

POLICY TITLE	VERTEBRAL FRACTURE ASSESSMENT WITH DENSITOMETRY
POLICY NUMBER	MP-5.046

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I. POLICY

Screening for vertebral fractures using dual x-ray absorptiometry (DEXA or DXA) is considered **investigational**. There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with this procedure.

Cross-reference:

MP-5.037 Whole Body Dual X-Ray Absorptiometry to Determine Body Composition

II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital BlueCross and subject to benefit variations as discussed in Section VI. Please see additional information below.

FEP PPO: The FEP program dictates that all drugs, devices or biological products approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational. Therefore, FDA-approved drugs, devices or biological products may be assessed on the basis of medical necessity.

III. DESCRIPTION/BACKGROUND

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Diagnosis

Only 20% to 30% of vertebral fractures are recognized clinically; the rest are discovered incidentally on lateral spine radiographs. Lateral spine radiographs have not been recommended as a component of risk assessment for osteoporosis because of the cost, radiation exposure, and the fact that the radiograph would require a separate procedure in addition to the bone mineral density study using dual-energy x-ray absorptiometry. However, several densitometers with specialized software can perform vertebral fracture assessment (VFA) in conjunction with dual-energy x-ray absorptiometry. The lateral spine scan is performed by using a rotating arm;

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depending on the densitometer used, the patient can either stay in the supine position after the bone density study or is required to move to the left decubitus position.

VFA differs from radiologic detection of fractures because VFA uses a lower radiation exposure and can detect only fractures, while traditional radiograph images can detect other bone and soft tissue abnormalities in addition to spinal fractures. Manufacturers have also referred to this procedure as instant vertebral assessment, radiographic vertebral assessment, dual-energy vertebral assessment, or lateral vertebral assessment.

For both lateral spine radiographs and images with densitometry, vertebral fractures are assessed visually. While a number of grading systems have been proposed, the Genant semiquantitative method is commonly used. This system grades deformities from I to III, with grade I (mild) representing a 20% to 24% reduction in vertebral height, grade II (moderate) representing a 25% to 39% reduction in height, and grade III (severe) representing a 40% or greater reduction in height. The location of the deformity within the vertebrae may also be noted. For example, if only the mid height of the vertebrae is affected, the deformity is defined as an endplate deformity; if both the anterior and mid heights are deformed, it is a wedge deformity; and if the entire vertebrae is deformed, it is classed as a crush deformity. A vertebral deformity of at least 20% loss in height is typically considered a fracture. Accurate interpretation of both lateral spine radiographs and VFA imaging is dependent on radiologic training. Thus, device location and availability of appropriately trained personnel may influence diagnostic accuracy.

REGULATORY STATUS

Additional software is needed to perform VFA with a densitometer, and it must be cleared for marketing by the U.S. Food and Drug Administration through the 510(k) process. Products cleared for marketing include Aria, GE Lunar DXA Bone Densitometers with enCORE version 17GE, TBS iNspight, QCT Pro Asynchronous Calibration Moldue Clinqct, and Encore Version 16 Software for GE Lunar DXA bone densitometers. Food and Drug Administration product code KGI.

IV. RATIONALE

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SUMMARY OF EVIDENCE

For individuals who are at risk of having vertebral fractures but are not known to have them who receive VFA with densitometry by dual-energy x-ray absorptiometry, the evidence includes diagnostic accuracy studies and subgroup re-analyses of treatment studies. Relevant outcomes are test accuracy, test validity, and morbid events. There is a lack of direct evidence from screening trials that use densitometry with and without VFA improves health outcomes. Because direct evidence was not available, a chain of evidence was sought. Evidence was examined on the diagnostic accuracy of VFA in non-osteoporotic patients (i.e., those not already eligible for treatment), the ability of VFA to identify patients for treatment who would not otherwise be identified, and the effectiveness of treatment in this population. Diagnostic accuracy studies have reported variable findings; recent studies have suggested higher diagnostic accuracy of VFA

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overall compared with standard radiographs than older studies. Studies have found that VFA can identify patients without osteoporosis who may be appropriate candidates for treatment according to recommendations from the National Osteoporosis Foundation. However, there is limited evidence on the effectiveness of treatment in this population. No treatment data have been published in patients whose vertebral fracture had been identified using VFA software with densitometry. The evidence is insufficient to determine the effects of the technology on health outcomes.

