D. SPINAL PAIN, SECTION 2: SPINAL AND RADICULAR PAIN SYNDROMES OF THE CERVICAL AND THORACIC REGIONS

N.B. For explanatory material on this section and on section G, Spinal and Radicular Pain Syndromes of the Lumbar, Sacral, and Coccygeal Regions, see pp. 11-16 in the list of Topics and Codes. Please also note the comments on coding on p. 17.

GROUP IX: CERVICAL OR RADICULAR SPINAL PAIN SYNDROMES

Cervical Spinal or Radicular Pain Attributable to a Fracture (IX-1)

Definition
Cervical spinal pain occurring in a patient with a history of injury in whom radiography or other imaging studies demonstrate the presence of a fracture that can reasonably be interpreted as the cause of the pain.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
Radiographic or other imaging evidence of a fracture of one of the osseous elements of the cervical vertebral column.

Schedule of Fractures
IX- 1.1(S)(R)
Fracture of a Vertebral Body
Code 133.X1eS/C 233.X1eR
IX- 1.2(S)
Fracture of a Spinous Process (Synonym: “clay-shovelers fracture”)
Code 133.X1fS
IX-1.3(S)(R)
Fracture of a Transverse Process
Code 133.X1gS/C 233.X1fR
IX- 1.4(S)(R)
Fracture of an Articular Pillar
Code 133.X1hS/C 233.X1gR
IX-1.5(S)(R)
Fracture of a Superior Articular Process
Code 133.X1iS/C 233.X1hR
IX- 1.6(S)(R)
Fracture of an Inferior Articular Process
Code 133.X1jS/C 233.X1iR
IX-1.7(S)(R)
Fracture of Lamina
Code 133.X1kS/C 233.X1uR
IX-1.8(S)(R)
Fracture of the Odontoid Process
Code 133.X1s/C 233.X1vR
IX-1.9(S)(R)
Fracture of the Anterior Arch of the Atlas
Code 133.X1mS/C 233.X1pR

IX-1.10(S)(R)
Fracture of the Posterior Arch of the Atlas
Code 133.X1nS/C 233.X1qR
IX- 1.11(S)(R)
Burst Fracture of the Atlas
Code 133.X1oS/C 233.X1wR

Cervical Spinal or Radicular Pain Attributable to an Infection (IX-2)

Definition
Cervical spinal pain occurring in a patient with clinical or other features of an infection, in whom the site of infection can be specified and which can reasonably be interpreted as the source of the pain.

Clinical Features
Cervical spinal pain with or without referred pain, associated with pyrexia or other clinical features of infection.

Diagnostic Features
A presumptive diagnosis can be made on the basis of an elevated white cell count or other serological features of infection, together with imaging evidence of the presence of a site of infection in the cervical vertebral column or its adnexa. Absolute confirmation relies on histological and/or bacteriological confirmation using material obtained by direct or needle biopsy.

Schedule of Sites of Infection
IX-2. 1(S)(R)
Infection of a Vertebral Body (Osteomyelitis)
Code 132.X2aS/C 232.X2iR
IX-2.2(S)(R)
Septic Arthritis of a Zygapophysial Joint
Code 132.X2bS/C 232.X2jR
IX-2.3(S)(R)
Septic Arthritis of an Atlanto-Axial Joint
Code 132.X2cS/C 232.X2cR
IX-2.4(S)(R)
Infection of the Prevertebral Muscles or Space
Code 132.X2dS/C 232.X2kR
IX-2.5(S)(R)
Infection of an Intervertebral Disk (Diskitis)
IX-2.6(S)(R)
Infection of an Interbody Graft
Code 132.XtS/C 232.X2mR
IX-2.7(S)(R)
Infection of a Posterior Fusion
Code 132.X2gS/C 232.X2nR
IX-2.8(S)(R)
Infection of the Epidural Space (Epidural Abscess)
Code 132.X2hS/C 232.X2oR
IX-2.9(S)(R)
Infection of the Spinal Meninges (Meningitis)
Code 103.X2cS/C 203.X2cR
IX-2.10(S)(R)
Herpes Zoster Acute
Code 103.X2dS/C 203.X2dR
IX-2.11(S)(R)
Postherpetic Neuralgia
Code 103.X2eS/C 203.X2eR
IX-2.12(S)(R)
Syphilis: Tabes Dorsalis and Hypertrophic Pachymeningitis
IX-2.13(S)(R)
Other Syphilitic Changes, Including Gumma
(No Code)

