

# MEDICAL POLICY

|                        |                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------|
| Medical Policy Title   | Percutaneous Vertebroplasty/Mechanical Vertebral Augmentation and Percutaneous Sacroplasty |
| Policy Number          | 6.01.17                                                                                    |
| Current Effective Date | October 15, 2026                                                                           |
| Next Review Date       | June 2027                                                                                  |

Our medical policies are guides to evaluate technologies or services for medical necessity. Criteria are established through the assessment of evidence based, peer-reviewed scientific literature, and national professional guidelines. Federal and state law(s), regulatory mandates and the member's subscriber contract language are considered first in the determination of a covered service. (Link to [Product Disclaimer](#))

## POLICY STATEMENT(S)

- I. Vertebral Augmentation (e.g., injection of polymethylmethacrylate [PMMA] cement under imaging guidance) is considered **medically necessary** for the following indications:
  - A. Associated Surgical Procedure
    1. When **ALL** the following criteria are met:
      - a. Performed as a prophylactic vertebroplasty (including adjacent vertebrae if needed) to facilitate fusion surgery;
      - AND**
      - b. Performed at no more than two (2) levels of the T5-L5 spine on the same date of service.
  - B. Malignant Conditions
    1. When **ALL** the following criteria are met:
      - a. Imaging that is concordant with the individual's symptoms and physical exam findings and shows **ANY** of the following:
        - i. Osteolytic metastases, including destruction of a vertebral body by multiple myeloma; **or**
        - ii. Primary malignant neoplasm of bone or bone marrow;
      - AND**
      - b. Subjective symptoms include significant level of pain on a daily basis defined as clinically significant functional impairment (e.g., inability to perform household chores, prolonged standing, or essential job functions);
  - C. Non-Malignant Conditions
    1. When **ALL** the following criteria are met:
      - a. Imaging that is concordant with the individual's symptoms and physical exam

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findings and shows **ANY** of the following:

- i. Osteoporotic vertebral compression fracture;
- ii. Osteolytic vertebral compression fracture;
- iii. Aggressive space occupying lesions of a vertebral body (hemangioma/eosinophilic granuloma);
- iv. Osteonecrotic (i.e., Kummel disease) vertebral compression fracture; **or**
- v. Steroid-induced vertebral compression fracture;

### **AND**

- b. Performed at no more than two (2) levels of the T5-L5 spine on the same date of service;

### **AND**

- c. Subjective symptoms include significant level of pain on a daily basis defined as clinically significant functional impairment (e.g., inability to perform household chores, prolonged standing, etc.):

### **AND**

- d. **EITHER** of the following:
  - i. Acute (0-6 weeks) axial pain in the thoracic/lumbar spine that persists at a level which prevents independent transfers and/or ambulation and correlates with the level of fracture; **or**
  - ii. Subacute (greater than six (6) weeks) axial pain in the thoracic/lumbar spine with less than clinically meaningful improvement with **BOTH** of the following (unless contraindicated):
    - a) Prescription strength analgesics, steroids and/or NSAIDS for four (4) weeks; **and**
    - b) Provider-directed exercise program for four (4) weeks;

### **AND**

- e. For osteoporotic compression fractures, the individual is enrolled in an osteoporosis treatment and prevention program after an osteoporotic vertebral compression fracture.

- II. Vertebral Augmentation (Percutaneous Vertebroplasty/Kyphoplasty) is considered **not medically necessary**, when there is presence of **ANY** of the following contraindications:

