

## 2017.1 Procedures Criteria

PATIENT:	Name	DOB	ID#	GROUP#
	Facility		Service Date	
PROVIDER:	Name		Fax#	Phone#
	Signature		Date	NPI/ID#

ICD-10:

CPT®:

**Subset:** Vertebroplasty or Kyphoplasty<sup>(1, 2, 3, 4)</sup>**Requested Service:** Vertebroplasty**Age:**<sup>(5)</sup> Age ≥ 18**INSTRUCTIONS:** Choose one of the following options and continue to the appropriate section

10. Malignancy related compression fracture<sup>(6)</sup>
20. Osteoporotic vertebral compression fracture<sup>(7)</sup>
30. Vertebral hemangioma<sup>(8, 9)</sup>

 10. Malignancy related compression fracture<sup>(6)</sup>

1. Choose all that apply:

- A) Back pain interferes with ADLs
- B) No neurologic deficits<sup>(10)</sup>
- C) Compression fracture by imaging
- D) Other clinical information (add comment)

- If the number of options selected is 3 and option D not selected, then go to question 2
- No other options lead to the requested service

2. Choose all that apply:<sup>(11, 12)</sup>

- A) Malignancy by biopsy
- B) Evidence of malignancy by history
- C) Evidence of malignancy by current radiology report
- D) Other clinical information (add comment)

- If 1 or more options A, B or C selected and option D not selected, then go to question 3
- No other options lead to the requested service

3. Choose all that apply:<sup>(13)</sup>

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10. Malignancy related compression fracture (*Continued...*)

- A) No septicemia
- B) No active osteomyelitis of the target vertebra
- C) No coagulopathy or coagulopathy treated
- D) No known allergy to bone cement or opacification agent
- E) Other clinical information (add comment)

- If the number of options selected is 4 and option E not selected, then the rule is satisfied; you may stop here (*Outpatient*)
- No other options lead to the requested service

 20. Osteoporotic vertebral compression fracture<sup>(7)</sup>

## 1. Choose all that apply:

- A) Osteoporosis by history
- B) Back pain interferes with ADLs
- C) No neurologic deficits<sup>(10)</sup>
- D) Osteoporotic compression fracture by imaging
- E) Other clinical information (add comment)

- If the number of options selected is 4 and option E not selected, then go to question 2
- No other options lead to the requested service

2. Treatment within last year, Choose all that apply:<sup>(14)</sup>

- A) NSAIDs or acetaminophen  $\geq$  3 weeks<sup>(15)</sup>
- B) Back brace  $\geq$  4 weeks or back brace contraindicated or not tolerated<sup>(16)</sup>
- C) Activity modification  $\geq$  6 weeks<sup>(17)</sup>
- D) Other clinical information (add comment)

- If the number of options selected is 3 and option D not selected, then go to question 3
- No other options lead to the requested service

## 3. Continued pain after treatment

- Yes
- No

- If option Yes selected, then go to question 4
- No other options lead to the requested service

4. Choose all that apply:<sup>(13)</sup>

20. Osteoporotic vertebral compression fracture (*Continued...*)

- A) No septicemia
- B) No active osteomyelitis of the target vertebra
- C) No coagulopathy or coagulopathy treated
- D) No known allergy to bone cement or opacification agent
- E) Other clinical information (add comment)

- If the number of options selected is 4 and option E not selected, then the rule is satisfied; you may stop here (*Outpatient*)
- No other options lead to the requested service

 30. Vertebral hemangioma<sup>(8, 9)</sup>

## 1. Choose all that apply:

- A) Back pain interferes with ADLs
- B) No neurologic deficits<sup>(10)</sup>
- C) Pathologic fracture by imaging<sup>(18)</sup>
- D) Other clinical information (add comment)

- If the number of options selected is 3 and option D not selected, then go to question 2
- No other options lead to the requested service

## 2. Treatment within last year, Choose all that apply:

- A) NSAIDs or acetaminophen  $\geq$  3 weeks<sup>(15)</sup>
- B) Back brace  $\geq$  4 weeks OR back brace contraindicated or not tolerated<sup>(16)</sup>
- C) Activity modification  $\geq$  6 weeks<sup>(17)</sup>
- D) Other clinical information (add comment)

- If the number of options selected is 3 and option D not selected, then go to question 3
- No other options lead to the requested service