Cervical Spinal or Radicular Pain Attributable to a Neoplasm (IX-3)

Definition
Cervical spinal pain associated with a neoplasm that can reasonably be interpreted as the source of the pain.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
A presumptive diagnosis may be made on the basis of imaging evidence of a neoplasm that directly or indirectly affects one or other of the tissues innervated by cervical spinal nerves. Absolute confirmation relies on obtaining histological evidence by direct or needle biopsy.

Schedule of Neoplastic Diseases
IX-3. I (S)(R)
Primary Tumor of a Vertebral Body
Code 133.X4aS/C 233.X4aR
IX-3.2(S)(R)
Primary Tumor of Any Part of a Vertebra Other than Its Body
Code 133.X4bS/C 233.X4bR
IX-3.3 (S)(R)
Primary Tumor of a Zygapophysial Joint
Code 133.X4cS/C 233.X4cR
IX-3.4(S)(R)
Primary Tumor of an Atlanto-Axial Joint
Code 133.X4dS/C 233.X4dR
IX-3.5(S)(R)
Primary Tumor of a Paravertebral Muscle
Code 133.X4eS/C 233.X4eR
IX-3.6(S)(R)
Primary Tumor of Epidural Fat (e.g., lipoma)
Code 133.X4fS/C 233.X4yR
IX-3.7(S)(R)
Primary Tumor of Epidural Vessels (e.g., angioma)
Code 133.X4gS/C 233.X4gR
IX-3.8(S)(R)
Primary Tumor of Meninges (e.g., menigioma)
Code 103.X4aS/C 203.X4aR
IX-3.9(R)
Primary Tumor of Spinal Nerves (e.g., neurofibroma, schwannoma, neuroblastoma)
Code 203.X4bR
IX-3.10O(S)(R)
Primary Tumor of Spinal Cord (e.g., glioma)
Code 103.X4cS/C 203.X4cR
IX-3.11I (S)(R)
Metastatic Tumor Affecting a Vertebra
Code 133.X4hS/C 233.X4gR
IX-3.12(S)(R)
Metastatic Tumor Affecting the Vertebral Canal
Code 133.X4iS/C 233.X4uR
IX-3.13(S)(R)
Other Infiltrating Neoplastic Disease of a Vertebra (e.g., lymphoma)
Code 133.X4jS/C 233.X4qR

Cervical Spinal or Radicular Pain Attributable to Metabolic Bone Disease (IX-4)

Definition
Cervical spinal pain associated with a metabolic bone disease that can reasonably be interpreted as the source of the pain.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
Imaging or other evidence of metabolic bone disease affecting the cervical vertebral column, confirmed by appropriate serological or biochemical investigations and/or histological evidence obtained by needle or other biopsy.

Schedule of Metabolic Bone Diseases
IX-4.1 (S)(R)
Osteoporosis of Age
Code 132.X5aS/C 232.X5gR
IX-4.2(S)(R)
Osteoporosis of Unknown Cause
Code 132.X5bS/C 232.X5hR
IX-4.3(S)(R)
Osteoporosis of Some Known Cause Other than Age
Code 132.X5cS/C 232.X5iR
IX-4.4(S)(R)
    Hyperparathyroidism
    Code 132.X5dS/C 232.X5jR
IX-4.5(S)(R)
    Paget’s Disease of Bone
    Code 132.X5eS/C 232.X5kR
IX-4.6(S)(R)
    Metabolic Disease of Bone Not Otherwise Classified
    Code 132.X5fS/C 232.X5lR

Cervical Spinal or Radicular Pain Attributable to Arthritis (IX-5)

Definition
Cervical spinal pain associated with arthritis that can reasonably be interpreted as the source of the pain.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
Imaging or other evidence of arthritis affecting the joints of the cervical vertebral column.