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- A. Allergy to materials used in the procedure;
  - B. Uncorrected coagulation disorder or anticoagulation therapy;
  - C. Myelopathy associated with a bone fragment in the spinal canal or cord compression from a tumor;
  - D. Extensive vertebral destruction;
  - E. Burst fracture associated with widened pedicles and/or retro-pulsed bone fragments;
  - F. Potential space-occupying lesions causing cord compression (tumor, bone fragment);
  - G. Collapse of vertebral body to less than the level of the vertebra plana;
  - H. Radiculopathy from a herniated intervertebral disc;
  - I. Untreated symptomatic foraminal or canal stenosis, facet arthropathy, or other significant coexistent spinal or bony pain generators;
  - J. Unstable fracture or requirement for stabilization procedure in same or adjacent spinal region;
  - K. Septicemia and any active infection (including urinary tract infection [UTI]);
  - L. Active osteomyelitis of the target vertebra;
  - M. Severe cardiopulmonary disease.
- III. Vertebral Augmentation (Percutaneous Vertebroplasty/Kyphoplasty) is considered **not medically necessary** for **ANY** of the following alternative causes of axial back pain:
- A. Lumbar/thoracic radiculopathy or facet disease;
  - B. Lumbar/thoracic/sacral trigger points;
  - C. Insufficiency fractures or lesions of the sacrum or coccyx.
- IV. Primary Vertebral Augmentation (Percutaneous Vertebroplasty/Kyphoplasty) is considered **investigational** for **ANY** of the following:
- A. Non-painful/non-aggressive vertebral hemangioma;
  - B. Vertebrae of the cervical spine and thoracic levels T1-T4;
  - C. Prophylactic treatment for osteoporosis of the spine;
  - D. Prophylactic treatment for chronic back pain of long-standing duration (greater than six (6) months), even if associated with old compression fracture(s);
  - E. Spinoplasty (e.g., OptiMesh 1500E Polyethylene Terephthalate (PET) mesh pouch);

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- F. The use of any cement, cement products or devices that are not U.S. Food and Drug Administration (FDA) approved for vertebral augmentation (e.g., Norian XR cement and Norian SRS cement products);
  - G. Radiofrequency Kyphoplasty (e.g., StabiliT System);
  - H. Vertebral body stenting.
- V. Percutaneous sacroplasty is considered **investigational** for all indications.

### RELATED POLICIES

Corporate Medical Policy

7.01.112 Intradiscal Procedures

11.01.03 Experimental or Investigational Services

### POLICY GUIDELINE(S)

#### I. Urgent/Emergent Conditions

All individuals being evaluated for spine surgery should be screened for the presence of urgent/emergent indications/conditions that warrant definitive surgical treatment. Provider-directed, non-surgical management is not required for confirmed urgent/emergent conditions. Imaging findings noted in the applicable procedure policy statement are required.

Urgent/emergent conditions for vertebral augmentation procedure include **EITHER** of the following:

- A. Primary or metastatic neoplastic disease which is causing pathologic fracture; or
- B. A condition otherwise meeting criteria listed in the applicable procedure policy statement with documentation of severe debilitating, crippling pain or dysfunction to the point of being incapacitated.

#### II. Minimum documentation requirements needed to complete a spinal surgery prior authorization request include **ALL** the following:

- A. CPT codes, ICD-10 codes, and disc levels or motion segments involved for planned surgery must be provided;
- B. Detailed documentation of the type, duration, and frequency of provider-directed non-surgical treatment (e.g., interventional pain management, medication management, physical therapy, chiropractic care, provider-directed active exercise program, etc.) that includes response to each treatment:
  - 1. Detailed documentation explaining why a sufficient trial of non-surgical treatment was contraindicated (if applicable);
  - 2. Detailed documentation of less than clinically meaningful improvement for each

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treatment; and

- C. Written reports/interpretations of the most recent advanced diagnostic imaging reports (e.g., computed tomography [CT] scan, magnetic resonance imaging [MRI], or Myelography) performed, read, and interpreted by an independent radiologist. Clinically significant discrepancies in interpretation between the surgeon and the radiologist need to be reconciled prior to the documentation submission.
- III. Use of discography or magnetic resonance spectroscopy (MRS) is not endorsed.
- IV. Percutaneous vertebroplasty will **NOT** be separately reimbursed when combined with any open spine procedure.
- V. Mechanical vertebral augmentation will **NOT** be separately reimbursed when combined with any open spine procedure.

