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](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

*CT bone density studies require prior authorization through eviCore.
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. 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
<table>
<thead>
<tr>
<th>Code Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S12.000A - S12.9xxS</td>
<td>Fracture of cervical vertebra and other parts of neck</td>
</tr>
<tr>
<td>S14.101A – S14.9xxS</td>
<td>Injury of nerves and spinal cord at neck level</td>
</tr>
<tr>
<td>S22.000A - S22.089S</td>
<td>Fracture of thoracic vertebra</td>
</tr>
<tr>
<td>S24.101A – S24.159S</td>
<td>Other and unspecified injuries of thoracic spinal cord</td>
</tr>
<tr>
<td>S32.000A - S32.2xxS</td>
<td>Fracture of lumbar spine</td>
</tr>
<tr>
<td>S34.101A - S34.3xxS</td>
<td>Injury of lumbar and sacral spinal cord</td>
</tr>
<tr>
<td>S72.001A - S72.26XS</td>
<td>Fracture of neck of right femur</td>
</tr>
<tr>
<td>S79.001A - S79.099S</td>
<td>Physeal fracture of upper end of femur</td>
</tr>
<tr>
<td>T38.0x1A – T38.0x5S</td>
<td>Poisoning by, adverse effect of and underdosing of glucocorticoids and synthetic analogues</td>
</tr>
<tr>
<td>Z08</td>
<td>Encounter for follow-up examination after completed treatment for malignant neoplasm</td>
</tr>
<tr>
<td>Z09</td>
<td>Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm</td>
</tr>
<tr>
<td>Z40.02</td>
<td>Encounter for prophylactic removal of ovary</td>
</tr>
<tr>
<td>Z78.0</td>
<td>Asymptomatic menopausal state</td>
</tr>
<tr>
<td>Z79.3</td>
<td>Long term (current) use of hormonal contraceptives</td>
</tr>
<tr>
<td>Z79.51</td>
<td>Long term (current) use of inhaled steroids</td>
</tr>
<tr>
<td>Z79.52</td>
<td>Long term (current) use of systemic steroids</td>
</tr>
<tr>
<td>Z79.891</td>
<td>Long term (current) use of opiate analgesic</td>
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<tr>
<td>Z79.899</td>
<td>Other long term (current) drug therapy</td>
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<tr>
<td>Z90.721</td>
<td>Acquired absence of ovaries, unilateral</td>
</tr>
<tr>
<td>Z90.722</td>
<td>Acquired absence of ovaries, bilateral</td>
</tr>
<tr>
<td>Z90.79</td>
<td>Acquired absence of other genital organ(s)</td>
</tr>
</tbody>
</table>

### ICD-10 Diagnoses

**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

*Procedures may not be billable by all providers. Radiology privileging limitations are in effect.*

- **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. CT 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:

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

Ahmed AI, Blake GM, Rymer JM, Fogelman I. Screening for osteopenia and osteoporosis: do the accepted normal ranges lead to overdiagnosis? Osteoporos Int 1997;7:432-38.


**AMA CPT Copyright Statement:**
All Current Procedure Terminology (CPT) codes, descriptions, and other data are copyrighted by the American Medical Association.

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Priority Health’s medical policies are intended to serve as a resource to the plan. They are not intended to limit the plan’s ability to interpret plan language as deemed appropriate. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment they choose to provide.

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