Vertebral fractures

Clinical overview

Definition

The bones of the spinal column are called vertebrae (plural) (vertebra – singular). A vertebral fracture is a break in a bone of the spine.[1]

Types[2]

- **Compression fracture** – In a compression fracture, the anterior (front) of the vertebra is compressed and breaks, but the posterior (back) part of the vertebra does not. It commonly occurs in patients with osteoporosis and is usually stable.
- **Burst fracture** – In a burst fracture, both the front and the back of the vertebra are broken. It is commonly caused by landing on the feet after a fall from a significant height and can be either stable or unstable.
- **Vertebral fracture-dislocation** – Fracture-dislocation of the vertebra involves bone and/or soft tissue in which the vertebra moves off an adjacent (nearby) vertebra (displacement). These fractures are unstable and require surgery.

Causes/Risk factors[3]

- **Traumatic** – caused by trauma or injury (e.g., car accidents, a patient falls and lands on their feet or buttocks causing downward pressure on the spinal column causing the vertebrae to fracture.)
- **Pathologic** – caused by a disease process that weakens the bone, for example:
  - Osteoporosis (most common cause)
  - Tumors/cancers that started in the bones of the spine or tumors/cancers that started in other parts of the body and then spread to the bones of the spine
- **Both** – occurs when the vertebrae are weakened by a disease process that even minor trauma causes a compression fracture.

Signs and symptoms[3]

There may be no symptoms; however, symptoms can include:

- Back pain with sudden onset or chronic back pain that usually gets better when you lie down and worsens when you stand or walk
- Loss of height
- Hunchback (Kyphosis can cause pressure on the spine that may cause numbness, tingling or weakness, problems with walking, bowel or bladder function.)

Diagnostic tools[3]

- Medical history and physical exam
- Imaging tests: spine X-ray, CT, MRI
- Dual-energy X-ray absorptiometry (DEXA) scan (bone density testing) for osteoporosis

Treatment[3]

- Bedrest, back brace, physical therapy, surgery, treatment of underlying condition (if pathologic fracture)
- Pain medications (e.g., NSAIDs, muscle relaxers etc.)
- Medications to strengthen bones (ibandronic acid [Boniva®] and alendronic acid [Fosamax®])

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Best documentation practices for healthcare providers

Subjective[4]

- The History of Present Illness (HPI) sets the background for the patient's presenting problem, from when first diagnosed until this encounter.
- May include Review of Systems (ROS), Past, Family, and/or Social History (PFSH), Active Problems List.
- Document the presence or absence of any current symptoms related to vertebral fracture(s) (e.g., back pain, trouble walking, etc.).

Objective[4]

Document any objective data, including physical exam findings and results of neurological testing and related diagnostic imaging.

Assessment/Impression

Describe vertebral fractures to the highest level of specificity, including all of the following:

- Site/affected level of spinal column
- Type of fracture, for example:
  - Open/Closed
  - Acute/Chronic
  - Collapsed or Wedge compression
  - Displaced/Nondisplaced
  - Stable/Unstable burst
- Cause of the fracture(s):
  - If traumatic, specify the type of injury or trauma and when it occurred.
  - If pathologic, clearly link the fracture to the underlying causative disease.

Alert: It is critical that the medical record document whether a fracture is traumatic versus pathologic. Without this, there is no coding path or default in the ICD-10-CM classification and no code can be assigned.

- Current status (improving, unchanged, healed, etc., or with complications such as delayed healing, nonunion or malunion).

Plan[4]

- Document a clear and concise treatment plan for the fracture(s) (e.g., bedrest, back bracing, physical therapy, etc.).
- Document details of referrals and consultation requests, orders for diagnostic testing and medications prescribed with clear linkage to the fracture(s).
- Address any additional steps being taken to treat the patient.

ICD-10-CM coding tips[5]

The principles of multiple coding of injuries should be followed in coding fractures.

- A fracture not indicated as open or closed is coded to closed.
- A fracture not indicated whether displaced or not displaced is coded to displaced. Multiple fractures are sequenced in accordance with the severity of the fracture.

Coding traumatic vertebral fractures

Traumatic vertebral fractures are coded in accordance with the provisions within categories S12, S22 and S32 and the level of detail documented in the medical record. 5th and 6th characters specify the particular site within each vertebral region of the spinal column and the type of fracture. There are many descriptors within each subcategory. A 7th character is added to report the encounter as follows:

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Vertebral level	Subcategories
Cervical	S12.ØØ – S12.69, S12.9
Thoracic	S22.ØØ – S22.Ø8
Lumbar	S32.ØØ – S32.Ø5
Sacral	S32.1Ø – S32.19
Coccyx	S32.2

	7th Characters
A	initial encounter for closed fracture
B	initial encounter for open fracture
D	subsequent encounter for fracture with routine healing
G	subsequent encounter for fracture with delayed healing
K	subsequent encounter for fracture with nonunion
S	sequela

Initial encounter – active treatment of traumatic vertebral fracture (7th characters A and B)
Seventh characters A and B are used for each encounter in which the patient is receiving active treatment for traumatic vertebral fracture (including patients who delayed seeking treatment for the fracture or nonunion):

A: initial encounter for closed fracture
B: initial encounter for open fracture

Examples of active treatment: surgical treatment, emergency department encounter, evaluation and continuing (ongoing) active treatment by the same or a different physician.