### DESCRIPTION

Percutaneous vertebroplasty and kyphoplasty are procedures performed for persistent pain or instability from osteoporotic or neoplastic vertebral compression fractures and aggressive hemangiomas. Bone cement, usually polymethylmethacrylate, is injected percutaneously into the partially collapsed vertebral body under fluoroscopic guidance. In the vertebroplasty procedure, the cement is injected in a semi-fluid state. In kyphoplasty, an inflatable bone tamp is introduced into the vertebra. The balloon is inflated, partially restoring vertebral height, then withdrawn and the cement injected into the space. The injected cement may be more viscous and injected under lower pressure than in the vertebroplasty procedure. Sacroplasty or coccygeoplasty are the terms used when vertebroplasty or kyphoplasty is used to treat insufficiency fractures of the sacrum or coccyx, respectively.

The Crosstrees PVA Pod device is designed to deliver bone cement to the fractured vertebral body in a controlled manner, without the need for an additional permanent implant other than the bone cement. The device consists of a shaft assembly for delivery of PMMA cement to a fabric barrier. Following cement delivery, the fabric barrier is opened and withdrawn from the vertebral body. The Crosstrees Pod technology was designed to address the need for improved vertebral fracture repair devices by taking a novel approach to controlling the delivery of PMMA to the site of fracture and, consequently, reducing the risk of complications caused by PMMA leakage, such as nerve root compression, pulmonary embolism, and additional adverse events.

Kiva is another mechanical vertebral augmentation technique that uses an implant for structural support of the vertebral body and to provide a reservoir for bone cement. The implant is made from PEEK-OPTIMA, a biocompatible polymer, and is inserted into the vertebral body over a guide wire. The implant can be customized by changing the coil stack height, with a maximum height of 12 mm. PMMA is injected through the lumen of the implant, which fixes the implant to the vertebral body and contains the PMMA in a cylindrical column. The proposed advantage of the Kiva system is a reduction in cement leakage.

SpineJack is a percutaneous kyphoplasty technique using an expandable intervertebral body implant

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to restore vertebral height followed by injection of PMMA cement to keep the implant in place.

Another variant of kyphoplasty is vertebral body stenting, which utilizes an expandable scaffold instead of a balloon to restore vertebral height. The proposed advantages of vertebral body stenting are to reduce the risk of cement leakage by formation of a cavity for cement application and to prevent the loss of correction that is seen following removal of the balloon used for balloon kyphoplasty. Vertebral body stenting (Synthes, Switzerland) is only available in Europe at this time.

Percutaneous sacroplasty, a variation of vertebroplasty, is an evolving technique that has been proposed for the treatment of sacral insufficiency fractures. The treatment goal of sacroplasty is to restore stability and integrity of the sacral spine, relieve pain and restore mobility. Sacral insufficiency fractures have traditionally been treated with conservative measures, including bed rest, analgesics, orthoses/corsets and physical therapy. In some cases, pain persists and is refractory to these measures. These patients are predominately elderly, and hardware implantation may not be possible in weakened bone. Percutaneous sacroplasty is a minimally invasive procedure, in which PMMA is injected through a needle inserted into the sacrum at the fracture site under fluoroscopic guidance.

### **SUPPORTIVE LITERATURE**

FDA clearance for the Crosstrees PVA Pod system was based on a prospective, single-arm IDE study (NCT00933036) that enrolled 135 patients in the United States, China, Venezuela, and Belgium. Patient outcomes for the Crosstrees procedure were compared to a literature control, which included vertebroplasty and kyphoplasty outcomes. The IDE study met its primary endpoints of a significant reduction in pain scores and PMMA bone cement extravasation over a follow-up period of 12 months. Additionally, the Crosstrees procedure demonstrated a significant reduction in new fracture rates often found with vertebroplasty and kyphoplasty procedures.

There is sufficient evidence in the medical literature to conclude that percutaneous vertebroplasty and kyphoplasty improve health outcomes and are appropriate treatment options for patients with osteoporotic collapse or osteolytic vertebral metastasis or myeloma with persistent debilitating pain despite conservative treatment. Improved health outcomes have been obtained outside the investigational setting. There is not sufficient data reported in the medical literature to draw conclusions about the efficacy of these procedures for other indications.

