteoporosis

Background:

Osteoporosis, defined as low bone mass leading to an increased risk of fragility fractures, is an extremely common disease in the elderly due to age-related bone loss in both sexes and menopause-related bone loss in women. Current practice guidelines published by the National Osteoporosis Foundation (NOF) recommend that measurement of bone mineral density (BMD) be performed in all women over

the age of 65 and in postmenopausal women with additional risk factors. Additional risk factors include a personal history of fracture as an adult, history of fracture in a first-degree relative, current cigarette smoking, and low body weight (<127 lbs). Patients receiving glucocorticoid therapy are also at risk for bone loss, no matter what the age. Therefore, BMD measurements are often performed prior to initiating therapy.

BMD is one of the key determinants of the need for pharmacologic therapy. 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 NOF guidelines recommend that pharmacologic therapy be initiated in women with T scores below –2 in the absence of other risk factors, and in women with BMD T scores below –1.5 if other risk factors are present. Current pharmacologic options include hormone replacement therapy, bisphosphonates such as alendronate (Fosamax), selective estrogen receptor modulators (SERMs) such as raloxifene (Evista), and calcitonin. While BMD measurements are typically used to determine the need for pharmacologic therapy, serial monitoring of BMD to determine treatment response is also performed.

Dual-energy x-ray absorptiometry (DXA) is considered the gold standard because it is the most extensively validated test against fracture outcomes. When used in the same patients, DXA machines from different manufacturers differ in the proportion of patients diagnosed to have osteoporosis by 6 to 15 percent. Published studies consistently show that the probability of receiving a diagnosis of osteoporosis depends on the choice of test and site. One analytical study, for example, found that 6 percent of women older than 60 years of age would receive a diagnosis of osteoporosis if DXA of the total hip were used as the only test, compared with 14 percent for DXA of the lumbar spine, 3 percent with quantitative ultrasonography, and 50 percent with quantitative computed tomography (Faulker, 1999).

A meta-analysis assessed 23 publications from 11 separate prospective cohort studies published before 1996. Nearly all of the data were from women in their late 60s or older. No studies of ultrasonography were included. The meta-analysis indicated that DXA at the femoral neck predicted hip fracture better than measurements at other sites, and was comparable to forearm measurements for predicting fractures at other sites. For bone density measurements at the femoral neck, the pooled relative risk per decrease of one SD in bone density was 2.6 (CI, 2.0-3.5). In direct comparisons, heel ultrasonography was slightly worse than but comparable to DXA of the hip in women older than 65 years of age). For both tests, a result in the osteoporotic range is associated with an increased short-term probability of hip fracture. No data compare DXA and ultrasonography for prediction of fracture in women younger than 65 years of age.

Special Note: This policy is based on the recommendations of Priority Health's Technology Assessment Committee on December 3, 2004.

V. CODING INFORMATION

ICD-10 Codes that may apply:

E05.00 - E05.91	Thyrotoxicosis
E07.0	Hypersecretion of calcitonin
E20.1 – 20.9	Hypoparathyroidism
E21.1 – E21.5	Hyperparathyroidism and other disorders of parathyroid gland
E23.0	Hypopituitarism
E24.0 – E24.9	Cushing's syndrome
E28.310 - E28.39	Primary ovarian failure
E29.1	Testicular hypofunction
E34.2	Ectopic hormone secretion, not elsewhere classified
E43	Unspecified severe protein-calorie malnutrition
E44.0 – E44.1	Protein-calorie malnutrition
E45	Retarded development following protein-calorie malnutrition
E46	Unspecified protein-calorie malnutrition
E64.0	Sequelae of protein-calorie malnutrition
E83.50 - E83.59	Disorders of calcium metabolism
E89.40	Asymptomatic postprocedural ovarian failure
E89.41	Symptomatic postprocedural ovarian failure
K50.00 - K50.919	Crohn's disease
K51.00 – K51.919	Ulcerative colitis
K90.0 – K90.9	Intestinal malabsorption
K91.2	Postsurgical malabsorption, not elsewhere classified
M40.00 - M40.299	Kyphosis
M48.40xA – M48.48xS	Fatigue fracture of vertebra
M48.50xA – M48.58xS	Collapsed vertebra
M80.00xA - M80.88XS	Osteoporosis with current pathological fracture
M81.0 – M81.8	Osteoporosis without current pathological fracture
M83.0 – M83.9	Adult osteomalacia
M84.30xA – M84.9	Disorder of continuity of bone
M85.80 – M85.9	Disorder of bone density and structure
M89.9	Disorder of bone, unspecified
M94.9	Disorder of cartilage, unspecified
N18.1 – N18.9	Chronic kidney disease
N25.0 – N25.9	Disorders resulting from impaired renal tubular function
N91.0 – N91.5	Absent, scanty and rare menstruation
N95.0 – N95.9	Menopausal and other perimenopausal disorders
Q61.00 – Q61.9	Cystic kidney disease
Q96.0 – Q96.9	Turner's syndrome
R29.890	Loss of height
S12.000A - S12.9xxS	Fracture of cervical vertebra and other parts of neck
S14.101A – S14.9xxS	Injury of nerves and spinal cord at neck level
S22.000A - S22.089S	Fracture of thoracic vertebra
S24.101A – S24.159S	Other and unspecified injuries of thoracic spinal cord
S32.000A - S32.2xxS	Fracture of lumbar spine
S34.101A - S34.3xxS	Injury of lumbar and sacral spinal cord
S72.001A - S72.26XS	Fracture of neck of right femur
S79.001A - S79.099S	Physeal fracture of upper end of femur

T38.0x1A – T38.0x5S	Poisoning by, adverse effect of and under dosing of glucocorticoids and synthetic analogues
Z08	Encounter for follow-up examination after completed treatment for malignant neoplasm
Z09	Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm
Z40.02	Encounter for prophylactic removal of ovary
Z78.0	Asymptomatic menopausal state
Z79.3	Long term (current) use of hormonal contraceptives
Z79.51	Long term (current) use of inhaled steroids
Z79.52	Long term (current) use of systemic steroids
Z79.891	Long term (current) use of opiate analgesic
Z79.899	Other long term (current) drug therapy
Z90.721	Acquired absence of ovaries, unilateral
Z90.722	Acquired absence of ovaries, bilateral
Z90.79	Acquired absence of other genital organ(s)

ICD-10 Diagnoses that support screening central DEXA (77080, 77085) for commercial members:

Z00.00	Encounter for general adult medical examination without abnormal findings
Z00.01	Encounter for general adult medical examination with abnormal findings
Z13.820	Encounter for screening for osteoporosis
Z78.0	Asymptomatic menopausal state

CPT/HCPCS Codes

77080	Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; axial skeleton (e.g., hips, pelvis, spine)
77085	Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; axial skeleton (e.g., hips, pelvis, spine), including vertebral fracture assessment
77086	Vertebral fracture assessment via dual-energy X-ray absorptiometry (DXA)
G0130	Single energy x-ray absorptiometry (SEXA) bone density study, one or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel) *(Medicare only)*
76977	Ultrasound bone density measurement and interpretation, peripheral site(s), any method

Pre-authorization required:

Note: eviCore provides prior authorization medical necessity review services on behalf of Priority Health for participating providers. Prior authorization for out-of-network providers must be requested through Priority Health. Bone density studies may be covered when eviCore criteria are met.

77078	Computed tomography, bone mineral density study, 1 or more sites; axial skeleton (e.g., hips, pelvis, spine)

Not covered:

0508T	Pulse-echo ultrasound bone density measurement resulting in indicator of axial bone mineral density, tibia
77081	Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel) *Retrospective review on request if 77080 cannot be performed.*
78350	Bone density (bone mineral content) study, one or more sites; single photon absorptiometry
78351	Bone density (bone mineral content) study, one or more sites; dual photon absorptiometry, one or more sites
G0130	Single energy x-ray absorptiometry (SEXA) bone density study, one or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel) (*Covered for Medicare only)*

VI. REFERENCES

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