Schedule of Arthritides
IX-5. 1 (S)(R)
    Rheumatoid Arthritis
    Code 132.X3aS/C 232.X3aR
IX-5.2(S)(R)
    Ankylosing Spondylitis
    Code 132.X8aS/C 232.X8aR
IX-5.3(S)(R)
    Osteoarthritis
    Code 138.X6aS/C 238.X6aR
IX-5.4(S)(R)
    Seronegative Spondylarthropathy Not Otherwise Classified
    Code 123.X8aS/C 232.X8aR

Remarks
Osteoarthritis is included in this schedule with some hesitation because there is only weak evidence that indicates that this condition as diagnosed radiologically is causally associated with spinal pain. The alternative classification to “cervical pain due to osteoarthritis” should be “cervical zygapophysial joint pain” if the criteria for this diagnosis are satisfied (see IX-11) or “cervical spinal pain of unknown or uncertain origin” (see IX-7).

The condition of “spondylosis” is omitted from this schedule because there is no significant positive correlation between the radiographic presence of this condition and the presence of spinal pain (Friedenberg and Miller 1963; Heller et al. 1983). There is no evidence that this condition represents anything more than age-changes in the vertebral column.
References

Cervical Spinal or Radicular Pain Associated with a Congenital Vertebral Anomaly (IX-6)

Definition
Cervical spinal or radicular pain associated with a congenital vertebral anomaly.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
Imaging evidence of a congenital vertebral anomaly affecting the cervical vertebral column.

Remarks
There is no evidence that congenital anomalies per se cause pain. Although they may be associated with pain, the specificity of this association is unknown. This classification should be used only when the cause of pain cannot be otherwise specified and there is a perceived need to highlight the presence of the congenital anomaly, but should not be used to imply that the congenital anomaly is the actual source of pain.

Code
23.X0 * S/C
223.XOR

Cervical Spinal Pain of Unknown or Uncertain Origin (IX-7)

Definition
Cervical spinal pain occurring in a patient whose clinical features and associated features do not enable the cause and source of the pain to be determined, and whose cause or source cannot be or has not been determined by special investigations.

Clinical Features
Cervical spinal pain with or without referred pain.

Diagnostic Features
Cervical spinal pain for which no other cause has been found or can be attributed.

Pathology
Unspecified.
Remarks
This definition is intended to cover those complaints that for whatever reason currently defy conventional diagnosis. It does not encompass pain of psychological origin. It presupposes an organic basis for the pain, but one that cannot be or has not been established reliably by clinical examination or special investigations such as imaging techniques or diagnostic blocks.

This diagnosis may be used as a temporary diagnosis. Patients given this diagnosis could in due course be accorded a more definitive diagnosis once appropriate diagnostic techniques are devised or applied. In some instances, a more definitive diagnosis might be attainable using currently available techniques, but for logistic or ethical reasons these may not have been applied.

Upper Cervical Spinal Pain of Unknown or Uncertain Origin (IX-7.1)

Definition
As for IX-7, but the pain is located in the upper cervical region.

Clinical Features
Spinal pain located in the upper cervical region.

Diagnostic Criteria As for IX-7, save that the pain is located in the upper cervical region.

Pathology
Unspecified.

Remarks As for IX-7.

Code
13X.X8eS/C
23X.X8eR

Lower Cervical Spinal Pain of Unknown or Uncertain Origin (IX-7.2)

Definition
As for IX-7, but the pain is located in the lower cervical region.

Clinical Features
Spinal pain located on the lower cervical region.

Diagnostic Criteria
As for IX-7, save that the pain is located in the lower cervical region.

Pathology
Unspecified.

Remarks
As for IX-7.

Code
Cervico-Thoracic Spinal Pain of Unknown or Uncertain Origin (IX-7.3)

Definition
As for IX-7, but the pain is located in the cervicothoracic region.