Vertebral augmentation with the Kiva VCF System was compared with balloon kyphoplasty in a pivotal, non-inferiority randomized, controlled trial (RCT) conducted by Tutton et al in 2015. This industry-sponsored, multi-center, open-label trial, known as KAST, was conducted in 300 patients with one or two osteoporotic vertebral compression fractures. Included were patients with VAS for back pain of at least 70 mm of 100 after two to six weeks of conservative care or a VAS of at least 50 mm after six weeks of conservative care, and an Oswestry Disability Index (ODI) of at least 30%. The primary end point at 12 months was a composite of a reduction in fracture pain by at least 15 mm on VAS, maintenance or improvement in function on ODI, and absence of device-related serious adverse events (SAEs). The primary end point was met for 94.5% of patients treated with Kiva and 97.6% of patients treated with kyphoplasty (Bayesian posterior probability of 99.92% for non-inferiority, using as-treated analysis). In the 285 patients treated, Kiva resulted in a mean

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improvement of 70.8 points in VAS, compared with a 71.8-point improvement for kyphoplasty. There was a 38.1-point improvement in ODI for the Kiva group, compared with a 42.2-point improvement for the kyphoplasty group. There were no device-related SAEs. The total volume of cement was 50% less with Kiva, and there was lower cement extravasation, compared with kyphoplasty (16.9% versus 25.8%, respectively).

Evidence to date includes a large, industry-sponsored, multi-center IDE trial, a large, independent randomized trial, and a retrospective matched-pair comparison. The two randomized comparative trials show similar outcomes as compared with kyphoplasty. The matched pair comparison reported favorable outcomes for Kiva, although this study is limited by the retrospective nature of the study and the non-concurrent controls.

Although uncommon, symptomatic vertebral hemangiomas can be painful and can limit daily activities. A number of methods have been used in the treatment of symptomatic and aggressive vertebral hemangioma, but none of them are optimal. Case reports and numerous case series have demonstrated that treatment with cement vertebroplasty is a safe procedure that provides very good results with improvement in pain. Also, studies using percutaneous cementoplasty as an adjunct to surgical treatment suggest that the use of percutaneous cementoplasty to treat the vertebral body component of the vascular lesion (hemangioma) may contribute to avoiding the substantial blood loss that has been historically described with primary surgical resection (curettage).

There is limited evidence to permit conclusions on the overall health outcomes on the use of percutaneous vertebroplasty, kyphoplasty or mechanical vertebral augmentation in patients with acute fractures (osteoporotic or traumatic). For acute fractures, conservative therapy consisting of rest, analgesics, and physical therapy is an option, and it has been demonstrated that symptoms will resolve in a large percentage of patients with conservative therapy only. However, several RCTs (Clark et al 2016; Leali et al 2016; Yang et al 2016) investigated the use of vertebroplasty in patients with osteoporotic fractures of less than six weeks' duration who had severe pain. Outcome data reported a significant benefit of vertebroplasty for the treatment of osteoporotic vertebral fractures, including significant pain reduction, allowing for earlier ambulation. Given the high morbidity associated with extended bedrest in older adults, this is considered to be a significant health benefit.

Frey et al (2017) reported the results of a prospective observational cohort of subjects treated for sacral insufficiency fractures using either sacroplasty (n=210) or non-surgical management (n=34). The non-surgical group consisted of subjects who did not meet inclusion criteria for sacroplasty. Follow-up occurred at various intervals from pretreatment to two years post treatment; the experimental group was also contacted at 10 years post treatment; the control group was not. Both groups had statistically significant decreases in VAS scores from pretreatment to two-year follow-up ( $p<0.001$ ). The experimental group had more significant decreases from follow-up to follow-up extending out to one year, the control group had significant decrease in mean VAS only at the pre-treatment to two-week follow-up. Additionally, the authors reported decreased use of opioid and non-opioid medications from preoperatively to postoperatively in the experimental group, which was sustained at the 10-year follow-up. Limitations of the study include small sample populations and lack of outcomes at 10-year follow-up for the control group.