## 3. Continued pain after treatment

- Yes
- No

- If option Yes selected, then go to question 4
- No other options lead to the requested service

4. Choose all that apply:<sup>(13)</sup>

- A) No septicemia
- B) No active osteomyelitis of the target vertebra
- C) No coagulopathy or coagulopathy treated
- D) No known allergy to bone cement or opacification agent
- E) Other clinical information (add comment)

30. Vertebral hemangioma (*Continued...*)

- If the number of options selected is 4 and option E not selected, then the rule is satisfied; you may stop here (*Outpatient*)
  - No other options lead to the requested service
-

## Notes

(1)

I/O Setting: Outpatient

(2)

These criteria cover vertebroplasty and kyphoplasty in either the thoracic or lumbar spine.

(3)

Vertebroplasty is a percutaneous technique performed under fluoroscopic or CT guidance that involves the injection of polymethylmethacrylate cement into a collapsed vertebral body. It is performed for pain relief and to stabilize the fracture.

Kyphoplasty, a modification of vertebroplasty, involves the insertion of an inflatable balloon within the vertebral body to expand the compressed vertebrae prior to cement injection. Kyphoplasty has been shown to restore vertebral body height and aid in the correction of kyphotic deformity that results from vertebral collapse (Kim et al., *J Spinal Disord Tech* 2012, 25: 338-44).

(4)

InterQual® Procedures criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. To generate the most appropriate recommendations, a comprehensive literature review of the clinical evidence was conducted. Sources searched included PubMed, Agency for Healthcare Research and Quality (AHRQ) Comparative Effectiveness Reviews, the Cochrane Library, Choosing Wisely, Centers for Medicare & Medicaid Services (CMS) National Coverage Determinations, the National Institute of Health and Care Excellence (NICE), and the National Guideline Clearinghouse. Other medical literature databases, medical content providers, data sources, regulatory body websites, and specialty society resources may also have been used. Relevant studies were assessed for risk of bias following principles described in the Cochrane Handbook. The resulting evidence was assessed for consistency, directness, precision, effect size, and publication bias. Observational trials were also evaluated for the presence of a dose-response gradient and the likely effect of plausible confounders.

(5)

These criteria address adult diagnoses or indications. The diagnoses or indications are not applicable to individuals < 18 and therefore, this content should only be applied to adults.

(6)

Bone metastases and multiple myeloma are common causes of compression fracture. Primary cancers such as breast, lung, and prostate cancer often cause bone metastases, most commonly to the spinal column. Vertebroplasty and kyphoplasty have been shown to provide pain relief and vertebral stabilization in patients with vertebral compression fractures due to malignancy (American College of Radiology (ACR), ACR Appropriateness Criteria: Management of Vertebral Compression Fractures. 2013; Julka et al., *J Spinal Disord Tech* 2012; Aug;27(6):342-6; Berenson et al., *Lancet Oncol* 2011, 12: 225-35; Vissers et al., *Pain Pract.* 2011, 11: 453-75).

(7)

Vertebroplasty and kyphoplasty are procedures designed to reduce pain and restore function in patients with painful, osteoporotic vertebral compression fractures. Early randomized controlled trials comparing vertebroplasty with a sham procedure or conservative care reported no significant clinical difference between the surgical and nonsurgical approaches (Rousing et al., *Spine (Phila Pa 1976)* 2010, 35: 478-82; Buchbinder et al., *N Engl J Med* 2009; 361(6): 557-568; Kallmes et al., *N Engl J Med* 2009; 361(6): 569-579). In contrast, kyphoplasty compared with conservative treatment resulted in clinical improvement that lasted up to 12 months, and reduction in back pain remained statistically significant at 2 years in one study (Boonen et al., *J Bone Miner Res* 2011, 26: 1627-37). More recent studies have demonstrated that both vertebroplasty and kyphoplasty are superior to conservative therapy and are equally effective in reducing pain and disability (Evans et al., *J Neurointerv Surg* 2015: Jun 24; Gu et al., *J Neurointerv Surg* 2015: May 11; Dohm et al., *AJNR Am J Neuroradiol* 2014, 35: 2227-36; Stevenson et al., *Health Technol Assess* 2014, 18: 1-290). In addition, vertebroplasty and kyphoplasty are both recommended as treatment options for osteoporotic vertebral compression fractures in major guidelines (Barr et al., *J Vasc Interv Radiol* 2014, 25: 171-81; American College of Radiology (ACR), ACR Appropriateness Criteria: Management of Vertebral Compression Fractures. 2013; National Institute for Health and Care Excellence (NICE), Percutaneous vertebroplasty and percutaneous balloon kyphoplasty for treating osteoporotic vertebral compression fractures. NICE technology appraisal guidance 279. 2013).

