

Reimbursement Realities for Percutaneous Vertebroplasty

What to expect when billing for this procedure.

BY ROBERT V. PURTOCK, MD, PhD

Osteoporosis is becoming an increasing problem for both medical practitioners and patients. The number of older individuals with osteopenia and osteoporosis is increasing as the population in general ages. It is forecast that the number of osteopenic and osteoporotic individuals will increase from approximately 43 million in 2002 to 61 million in the year 2020. This problem of bone loss continues despite renewed interest and education of the medical community in the treatment of the problem. At the end of the 1990s, it was estimated that approximately 1.5 million fractures in the US were attributed to osteoporosis; approximately 700,000 of these fractures were vertebral body compression fractures. Direct costs for the treatment of these fractures are estimated to range from \$12 billion to \$17 billion per year. Compression fractures are the cause of more than 150,000 hospital admissions and more than 160,000 physician visits per year. What is most significant is that the morbidity and mortality from untreated osteoporotic vertebral body compression fractures in the elderly is as great as that from hip fractures.

PERCUTANEOUS VERTEBROPLASTY

Percutaneous vertebroplasty is a therapeutic procedure consisting of the injection of a biomaterial (usually polymethylmethacrylate) using either fluoroscopy or CT imaging guidance into a cervical, thoracic, or lumbar vertebral body to stabilize the fractured vertebral body. This stabilization facilitates the restoration of mobility, decreases disability, and reduces pain. For many years, vertebroplasty was an open procedure mainly used to help in the purchase of pedicle screws in osteoporotic bone for spinal instrumentation procedures. Percutaneous vertebroplasty was first performed by Galibert and Deramond in Amiens, France in 1984.¹ The patient was experiencing severe pain as a result of a C2 cervical hemangioma and experienced complete pain relief after

treatment. Percutaneous vertebroplasty has rapidly spread worldwide as a way to relieve pain resulting from acute/sub-acute osteoporotic vertebral body compression fractures. Soon, vertebroplasty was used to relieve pain from compression fractures secondary to metastatic tumors and painful hemangiomas. The procedure has been found to be relatively free from serious complications and has a very high efficacy profile for pain relief and disability reduction.

Despite the established safety of vertebroplasty, it has been associated with serious complications, including death and neurologic disability. Also, because osteoporotic compression fractures occur in the elderly population commonly having comorbid diseases, these patients can become technically difficult. Before vertebroplasty was available, treating these fractures as open procedures was a very dangerous undertaking, and one would expect that the placement of cement into a fractured spine would be well compensated. I have found that the opposite is the norm.

THE ROLE OF CMS

The Centers for Medicare & Medicaid Services (CMS) is responsible for setting physician reimbursement to a large extent because so many of these patients are older. Thus, one can expect that the level of reimbursement received will depend greatly on the number of patients who are Medicare and Medicaid qualified in one's practice.

Although the AMA sets the level of reimbursement for any procedure based upon Relative Value Units (RVUs), the level of realized reimbursement for vertebroplasty will, to a large extent, be based upon the level of reimbursement set by CMS and managed by local CMS contract insurers. Thus, since most vertebroplasty patients are of Medicare age, your total compensation will be based almost entirely on CMS-based rates as listed in the tables. Remember, local CMS carriers such as Blue Cross Blue Shield can promulgate

TABLE 1. CPT CODES FOR PERCUTANEOUS VERTEBROPLASTY

- **CPT 22520** Percutaneous vertebroplasty, one vertebral body, unilateral or bilateral injection; thoracic
- **CPT 22521** Percutaneous vertebroplasty, one vertebral body, unilateral or bilateral injection; lumbar
- **CPT 22522** Each additional level thoracic or lumbar vertebral body. List separately in addition to primary procedure
- **CPT 72291** Radiologic supervision and interpretation, percutaneous vertebroplasty, or vertebral augmentation including cavity creation, per vertebral body, under fluoroscopic guidance
- **CPT 72292** Radiologic supervision and interpretation, percutaneous vertebroplasty, or vertebral augmentation including cavity creation, per vertebral body, under CT guidance

their own criteria as to when they will pay for the procedure (eg, some local carriers consider vertebroplasty “experimental” and will not cover the procedure, while others require that the patient has a trial of “conservative management” before paying for vertebroplasty).

In my practice, the ratio of Medicare to non-Medicare patients with compression fractures exceeds 95%. In 2001, a specific current procedural terminology (CPT) code was established for percutaneous vertebroplasty, and there has been an explosion in the number of articles and procedures related to this new technology (Table 1). Medicare then set an “allowable” charge for the procedure, of which Medicare will only cover 80%. The remainder is the patient’s or the secondary insurance company’s responsibility.

THE CHALLENGE

Medicare has divided its payment system into physician fees and payments to facilities such as hospitals, hospital outpatient facilities, and freestanding ambulatory surgery centers. They will also pay a global fee when these procedures are performed in a nonfacility, such as a physician’s office. In the latter case, the physician fee is wrapped into the nonfacility fee, meaning that if the physician can do the procedure more efficiently and with the lowest-cost equipment, then the physician will recoup a larger portion of the total fee. Table 2 presents the current fees for the various facilities as of 2007, based on the published data in the Federal Register.²

CONCLUSION

These coding rules can be somewhat confusing, but, in general, you can expect to bill CMS approximately \$560 for your physician’s charge when you do these procedures at your local hospital. If you can perform vertebroplasty in your own office, you will bill CMS for approximately \$2,530. However, if the cost of your vertebroplasty kit is \$2,300 and

TABLE 2. 2007 FACILITY FEES

Physician

CPT Code	Facility	Nonfacility
22520	\$561.26	\$2,531.55
22521	\$531.32	\$2,357.22
22522	\$238.00	Not available
72291	\$65.94	Carrier priced
72292	\$67.08	Carrier priced

Hospital Outpatient Facility

CPT Code	Payment
22520	\$1,544.67
22521	\$1,544.67
22522	\$772.35
72291	\$157.01
72292	\$157.01

Freestanding Ambulatory Surgery Centers

CPT Code	Payment
22520	\$1,339
22521	\$1,339

your overhead for the office staff and C-arm is another \$200 per procedure, you will be running a negative balance sheet fairly soon. Also note that CMS only pays approximately 80% of the allowable physician fee, which means you will likely collect only approximately \$350 for a single-level vertebroplasty performed in a hospital setting. With hospital surgical suite delays, required patient preprocedure evaluation, and other time-consuming activities, you might spend 3 hours per patient to obtain your fee. In a nonfacility, however, your take-home fee will depend on how well you have managed costs.

Commercial insurers, on the other hand, have allowed as much as \$3,000 to \$6,000 per level for the procedure. Do not expect to see many of these patients because osteoporotic compression fractures are fairly rare in the population younger than 65 years.

The procedure itself, however, is very rewarding because 85% to 95% of the patients will experience either complete pain relief or at least partial relief and more mobility. ■

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1. Galibert P, Deramond H, Rosat, et al. Preliminary note on the treatment of vertebral angioma by percutaneous acrylic vertebroplasty. *Neurochirurgie*. 1987;33:166-168.
2. Federal Register. Rules and Regulations. 2006;71.

Suggested Reading

- Hollingworth W, Jarvik JG. Evidence on the effectiveness and cost-effectiveness of vertebroplasty: a review of policy makers’ responses. *Acad Radiol*. 2006;13:550-555.3.
- Mathis JM, Deramond H, Belkoff S, eds. *Percutaneous Vertebroplasty and Kyphoplasty*. 2nd ed. New York, NY: Springer; 2006.