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Mahmood et al (2019) published results of a systematic review evaluating sacroplasty as treatment of sacral insufficiency fractures. The authors reviewed 31 studies that met inclusion criteria; the studies consisted of eight prospective trials, 11 retrospective studies, and 12 case series; only one study included a control group. Sample populations ranged from 3 to 243 subjects. Sacroplasty was performed using different methods, the amount of PMMA injected varied, and a majority of the studies included the VAS score as the primary outcome, eight studies did not use VAS. Of the studies that used VAS, all reported a mean reduction of VAS at follow-up (68-94% reduction). Follow-up ranged from one month to one year with the exception of one study that followed subjects for 10 years (Frey, et al., 2017 described above). Nine studies reported cement extravasation, although clinically insignificant. Two studies had patients with persistent pain that required reoperation. In the author's opinion, sacroplasty as a treatment of sacral insufficiency fractures is a safe and effective procedure, in terms of pain relief with early return to function.

The published evidence evaluating sacroplasty is conflicting and insufficient to support improved clinical outcomes. A majority of the studies lack control groups, large sample populations, and measurement of long-term outcomes; therefore, no conclusions can be made regarding the safety and efficacy of sacroplasty.

### **PROFESSIONAL GUIDELINE(S)**

In 2011, the American Academy of Orthopaedic Surgeons (AAOS) published practice guidelines on the treatment of osteoporotic spinal compression fractures. The AAOS approved "a strong recommendation against the use of vertebroplasty for patients who present with an acute osteoporotic spinal compression fracture and are neurologically intact."

The National Institute for Health and Care Excellence (NICE) (2013) issued a guidance that recommended percutaneous vertebroplasty and percutaneous balloon kyphoplasty as treatment options for osteoporotic vertebral compression fractures in persons having severe, ongoing pain after a recent unhealed vertebral fracture, despite optimal pain management, and whose pain has been confirmed through physical exam and imaging at the level of the fracture. This guidance did not address balloon kyphoplasty with stenting, because the manufacturer of the stenting system (Synthes) stated there is limited evidence for vertebral body stenting given that the system had only recently become available.

### **REGULATORY STATUS**

The United States Food and Drug Administration (FDA) regulates Kyphoplasty and Mechanical Vertebral Augmentation Devices as medical devices. All devices including related components require FDA approval before marketing and use in the United States to ensure they are safe and effective for human use. Refer to the FDA Medical Device website. Available from: <https://www.fda.gov/medical-devices> [accessed 2026 Apr 6]

The FDA lists the most serious type of medical device recalls as well as early alert communications about corrective actions being taken by companies that the FDA believes are likely to be the most serious type of recalls. Available from: [Medical Device Recalls | FDA](#) [accessed 2026 Apr 6]



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Kyphoplasty and Mechanical Vertebral Augmentation Devices Cleared by the U.S. Food and Drug Administration (list may not be all inclusive):

| <b>Device</b>                                                                                     | <b>Manufacturer</b>          | <b>Date Cleared</b> | <b>510(k) No.</b> | <b>Indication</b>                                |
|---------------------------------------------------------------------------------------------------|------------------------------|---------------------|-------------------|--------------------------------------------------|
| <b>Balloon Kyphoplasty</b>                                                                        |                              |                     |                   |                                                  |
| Balloon Inflation System                                                                          | Ningbo Biotechnology Co. Ltd | 2/29/2024           | K232842           | Reduction of fractures and/or creation of a void |
| Renova Spine Baloon Catheter                                                                      | Biopsybell S.R.L.            | 10/30/2023          | K231340           | Reduction of fractures and/or creation of a void |
| TRACKER Plus Kyphoplasty System                                                                   | GS Medical Co., Ltd          | 10/28/2021          | K211797           | Reduction of fractures and/or creation of a void |
| Joline Kyphoplasty System Allevo                                                                  | Joline GmbH & Co.            | 5/27/2020           | K192449           | To repair vertebral compression fractures        |
| TRACKER Kyphoplasty System                                                                        | GS Medical Co., Ltd          | 12/4/2019           | K192335           | Reduction of fractures or creation of a void     |
| Stryker iVAS Elite Inflatable Vertebral Augmentation System (Stryker iVAS Elite Balloon Catheter) | Stryker Corporation          | 12/21/2018          | K181752           | To repair vertebral compression fractures        |
| SpineKure Kyphoplasty System                                                                      | Hanchang Co. Ltd.            | 5/29/2018           | K172871           | To repair vertebral compression fractures        |
| Modified Winch Kyphoplasty (15 and 20 mm) 11 Gauge Balloon Catheters                              | G-21 s.r.l.                  | 8/23/2017           | K172214           | To repair vertebral compression fractures        |