(8)

**Def:** Vertebral hemangiomas are benign tumors of dilated blood vessels that cause pain as they grow to involve the entire vertebral body. They are typically found in the lower thoracic or upper lumbar spine.

(9)

Vertebroplasty is an option for treating vertebral hemangiomas that have caused a pathologic fracture (Jian, *Pain Physician* 2013, 16: E419-25; Liu et al., *Eur Radiol* 2013, 23: 2575-81; Hao and Hu, *Pain physician* 2012, 15: 43-9). Prior to vertebroplasty, diagnostic evaluation by injection is helpful in identifying potential leakage sites into the venous system. In addition, vascular embolization may be performed prior to cement injection (Blecher et al., *Journal of spinal disorders & techniques* 2011, 24: 196-201).

**(10)**

Spinal neurologic deficits are sensory or motor abnormalities due to neurocompression of either the spinal cord or nerve root and can include muscle weakness, paralysis, or paresthesias. When present, decompression of the affected nerve should be considered.

**(11)**

Malignancy-related compression fractures are often difficult to distinguish from osteoporotic compression fractures, since clear radiographic findings of the malignancy are sometimes absent. These criteria are, therefore, satisfied when malignancy has been documented by biopsy, a history of recent malignancy, or radiographic evidence of a malignancy (Sutcliffe et al., Health Technol Assess 2013, 17: 1-274).

**(12)**

Since malignancy-related compression fractures are likely to progress, a trial of conservative treatment is not advised (Sutcliffe et al., Health Technol Assess 2013, 17: 1-274).

**(13)**

The listed findings are absolute contraindications to vertebroplasty or kyphoplasty (American College of Radiology (ACR), ACR Appropriateness Criteria: Management of Vertebral Compression Fractures. 2013).

**(14)**

The pain associated with vertebral compression fractures is usually intense and sometimes incapacitating for the first few weeks, improving gradually over the ensuing months. If vertebroplasty or kyphoplasty are recommended, they should be used as a second-line procedure for patients who have failed or cannot tolerate conservative management (Baerlocher et al., J Vasc Interv Radiol 2014, 25: 165-70; Barr et al., J Vasc Interv Radiol 2014, 25: 171-81; American College of Radiology (ACR), ACR Appropriateness Criteria: Management of Vertebral Compression Fractures. 2013).

**(15)**

NSAIDs are the preferred pharmacotherapy treatment of this condition because of their anti-inflammatory effect, although the improvement in pain is small when compared to placebo and there is a risk of gastrointestinal side effects (Qaseem et al., Ann Intern Med 2017: epub; Enthoven et al., Cochrane Database Syst Rev 2016, 2: CD012087). Evidence does not support the use of acetaminophen as first line therapy for treating spine pain; however, it can be used as an alternative when NSAIDs are contraindicated (e.g., pregnancy, history of peptic ulcer disease) (Machado et al., BMJ 2015, 350: h1225).

**(16)**

A back brace promotes pain relief from vertebral compression fractures by stabilizing the spine. Bracing limits pain-provoking movements and can facilitate early mobilization (Longo et al., J Bone Joint Surg Br 2012, 94: 152-7).

**(17)**

Activity modification involves limiting activities which provoke or aggravate symptoms. Patients may require bed rest in severe cases, although the risks of prolonged immobility must be balanced against the symptomatic benefits.

**(18)**

**Def:** A pathologic fracture is a fracture that occurs when a bone is weakened by disease (e.g., osteoporosis, benign or malignant tumors, osteomyelitis).

**ICD-10-CM (circle all that apply):** C41.2, C79.51, C79.52, D18.09, M48.50XA, M80.08XA, M84.48XA, M84.68XA, Other\_\_\_\_\_

**ICD-10-PCS (circle all that apply):** 0PU33JZ, 0PU34JZ, 0PU43JZ, 0PU44JZ, 0QU03JZ, 0QU04JZ, 0QU13JZ, 0QU14JZ,  
Other\_\_\_\_\_

**CPT® (circle all that apply):** 22510, 22511, 22512, Other\_\_\_\_\_