

**EFFECTIVE DATE:** 10|01|2015

**POLICY LAST UPDATED:** 12|19|2017

## OVERVIEW

Vertebral fracture assessment (VFA) with densitometry (bone density study) is a technique in which vertebral fractures are assessed at the same time as bone mineral density (BMD), by use of dual-energy X-ray absorptiometry (DXA). The addition of vertebral fractures to BMD may provide additional useful information on a subject's risk of fracture.

This policy addresses VFA **without** densitometry.

## MEDICAL CRITERIA

Not applicable

## PRIOR AUTHORIZATION

Not applicable

## POLICY STATEMENT

### BlueCHiP for Medicare

Screening for vertebral fractures using dual-energy X-ray absorptiometry (DXA or DEXA), **without bone density study**, is covered, but not separately reimbursed.

### Commercial Products

Screening for vertebral fractures using dual-energy X-ray absorptiometry (DXA or DEXA), **without bone density study**, is considered not medically necessary due to insufficient peer-reviewed literature that the service is effective.

## COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for limitations of benefits/coverage when services are not medically necessary.

## BACKGROUND

Vertebral fractures are highly prevalent in the elderly population, and epidemiologic studies have found that these fractures are associated with an increased risk of future spine or hip fractures independent of BMD. 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 BMD study using DXA. However, several densitometers with specialized software are able to perform VFA in conjunction with DXA. The lateral spine scan is performed by using a rotating arm; depending on the densitometer used, the patient can either stay in the supine position after the bone density study or is required to move onto the left decubitus position.

VFA differs from radiologic detection of fractures, as 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 the 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.

Vertebral fracture assessment (VFA) with densitometry is a technique to assess vertebral fractures at the same time as bone mineral density, using additional software with dual-energy x-ray absorptiometry. The addition of VFA to bone mineral density may augment diagnostic information on fracture risk.

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 reanalyses 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 nonosteoporotic patients (ie, 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 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.

## **CODING**

The following CPT code is covered, but not separately reimbursed for BlueCHiP for Medicare and is not medically necessary for Commercial Products:

**77086** Vertebral fracture assessment via dual-energy X-ray absorptiometry (DXA)

## **RELATED POLICIES**

Bone Mineral Density Studies

## **PUBLISHED**

Provider Update, February 2018

Provider Update, January 2017

Provider Update, November 2015

## **REFERENCES**

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10. National Government Services (NGS) Local Coverage Article (LCA) Bone Mass Measurement - Medical Policy Article (A51974)

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