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| 13G InterV Kyphoplasty Catheter (Micro) and 11G InterV Kyphoplasty Catheter (Mini-Flex)                                            | Pan Medical Ltd.      | 11/1/2016  | K162453 | To repair vertebral compression fractures |
| MEDINAUT Kyphoplasty System                                                                                                        | Imedicom Co. Ltd.     | 7/29/2016  | K153296 | To repair vertebral compression fractures |
| AVAflex Vertebral Balloon System                                                                                                   | Carefusion            | 11/24/2015 | K151125 | To repair vertebral compression fractures |
| Osseoflex SB Straight Balloon 10g/4ml Osseoflex SB Straight Balloon 10g/2ml                                                        | Osseon LLC            | 4/9/2015   | K150607 | To repair vertebral compression fractures |
| InterV Kyphoplasty Catheter (Balloon Length: 1015 and 20mm)<br>InterV Kyphoplasty Catheter (Mini) (Balloon Length: 10 15 and 20mm) | Pan Medical Ltd.      | 3/6/2015   | K150322 | To repair vertebral compression fractures |
| GUARDIAN-SG Inflatable Bone Expander System                                                                                        | BM Korea Co. Ltd.     | 1/16/2015  | K143006 | To repair vertebral compression fractures |
| ZVPLASTY                                                                                                                           | Zavation LLC          | 9/12/2014  | K141419 | To repair vertebral compression fractures |
| <b>Mechanical Vertebral Augmentation</b>                                                                                           |                       |            |         |                                           |
| Kiva VCF Treatment System                                                                                                          | Benvenue Medical Inc. | 8/14/2014  | K141141 | To repair vertebral compression fractures |
| SpineJack Expansion Kit                                                                                                            | Vexim SA              | 8/30/2018  | K181262 | To repair vertebral compression fractures |
| V-Strut Vertebral Implant                                                                                                          | Hyprevention SAS      | 3/5/2020   | K191709 | Treatment of vertebral fractures in       |

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|  |  |  |  | the thoracic and lumbar spine |
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## CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

## CPT Codes

| Code  | Description                                                                                                                                                                                                                                                                                                                                                                      |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22510 | Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; cervicothoracic                                                                                                                                                                                                       |
| 22511 | Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; lumbosacral                                                                                                                                                                                                           |
| 22512 | Percutaneous vertebroplasty (bone biopsy included when performed), 1 vertebral body, unilateral or bilateral injection, inclusive of all imaging guidance; each additional cervicothoracic or lumbosacral vertebral body (list separately in addition to code for primary procedure)                                                                                             |
| 22513 | Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; thoracic                                                                                                      |
| 22514 | Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; lumbar                                                                                                        |
| 22515 | Percutaneous vertebral augmentation, including cavity creation (fracture reduction and bone biopsy included when performed) using mechanical device (e.g., kyphoplasty), 1 vertebral body, unilateral or bilateral cannulation, inclusive of all imaging guidance; each additional thoracic or lumbar vertebral body (list separately in addition to code for primary procedure) |

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| Code        | Description                                                                                                                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0200T (E/I) | Percutaneous sacral augmentation (sacroplasty), unilateral injection(s), including the use of a balloon or mechanical device, when used, 1 or more needles, includes imaging guidance and bone biopsy, when performed |
| 0201T (E/I) | Percutaneous sacral augmentation (sacroplasty), bilateral injections, including the use of a balloon or mechanical device, when used, 2 or more needles, includes imaging guidance and bone biopsy, when performed    |