Clinical Features
Spinal pain located in the cervico-thoracic region.

Diagnostic Criteria
As for IX-7, save that the pain is located in the cervicothoracic region.

Pathology Unspecified.

Remarks As for IX-7.

Code
13.X8eS/C
23.X8eR

Acceleration-Deceleration Injury of the Neck (Cervical Sprain) (IX-8)

Definition
Cervical spinal pain precipitated by an event involving sudden acceleration or deceleration of the head and neck with respect to the trunk.

Clinical Features
The pain is aggravated by motion of the cervical spine, tension, sitting, or reading and is often accompanied by muscle spasm and trigger points in one or more muscles of the occiput or neck. Prolonged or repetitive use of the shoulder girdle muscles, e.g., carrying dishes or washing them, may induce radiation of pain in the upper extremity. Push/pull activities, e.g., vacuum cleaning, may aggravate pain also. Cervical spinal pain with or without referred pain in a patient describing a history of sudden acceleration or deceleration of the head and neck of a magnitude sufficient to be presumed to have injured one or more of the components of the cervical spine.

Diagnostic Criteria
The presence of clinical features described above.

Pathology
No single pathologic entity can be ascribed to this condition. The spinal pain can be caused by any of a variety of injuries that may befall the cervical spine.

Remarks
The use of the term “whiplash” is not recommended.
This classification is essentially a clinical diagnosis. A more specific diagnosis could be entertained if the appropriate diagnostic criteria could be satisfied, for example sprain of an anulus fibrosus, zygapophysial joint pain, muscle sprain, muscle spasm. Certain associated features such as dizziness, tinnitus, and blurred vision occur in some cases, often those which are relatively severe. Sleep disturbance and mood disturbance often appear for months or longer in the more severe cases, but these are a minority of all cases. These associated features may be coincidental or expressions of an anxiety state or a secondary response to chronic pain. Their presence or absence is immaterial to the formulation of the diagnosis.

Code
133.X1aS/C
233.X1aS/C
233.X1aR

References

Torticollis (Spasmodic Torticollis) (IX-9)

Definition
Cervical spinal pain associated with sustained rotatory deformity of the neck.

Clinical Features
Cervical spinal pain, with or without referred pain, occurring in a patient who maintains a rotated posture of the head and neck.

Diagnostic Criteria
Obvious rotated posture of the neck with or without compensatory rotation of the head.

As far as possible, the cause should be specified, but the clinical features of this condition are so distinctive that it can remain a clinical diagnosis. Neurological causes induce spasmodic torticollis and should be distinguished from muscular or articular causes.

Pathology
1. Neurological: Torticollis may be a feature of a basal ganglia disorder, either primary or drug-induced. Pain may only be a result of secondary degenerative musculoskeletal effects.
2. Muscular: Sprain of a muscle may result in the patient assuming an antalgic, rotated posture that minimizes the strain on the affected muscle. Contracture can develop not susceptible to manipulation under anesthesia.
3. Articular: One of the synovial joints of the neck may be dislocated or subluxated so as to cause the rotatory deformity, and voluntary reduction is not possible because of structural changes in the joint or because attempted reduction stresses periarticular or intraarticular structures and aggravates the patient’s pain. This includes fixed atlanto-axial rotatory deformity and meniscus extrapram of a cervical zygapophysial joint.
4. Herniated nucleus pulposus: In the presence of a herniated nucleus pulposus, a patient may adopt a reflex or voluntary antalgic rotated posture of the neck to avoid the pain produced by the herniated nuclear material compromising a spinal nerve.

Relief
Torticollis due to neurologic disorder or muscle spasm may sometimes be relieved by repeated injections of the motor nerve supply with botulinum toxin.

Code
133.X0jS Congenital
133.X1*S Trauma
133.X2*S Infection
133.X8fS Unknown or other

Cervical Discogenic Pain (IX-10)

Definition
Cervical spinal pain, with or without referred pain, stemming from a cervical intervertebral disk.