V. DEFINITIONS

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BONE DENSITY OR BONE MINERAL DENSITY (BMD) is the average mineral concentration of a specimen of bone; skeletal mass. Bone mineral density is reduced in osteopenia and osteoporosis.

DUAL X-RAY ABSORPTIOMETRY (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 generates two 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.

VI. BENEFIT VARIATIONS

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The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits and which require preauthorization. There are different benefit plan designs in each product administered by Capital BlueCross. Members and providers should consult the member's health benefit plan for information or contact Capital BlueCross for benefit information.

VII. DISCLAIMER

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Capital BlueCross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital BlueCross' Provider Services or Member Services. Capital BlueCross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

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VIII. CODING INFORMATION

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Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Investigational; therefore not covered, screening for vertebral fractures using dual x-ray absorptiometry (DEXA or DXA):

CPT Codes®							
77085	77086						

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IX. REFERENCES

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1. Lee JH, Lee YK, Oh SH, et al. A systematic review of diagnostic accuracy of vertebral fracture assessment (VFA) in postmenopausal women and elderly men. *Osteoporos Int.* May 2016;27(5):1691-1699. PMID 26782682
2. Domiciano DS, Figueiredo CP, Lopes JB, et al. Vertebral fracture assessment by dual X-ray absorptiometry: a valid tool to detect vertebral fractures in community-dwelling older adults in a population-based survey. *Arthritis Care Res (Hoboken).* May 2013;65(5):809-815. PMID 23212896
3. Ferrar L, Jiang G, Clowes JA, et al. Comparison of densitometric and radiographic vertebral fracture assessment using the algorithm-based qualitative (ABQ) method in postmenopausal women at low and high risk of fracture. *J Bone Miner Res.* Jan 2008;23(1):103-111. PMID 17892377
4. Binkley N, Krueger D, Gangnon R, et al. Lateral vertebral assessment: a valuable technique to detect clinically significant vertebral fractures. *Osteoporos Int.* Dec 2005;16(12):1513-1518. PMID 15834512
5. Cosman F, de Beur SJ, LeBoff MS, et al. Clinician's guide to prevention and treatment of osteoporosis. *Osteoporos Int.* Oct 2014;25(10):2359-2381. PMID 25182228
6. Centre for Metabolic Bone Diseases, University of Sheffield U. FRAX Fracture Risk Assessment Tool: Calculation Tool. n.d.; <https://www.sheffield.ac.uk/FRAX/tool.aspx?country=9>. Accessed August 31, 2017.
7. Kanterewicz E, Puigoriol E, Garcia-Barrionuevo J, et al. Prevalence of vertebral fractures and minor vertebral deformities evaluated by DXA- assisted vertebral fracture assessment (VFA) in a population-based study of postmenopausal women: the FRODOS study. *Osteoporos Int.* May 2014;25(5):1455-1464. PMID 24599272
8. Mrgan M, Mohammed A, Gram J. Combined vertebral assessment and bone densitometry increases the prevalence and severity of osteoporosis in patients referred to DXA scanning. *J Clin Densitom.* Oct-Dec 2013;16(4):549-553. PMID 23769657

