

Subject: CT Bone Density, (77078, 77079, 77080)		Original Effective Date: 12/13/17
Policy Number: MCR: 650	Revision Date(s): 12/12/18	
Review Date: 12/13/17, 12/19/18		

DISCLAIMER

This Molina Clinical Review (MCR) is intended to facilitate the Utilization Management process. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (i.e., will be paid for by Molina) for a particular member. The member's benefit plan determines coverage. Each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers will need to consult the member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this Molina Clinical Review (MCR) document and provide the directive for all Medicare members.

DESCRIPTION OF PROCEDURE/SERVICE/PHARMACEUTICAL

Quantitative Computed Tomography (QCT) is a three-dimensional method obtained on a CT scanner that provides bone mineral density (BMD) measurement based on the cancellous or trabecular content of the spine and hip. DEXA (Dual-energy x-ray absorptiometry) is an X-ray technique that precisely measures BMD at sites in the lumbar spine, hip and distal forearm.

DEXA accuracy and reproducibility has led to the establishment of standards for the diagnosis of osteoporosis by the WHO. The WHO scoring classification for osteoporosis derived from DEXA can be applied to QCT of the hip but is not accurate if applied to QCT of the spine. This is due to the fact that DEXA measurements summate both the cancellous bone and cortical end plates of the vertebrae, while QCT only includes cancellous bone. Also, the radiation dose for DEXA lumbar spine and hip scanning is approximately equal to that of a chest x-ray, whereas the radiation dose for QCT is significantly greater. For these reasons, DEXA is recommended as first-line screening and follow-up test for BMD. If DEXA is not available, QCT may be used as a secondary technique. However, there are specific cases in which QCT is considered superior to DEXA, including:

- Extremes in body height (ie,very large and very small patients)
- Patients with extensive degenerative disease of the spine
- Severely obese patients (BMI >35 kg/m²)

- A clinical scenario that requires increased sensitivity to small changes in trabecular bone density (parathyroid hormone and glucocorticoid treatment monitoring)

APPROVAL SUPPORT

Screening for suspected osteoporosis or osteopenia

- Women over age 65
- Men over age 70
- Post-menopausal women younger than 65 or men under age 70 with any of the following risk factors
 - Excessive alcohol intake
 - Previous non-pathologic fracture with minimal or no trauma history
 - Long term glucocorticoid use (3 months of Prednisolone at 5mg daily or equivalent doses of other steroids) or other medications (i.e. anticonvulsants) known to affect bone density
 - Women with low body weight (less than 58kg/127lbs)
 - Cigarette smoking
 - Family history of hip fracture
 - Men with Hypogonadism
 - Hyperparathyroidism, hyperthyroidism, or Cushing's syndrome
 - Type I diabetes
 - Malabsorption conditions
 - Chronic liver disease
 - Inflammatory bowel disease
 - Rheumatoid arthritis
 - Other medical conditions not mentioned but known to have an association with development of secondary osteoporosis
 - X-ray evidence or other signs of osteoporosis or osteopenia

Follow up or repeat studies should not be performed any sooner than every two years.

ADDITIONAL INFORMATION

The above medical necessity recommendations are used to determine the best diagnostic study based on a patient's specific clinical circumstances. The recommendations were developed using evidence based studies and current accepted clinical practices. Medical necessity will be determined using a combination of these recommendations as well as the patient's individual clinical or social circumstances.

- Tests that will not change treatment plans should not be recommended.
- Same or similar tests recently completed need a specific reason for repeat imaging.

The Frax[®] model is commonly used to estimate a patient's 10 year probability of fracture. It is a risk assessment tool which uses risk factors and bone mineral density measurements to estimate fracture risk. This 10 year risk can then be used to assist in treatment guidance.

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	Description
77078	Computed Tomography BONE DENSITY TEST