Clinical Features
Spinal pain perceived in the cervical region, with or without referred pain to the head, anterior or posterior chest wall, upper limb girdle, or upper limb.

Diagnostic Criteria
The patient’s pain may be shown conclusively to stem from an intervertebral disk by demonstrating either (1) that selective anesthetization of the putatively symptomatic intervertebral disk completely relieves the patient of the accustomed pain for a period consonant with the expected duration of action of the local anesthetic used;

or (2) that selective anesthetization of the putatively symptomatic intervertebral disk substantially relieves the patient of the accustomed pain for a period consonant with the expected duration of action of the local anesthetic used, save that whatever pain persists can be ascribed to some other coexisting source or cause;

or (3) provocation diskography of the putatively symptomatic disk reproduces the patient’s accustomed pain, provided that provocation of at least two adjacent intervertebral disks clearly does not reproduce the patient’s pain, and provided that the pain cannot be ascribed to some other source innervated by the same segments that innervate the putatively symptomatic disk.

Pathology
Unknown, but presumably the pain arises as a result of chemical or mechanical irritation of the nerve endings in the outer anulus fibrosus, initiated by injury to the anulus, or as a result of excessive stresses imposed on the anulus by injury, deformity or other disease within the affected segment or adjacent segments.

Remarks
Provocation diskography alone is insufficient to establish conclusively a diagnosis of discogenic pain because of the propensity for false-positive responses either because of apprehension on the part of the patient or because of the coexistence of a separate source of pain within the segment under investigation. If analgesic diskography is not performed or is possibly false-negative, criterion 3 must be explicitly satisfied. Otherwise, the diagnosis of “discogenic pain” cannot be sustained, whereupon an alternative
classification must be used.

**Code**

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<td>Degeneration</td>
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<td>Degeneration</td>
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<td>Dysfunction</td>
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**References**


**Cervical Zygaphophysical Joint Pain (IX-11)**

**Definition**

Cervical spinal pain with or without referred pain stemming from one or more of the cervical zygaphophysical joints.

**Clinical Features**

Cervical spinal pain with or without referred pain.

**Diagnostic Criteria**

No criteria have been established whereby zygaphophysical joint pain can be diagnosed on the basis of the patient’s history or by conventional clinical examination.

The condition can be firmly diagnosed only by the use of diagnostic intraarticular zygaphophysical joint blocks. For the diagnosis to be declared, all of the following criteria must be satisfied.

1. The blocks must be radiologically controlled.
2. Arthrography must demonstrate that any injection has been made selectively into the target joint, and any material that is injected into the joint must not spill over into adjacent structures that might otherwise be the actual source of the patient’s pain.
3. The patient’s pain must be totally relieved following the injection of local anesthetic into the target joint.
4. A single positive response to the intra-articular injection of local anesthetic is insufficient for the diagnosis to be declared. The response must be validated by an appropriate control test that excludes false positive responses on the part of the patient, such as:
   - no relief of pain upon injection of a nonactive agent;
   - no relief of pain following the injection of an active local anesthetic into a site other than the target joint; or
   - a positive but differential response to local anesthetics of different durations of action injected
into the target joint on separate occasions.

Local anesthetic blockade of the nerves supplying a target zygapophysial joint may be used as a screening procedure to determine in the first instance whether a particular joint might be the source of symptoms, but the definitive diagnosis may be made only upon selective intraarticular injection of the putatively symptomatic joint.

Pathology
Still unknown. May be due to small fractures not evident on plain radiography or conventional computerized tomography, but possibly demonstrated on high-resolution CT, conventional tomography, or stereoradiography. May be due to osteoarthritis, but the radiographic presence of osteoarthritis is not a sufficient criterion for the diagnosis to be declared. Zygapophysial joint pain may be caused by rheumatoid arthritis, ankylosing spondylitis, septic arthritis, or villo-nodular synovitis.

Sprains and other injuries to the capsule of zygapophysial joints have been demonstrated at post mortem and may be the cause of pain in some patients, but these types of injuries cannot be demonstrated in vivo using currently available imaging techniques.