- While a patient may be seen by a new or different physician over the course of treatment for an injury, assignment of the 7th character is based on whether the patient is undergoing active treatment and not whether the physician is seeing the patient for the first time.

Subsequent encounter – routine healing of traumatic vertebral fracture (7th character D)
This describes care given after the patient has completed active treatment of the fracture and is receiving routine care for the fracture during the healing or recovery phase. The 7th character extension is:

D: subsequent encounter for fracture with routine healing

Examples of routine traumatic fracture care: brace adjustment, X-ray to check healing status of fracture, medication adjustment and follow-up visits that occur after active fracture treatment has been completed.

- The aftercare Z codes should not be used for aftercare for traumatic fractures. For aftercare of a traumatic fracture, assign the acute fracture code with the appropriate 7th character.

Complications of traumatic vertebral fracture (7th characters G and K)
Care for *complications of the traumatic vertebral fracture itself* during the healing or recovery phase is reported by adding the appropriate 7th character to the fracture code as follows:

G: subsequent encounter for fracture with delayed healing
K: subsequent encounter for fracture with nonunion

By contrast, care for *complications of surgical treatment of the traumatic vertebral fracture* is reported with the appropriate surgical complication code with its own corresponding 7th character as indicated by the medical record documentation. For active treatment of the surgical complication, the complication code is sequenced first with 7th character "A". Active treatment refers to active treatment of the surgical complication even though the complication relates to a procedure performed at a previous encounter. *(See Example 3 under Coding examples)*

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Sequela of traumatic vertebral fracture (7th character S)
A sequela is a late effect – a residual condition produced after the acute phase of a vertebral fracture has ended. The sequela may be apparent early, or it may occur months or years later. There is no time limit on when a sequela code can be used. Sequelae are reported with 7th character S: sequela.

- Use both the traumatic vertebral fracture code and the code for the sequela itself. S is added only to the fracture code, not the sequela code.
- The specific type of sequela (e.g., kyphosis) is sequenced first, followed by the fracture code.
- Examples include kyphosis, spinal stenosis, prolonged chronic pain and spinal arthritis.

Additional reminders

- These subcategories include multiple instructional notes that must be carefully reviewed and applied as appropriate.

Coding examples

Example 1	
Medical record documentation	DOS: 4/2/2025 CC: The patient is here for an initial evaluation of pathologic fractures resulting from age-related osteoporosis. Assessment: Newly diagnosed L1 and L2 lumbar wedge compression fractures.
ICD-10-CM code	**M8Ø.Ø8XA** Age-related osteoporosis with current pathological fracture, vertebra(e), initial encounter for fracture
Comment	A code from category M80, not a traumatic fracture code, should be used for any patient with known osteoporosis who suffers a fracture, even if the patient had a minor fall or trauma, if that fall or trauma would not usually break a normal, healthy bone.[6]

Example 2	
Medical record documentation	DOS 11/15/2024 HPI: The patient, accompanied by her daughter, presents with pain associated with severe lumbar spinal stenosis. Impression: Severe lumbar spinal stenosis due to history of traumatic wedge compression fractures of fourth and fifth lumbar vertebrae.
ICD-10-CM codes	**M48.Ø61** Spinal stenosis, lumbar region without neurogenic claudication **S32.Ø4ØS** Wedge compression fracture of fourth lumbar vertebra, sequela **S32.Ø5ØS** Wedge compression fracture of fifth lumbar vertebra, sequela
Comment	7th character "S," sequela, is for use for complications or conditions that arise as a direct result of a condition, such as a scar formation after a burn. The "S" is added only to the injury, not the sequela code. The 7th character "S" identifies the injury responsible for the sequela. The specific type of sequela (e.g. scar) is sequenced first, followed by the injury code.[6]

Example 3	
Medical record documentation	DOS 7/17/2024 HPI: The patient is an 83-year-old male here for follow up on burst fracture at T10. Impression: 3 months post-op traumatic burst fracture at T10, now with nonunion due to implant failure (screw pull out).

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	Plan: Schedule revision surgery to extend level of fixation.
ICD-10-CM codes	**T84.226A** Displacement of internal fixation device of vertebrae, initial encounter **S22.Ø71K** Stable burst fracture of T9-T10 vertebra, subsequent encounter for fracture with nonunion
Comment	For active treatment of the surgical complication, the complication code is sequenced first with 7th character "A".[6]

Example 4	
Medical record documentation	DOS 2/27/2025 HPI: Age-related osteoporotic lumbar compression fracture at L2 status post L2 vertebroplasty 4 weeks ago. Now complains of lower extremity weakness. Imaging shows delayed healing due to epidural and intradural leakage of bone cement. Assessment and Plan: Schedule L1 and L2 laminotomy to remove bone cement.
ICD-10-CM codes	**T84.498A** Other mechanical complication of other internal orthopedic devices, implants and grafts, initial encounter **M8Ø.Ø8XG** Age-related osteoporosis with current pathological fracture, vertebra(e), subsequent encounter for fracture with delayed healing
Comment	For active treatment of the surgical complication, the complication code is sequenced first with 7th character "A". A code from category M80, not a traumatic fracture code, should be used for any patient with known osteoporosis who suffers a fracture, even if the patient had a minor fall or trauma, if that fall or trauma would not usually break a normal, healthy bone.[6]

References

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