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### HCPSC Codes

| Code  | Description                                                                                                                                                                                                                                                                                                                  |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C1062 | Intravertebral body fracture augmentation with implant (e.g., metal, polymer)                                                                                                                                                                                                                                                |
| C7504 | Percutaneous vertebroplasties (bone biopsies included when performed), first cervicothoracic and any additional cervicothoracic or lumbosacral vertebral bodies, unilateral or bilateral injection, inclusive of all imaging guidance                                                                                        |
| C7505 | Percutaneous vertebroplasties (bone biopsies included when performed), first lumbosacral and any additional cervicothoracic or lumbosacral vertebral bodies, unilateral or bilateral injection, inclusive of all imaging guidance                                                                                            |
| C7507 | Percutaneous vertebral augmentations, first thoracic and any additional thoracic or lumbar vertebral bodies, including cavity creations (fracture reductions and bone biopsies included when performed) using mechanical device (e.g., kyphoplasty), unilateral or bilateral cannulations, inclusive of all imaging guidance |
| C7508 | Percutaneous vertebral augmentations, first lumbar and any additional thoracic or lumbar vertebral bodies, including cavity creations (fracture reductions and bone biopsies included when performed) using mechanical device (e.g., kyphoplasty), unilateral or bilateral cannulations, inclusive of all imaging guidance   |

### ICD10 Codes

| Code              | Description                                                       |
|-------------------|-------------------------------------------------------------------|
| C41.2             | Malignant neoplasm of vertebral column                            |
| C79.51-<br>C75.52 | Secondary malignant neoplasm of bone and bone marrow (code range) |
| C90.00-<br>C90.02 | Multiple myeloma (code range)                                     |

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| Code              | Description                                                                           |
|-------------------|---------------------------------------------------------------------------------------|
| D18.09            | Hemangioma other sites                                                                |
| M48.50XA-M48.58XS | Collapsed vertebra, not elsewhere classified (code range)                             |
| M80.08XA-M80.08XS | Age-related osteoporosis with current pathological fracture, vertebra(e) (code range) |
| M80.88XA-M80.88XS | Other osteoporosis with current pathological fracture, vertebra(e) (code range)       |
| M84.58XA-M84.58XS | Pathological fracture in neoplastic disease, vertebrae (code range)                   |

### REFERENCES

American Academy of Orthopedic Surgeons [Internet]. The treatment of symptomatic osteoporotic spinal compression fractures. Guideline and evidence report. 2010 Sep 24 [accessed 2026 Apr 6] Available from: <https://www.maine-general.org/app/files/public/0c94b33d-e415-422b-a085-3bb1e2cc5436/aaossummary.pdf>

American College of Radiology [Internet]. ACR-ASNR-ASSR-SIR-SNIS practice parameter for the performance of vertebral augmentation. Revised 2017 [accessed 2026 Apr 6]. Available from: <https://www.asnr.org/wp-content/uploads/2021/08/VertebralAug.pdf>

Chang M, et al. Comparison between 7 osteoporotic vertebral compression fractures treatments: systematic review and network meta-analysis. World Neurosurg. 2021 Jan; 145:462-470.

Clark W, et al. Safety and efficacy of vertebroplasty for acute painful osteoporotic fractures (VAPOUR): a multicenter, randomized, double-blind, placebo-controlled trial. Lancet. 2016 Oct 1;388(10052):1408-1416.

Clinical Evaluation of the Crosstrees Pod in the Treatment of Pathologic Fracture of the Vertebral Body (Levels T4 - L5) in Adult Patients [Internet]. ClinicalTrials.gov identifier: NCT00933036. Updated 2014 Jan 23. [accessed 2026 Apr 6]. Available from <https://clinicaltrials.gov/study/NCT00933036?a=3>

Dennis C, et al. Vertebroplasty versus active control intervention for chronic osteoporotic vertebral compression fractures: the VERTOS randomized controlled trial. Radiology. 2023 Jul;308(1).

Frey ME, et al. Sacroplasty: a ten-year analysis of prospective patients treated with percutaneous sacroplasty: literature review and technical considerations. Pain Physician. 2017 Nov;20(7): E1063E1072.

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Hinde K, et al. Mortality outcomes of vertebral augmentation (vertebroplasty and/or balloon kyphoplasty) for osteoporotic vertebral compression fractures: a systematic review and meta-analysis. *Radiology*. 2020 Apr;295(1):96-103.

Hoffmann J, et al. Vertebral augmentation in spine surgery. *JAAOS*. 2023; 31:477-489.

Leali PT, et al. Safety and efficacy of vertebroplasty in the treatment of osteoporotic vertebral compression fractures: a prospective multicenter international randomized controlled study. *Clin Cases Miner Bone Metab*. 2016 Sept-Dec;13(3):234-236.