Remarks
See also Cervical Segmental Dysfunction (IX-15).

Codes
133.X1pS  Trauma
133.X6cS  Degeneration
133.X7aS  Dysfunction

References

Cervical Muscle Sprain (IX-12)

Definition
Cervical spinal pain stemming from a lesion in a specified muscle caused by strain of that muscle beyond its normal physiological limits.

Clinical Features
Cervical spinal pain, with or without referred pain, associated with tenderness in the affected muscle and aggravated by either passive stretching or resisted contraction of that muscle.

**Diagnostic Criteria**
The following criteria must all be satisfied.
1. The affected muscle is specified.
2. There is a history of activities consistent with the affected muscle having been strained.
3. The muscle is tender to palpation.
4. (a) Aggravation of the pain by any clinical test that can be shown to stress selectively the affected muscle, or
   (b) Selective infiltration of the affected muscle with local anesthetic completely relieves the patient’s pain.

**Pathology**
Rupture of muscle fibers, usually near their myotendinous junction, that elicits an inflammatory repair response.

**Remarks**
This category has been included in recognition of its frequent use in clinical practice, and because a pattern of “muscle sprain” is readily diagnosed in injuries of the limbs.

**Code**
133.XlmS 233.Xlk

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**Cervical Trigger Point Syndrome (IX-13)**

**Definition**
Cervical spinal pain stemming from a trigger point or trigger points in one or more of the muscles of the cervical spine.

**Clinical Features**
Cervical spinal pain, with or without referred pain, associated with a trigger point in one or more muscles of the cervical vertebral column.

**Diagnostic Criteria**
The following criteria must all be satisfied.
1. A trigger point must be present in a muscle, consisting of a palpable, tender, firm, fusiform nodule or band orientated in the direction of the affected muscle’s fibers.
2. The muscle must be specified.
3. Palpation of the trigger point reproduces the patient’s pain and/or referred pain.
4. Elimination of the trigger point relieves the patient’s pain. Elimination may be achieved by stretching the affected muscle, dry needling the trigger point, or infiltrating it with local anesthetic.

**Pathology**
Unknown. Trigger points are believed to represent areas of contracted muscle that have failed to relax as a result of failure of calcium ions to sequestrate. Pain arises as a result of the accumulation of algogenic metabolites.
**Remarks**
For the diagnosis to be accorded, the diagnostic criteria for a trigger point must be fulfilled. Simple tenderness in a muscle without a palpable band does not satisfy the criteria, whereupon an alternative diagnosis should be accorded, such as muscle sprain, if the criteria for that condition are fulfilled, or spinal pain of unknown or uncertain origin.

Trigger points in different muscles of the cervical spine allegedly give rise to distinctive pain syndromes differing in the distribution of referred pain, and in some instances differing in the nature of associated features. The wisdom of enunciating each and every syndrome, muscle by muscle, is questionable; there is no point attempting to define each syndrome by its allegedly distinctive pain patterns and associated features when the critical diagnostic feature is the identification of a trigger point.

**Schedule of Trigger Point Sites**
IX-13.1(S)
   Upper Sternocleidomastoid
   Code 132.X1aS
IX-13.2(S)
   Lower Sternocleidomastoid
   Code 132.X1bS
IX-13.3(S)
   Upper Trapezius
   Code 132.X1cS
IX-13.4(S)
   Middle Trapezius
   Code 132.X1dS
IX-13.5(S)
   Lower Trapezius
   Code 132.X1eS
IX-13.6(S)
   Splenius Capitis
   Code 132.X1fS
IX-13.7(S)
   Upper Splenius Cervicis
   Code 132.X1gS
IX-13.8(S)
   Lower Splenius Cervicis
   Code 132.X1hS
IX-13.9(S)
   Semispinalis Capitis
   Code 132.X1iS
IX-13.10(S)
   Levator Scapulae
   Code 132.X1jS

**References**


**Alar Ligament Sprain (IX-14)**
Definition
Cervical spinal pain or referred pain to the head arising from an alar ligament as a result of sprain of that ligament.