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9. Jager PL, Jonkman S, Koolhaas W, et al. Combined vertebral fracture assessment and bone mineral density measurement: a new standard in the diagnosis of osteoporosis in academic populations. *Osteoporos Int.* Apr 2011;22(4):1059-1068. PMID 20571773
10. Cummings SR, Black DM, Thompson DE, et al. Effect of alendronate on risk of fracture in women with low bone density but without vertebral fractures: results from the Fracture Intervention Trial. *Jama.* Dec 23-30 1998;280(24):2077-2082. PMID 9875874
11. Quandt SA, Thompson DE, Schneider DL, et al. Effect of alendronate on vertebral fracture risk in women with bone mineral density T scores of -1.6 to -2.5 at the femoral neck: the Fracture Intervention Trial. *Mayo Clin Proc.* Mar 2005;80(3):343-349. PMID 15757015
12. Kanis JA, Barton IP, Johnell O. Risedronate decreases fracture risk in patients selected solely on the basis of prior vertebral fracture. *Osteoporos Int.* May 2005;16(5):475-482. PMID 15875093
13. Bhoopalam N, Campbell SC, Moritz T, et al. Intravenous zoledronic acid to prevent osteoporosis in a veteran population with multiple risk factors for bone loss on androgen deprivation therapy. *J Urol.* Nov 2009;182(5):2257-2264. PMID 19758618
14. Greenspan SL, Nelson JB, Trump DL, et al. Effect of once-weekly oral alendronate on bone loss in men receiving androgen deprivation therapy for prostate cancer: a randomized trial. *Ann Intern Med.* Mar 20 2007;146(6):416-424. PMID 17371886
15. The International Society for Clinical Densitometry. 2019 ISCD Official Position – Adult. <https://www.iscd.org/official-positions/2019-iscd-official-positions-adult/> Accessed October 2, 2019.
16. International Society for Clinical Densitometry. 2015 ISCD Official Positions Adult. 2015; <https://www.iscd.org/official-positions/2015-iscd-official-positions-adult/> . Accessed October 2, 2019.
17. Camacho PM, Petak SM, Binkley N, et al. American Association of Clinical Endocrinologists and American College of Endocrinology clinical practice guidelines for the diagnosis and treatment of postmenopausal osteoporosis - 2016. *Endocr Pract.* Sep 02 2016;22(Suppl 4):1-42. PMID 27662240
18. Watts NB, Adler RA, Bilezikian JP, et al. Osteoporosis in men: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.* Jun 2012;97(6):1802-1822. PMID 22675062
19. Qaseem A, Forciea MA, McLean RM, et al. Treatment of low bone density or osteoporosis to prevent fractures in men and women: a clinical practice guideline update from the American College of Physicians. *Ann Intern Med.* Jun 06 2017;166(11):818-839. PMID 28492856
20. Management of osteoporosis in postmenopausal women: 2010 position statement of The North American Menopause Society. *Menopause.* Jan-Feb 2010;17(1):25-54; quiz 55-56. PMID 20061894
21. U.S. Preventive Services Task Force. Osteoporosis to Prevent Fractures: Screening. 2018; <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/osteoporosis-screening1>. Accessed October 2, 2019.
22. U. S. Preventive Services Task Force, Curry SJ, Krist AH, et al. Screening for osteoporosis to prevent fractures: US Preventive Services Task Force Recommendation Statement. *JAMA.* Jun 26 2018;319(24):2521-2531. PMID 29946735

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23. *Blue Cross Blue Shield Association Medical Policy Reference Manual. 6.01.44, Vertebral Fracture Assessment with Densitometry. September 2019.*

X. POLICY HISTORY

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MP 5.046	CAC 4/26/11 New Policy Adopt BCBSA. No previous policy statement related to this diagnostic testing.
	CAC 6/26/12 Consensus. No change to policy statement. References updated.
	7-29-13 Admin coding review complete
	CAC 9-24-13. Consensus. No change to policy statements. References updated. Rationale section added.
	CAC 9/30/14 Consensus. No change to policy statements. References and rationale sections updated.
	01/2015- New 2015 CPT codes added to policy.
	CAC 9/29/15 Consensus review. No change to the policy statement. Coding Reviewed
	CAC 11/29/16 Consensus review. No change to the policy statement. References and rationale updated. Variations reformatted. Coding reviewed.
	12/19/17 Consensus review. No change to the policy statement. Background, rationale, and references updated.
	11/2/18 Consensus review. No change to the policy statement. Background and references updated, rationale condensed. 7/17/19 Consensus code review. No changes recommended.
	10/2/19 Consensus review. No change to the policy statement. Background and references updated.

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