Luo Y, et al. Innovative minimally invasive implants for osteoporosis vertebral compression fractures. *Front Med (Lausanne)*. 2023; 10:1161174.

Mahmood B, et al. Safety and efficacy of percutaneous sacroplasty for treatment of sacral insufficiency fractures: a systematic review. *J Spine Surg*. 2019 Sep;5(3):365-371.

National Institute for Health and Care Excellence [Internet]. Percutaneous vertebroplasty and percutaneous balloon kyphoplasty for treating osteoporotic vertebral compression fractures TA279. 2016 Jan 11 [accessed 2026 Apr 6]. Available from: <https://www.nice.org.uk/guidance/ta279>

Rahmani R, et al. The efficacy of prophylactic vertebroplasty for preventing proximal junctional complications after spinal fusion: a systematic review. *Spine J*. 2022;22(12):2050-2058.

Ries ZG, et al. Updated imaging does not affect revision rates in adults undergoing spine surgery for lumbar degenerative disease. *J Neurosurg Spine*. 2019;30(2):228-223.

Shafshak T, et al. Epidural steroid injection versus conservative measures in treatment of chronic axial low back pain, a prospective randomized controlled study. *European Journal of Medical and Health Sciences*. 2022;4(5):47-51.

Shariff S, et al. Acute back pain: the role of medication, physical medicine and rehabilitation: WFNS spine committee recommendations. *World Neurosurgery*. 2024 July;23:1-11.

Shi G, et al. Multi-level percutaneous kyphoplasty in painful osteolytic vertebral metastases: a study of the efficacy and safety. *J Pain Res*. 2019;12:1053-1060.

Tutton SM, et al. KAST Study: the Kiva system as a vertebral augmentation treatment- a safety and effectiveness trial: a randomized, noninferiority trial comparing the Kiva system with balloon kyphoplasty in treatment of osteoporotic vertebral compression fractures. *Spine (Phila Pa 1976)*. 2015 Jun 15;40(12):865-75.

Wang C, et al. Comparison of percutaneous curved kyphoplasty and bilateral percutaneous kyphoplasty in osteoporotic vertebral compression fractures: a randomized controlled trial. *BMC Musculoskeletal Disorders*. 2021;22:588-67.

Yang EZ, et al. Percutaneous vertebroplasty versus conservative treatment in aged patients with acute osteoporotic vertebral compression fractures: a prospective randomized controlled clinical study. *Spine*. 2016 April;41(8):653-660.

Yang S, et al. Risk factors and correlation of secondary adjacent vertebral compression fracture in

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percutaneous kyphoplasty. Int J Surg. 2016 Dec;36(PtA):138-142.

### SEARCH TERMS

Not Applicable

### CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

[LCD - Percutaneous Vertebral Augmentation \(PVA\) for Osteoporotic Vertebral Compression Fracture \(VCF\) \(L33569\)](#) [accessed 2026 Jun 17]

### PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

### POLICY HISTORY/REVISION

#### Committee Approval Dates

05/18/00, 10/18/01, 11/21/02, 09/18/03, 08/19/04, 06/16/05, 05/18/06, 05/17/07, 04/17/08, 03/19/09, 02/18/10, 01/20/11, 01/19/12, 01/17/13, 01/16/14, 03/19/15, 05/25/16, 08/17/17, 06/21/18, 12/20/18, 07/18/19, 01/16/20, 02/18/22, 02/17/22, 02/16/23, 02/22/24, 10/17/24, 06/26/25, 06/18/26

| Date     | Summary of Changes                                                                         |
|----------|--------------------------------------------------------------------------------------------|
| 06/18/26 | <ul style="list-style-type: none"><li>• Annual review; policy intent unchanged.</li></ul>  |
| 06/26/25 | <ul style="list-style-type: none"><li>• Annual review, policy intent unchanged.</li></ul>  |
| 01/01/25 | <ul style="list-style-type: none"><li>• Summary of changes tracking implemented.</li></ul> |
| 05/18/00 | <ul style="list-style-type: none"><li>• Original effective date</li></ul>                  |

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