Clinical Features
Upper cervical spinal pain, suboccipital pain, and/or headache, aggravated by contralateral rotation of the atlas, associated with hypermobility of the atlas in contralateral rotation.

Diagnostic Criteria
The patient’s pain must clearly be aggravated by rotation of the atlas to the side opposite that of the putatively affected ligament, and hypermobility of the atlas must be evident on functional CT scan of the joint, both features being in the context of an appropriate mechanism of injury or some other reason for the ligament to have been injured.

Pathology
Unproven. Presumably the same as for sprains in ligaments of the appendicular skeleton.

Code
132.X1*S

References

Cervical Segmental Dysfunction (IX-15)

Definition
Cervical spinal pain ostensibly due to excessive strains sustained by the restraining elements of a single spinal motion segment.

Clinical Features
Cervical spinal pain, with or without referred pain, that can be aggravated by selectively stressing a particular spinal segment.

Diagnostic Criteria
All the following criteria should be satisfied.
1. The affected segment must be specified.
2. The patient’s pain is aggravated by clinical tests that selectively stress the affected segment.
3. Stressing adjacent segments does not reproduce the patient’s pain.

Pathology
Unknown. Presumably involves excessive strain incurred during activities of daily living by structures such as the ligaments, joints, or intervertebral disk of the affected segment.

Remarks
This diagnosis is offered as a partial distinction from spinal pain of unknown origin, insofar as the source of the patient’s pain can at least be narrowed to a particular offending segment. Further investigation of a patient accorded this diagnosis might result in the patient’s condition being ascribed a more definitive diagnosis such as diskogenic pain or zygapophysial joint pain, but the diagnosis of segmental dysfunction could be applied if facilities for undertaking the appropriate investigations are not available, if the physician or patient does not wish to pursue such investigations, or if the pain arises from multiple sites in
the same segment.

For this diagnosis to be sustained, the clinical tests used should be able to stress selectively the segment in question and have acceptable interobserver reliability.

**Code**
133.X1tS
233.X1cR

**Radicular Pain Attributable to a Prolapsed Cervical Disk (IX-16)**

**Code**
203.X6aR Arm

**Traumatic Avulsion of Nerve Roots (IX-17)**

**Code**
103.X1aS/C
203.X1cR
GROUP X: THORACIC SPINAL OR RADICULAR PAIN SYNDROMES

Thoracic Spinal or Radicular Pain Attributable to a Fracture (X-1)

Definition
Thoracic spinal pain occurring in a patient with a history of injury, in whom radiography or other imaging studies demonstrate the presence of a fracture that can reasonably be interpreted as the cause of the pain.

Clinical Features
Thoracic spinal pain with or without referred pain.

Diagnostic Features
Radiographic or other imaging evidence of a fracture of one of the osseous elements of the thoracic vertebral column.

Schedule of Fractures
X-1.1(S)(R)
  Fracture of a Vertebral Body
  Code 333.X1eS/C  233.X1jR
X-1.2(S)
  Fracture of a Spinous Process
  Code 333.X1fS
X-1.3(S)(R)
  Fracture of a Transverse Process
  Code 333.X1gS/C  233.X1kR
X-1.4(S)
  Fracture of a Rib
  Code 333.X1hS
X-1.5(S)(R)
  Fracture of a Superior Articular Process
  Code 333.X1lS/C  233.X1lR
X-1.6(S)(R)
  Fracture of an Inferior Articular Process
  Code 333.X1jS/C  233.X1mR
X-1.7(S)(R)
  Fracture of Lamina
  Code 333.X1kS/C  233.X1nR

Thoracic Spinal or Radicular Pain Attributable to an Infection (X-2)

Definition
Thoracic spinal pain occurring in a patient with clinical and/or other features of an infection, in whom the site of infection can be specified and which can reasonably be interpreted as the source of the pain.

Clinical Features
Thoracic spinal pain with or without referred pain, associated with pyrexia or other clinical features of infection.

Diagnostic Features
A presumptive diagnosis can be made on the basis of an elevated white cell count or other serological features of infection, together with imaging evidence of the presence of a site of infection in the thoracic vertebral column or its adnexa. Absolute confirmation relies on histological and/or bacteriological confirmation using material obtained by direct or needle biopsy.

**Schedule of Sites of Infection**

X-2.1(S)(R)
- Infection of a Vertebral Body (osteomyelitis)
  Code 332.X2aS/C  232.X2iR

X-2.2(S)(R)
- Septic Arthritis of a Zygapophysial Joint
  Code 332.X2bS/C  232.X2jR

X-2.3(S)(R)
- Septic Arthritis of a Costo-Vertebral Joint
  Code 332.X2cS/C  232.X2cR

X-2.4(S)(R)
- Septic Arthritis of a Costo-Transverse Joint
  Code 332.X2dS/C  232.X2kR

X-2.5(S)(R)
- Infection of a Paravertebral Muscle
  Code 332.X2eS/C  232.X21R

X-2.6(S)(R)
- Infection of an Intervertebral Disk (diskitis)
  Code 332.X2fS/C  232.X2mR

X-2.7(S)(R)
- Infection of a Surgical Fusion-Site
  Code 332.X2gS/C  232.X2nR

X-2.8(S)(R)
- Infection of the Epidural Space (epidural abscess)
  Code 332.X2hS/C  232.X2oR

X-2.9(S)(R)
- Infection of the Meninges (meningitis)
  Code 303.X2cS/C  203.X2iR

X-2.10(S)(R)
- Acute Herpes Zoster (code only)
  Code 303.X2aS/C  203.X2aR

X-2.11(S)(R)
- Postherpetic Neuralgia
  Code 303.X2bS/C  203.X2bR

**Thoracic Spinal or Radicular Pain Attributable to a Neoplasm (X-3)**

**Definition**
Thoracic spinal pain associated with a neoplasm that can reasonably be interpreted as the source of the pain.

**Clinical Features**
Thoracic spinal pain with or without referred pain.
Diagnostic Features
A presumptive diagnosis may be made on the basis of imaging evidence of a neoplasm that directly or indirectly affects one or other of the tissues innervated by thoracic spinal nerves. Absolute confirmation relies on obtaining histological evidence by direct or needle biopsy.

Schedule of Neoplastic Diseases
X-3.1(S)(R)
Primary Tumor of a Vertebral Body
Code 333.X4aS/C 233.X4vR
X-3.2(S)(R)
Primary Tumor of Any Part of a Vertebra Other than Its Body
Code 333.X4bS/C 233.X41R
X-3.3(S)(R)
Primary Tumor of a Zygapophysial Joint
Code 333.X4cS/C 233.X4mR
X-3.4(S)(R)
Primary Tumor of the Proximal End of a Rib
Code 333.X4dS/C 233.X4nR
X-3.5(S)(R)
Primary Tumor of a Paravertebral Muscle
Code 333.X4eS/C 233.X4oR
X-3.6(S)(R)
Primary Tumor of Epidural Fat (e.g., lipoma)
X-3.7(S)(R)
Primary Tumor of Epidural Vessels (e.g., angioma)
Code 333.X4gS/C 233.X4qR
X-3.8(S)(R)
Primary Tumor of Meninges (e.g., meningioma)
Code 303.X4aS/C 203.X4dR
X-3.9(S)(R)
Primary Tumor of Spinal Nerves (e.g., neurofibroma, schwannoma, neuroblastoma)
Code 303.X4bS/C 203.X4eR
X-3.10(S)(R)
Primary Tumor of Spinal Cord (e.g., glioma, etc.)
Code 303.X4cS/C 203.X4fR
X-3.11(S)(R)
Metastatic Tumor Affecting a Vertebra
Code 333.X4hS/C 233.X4hR
X-3.12(S)(R)
Metastatic Tumor Affecting the Vertebral Canal
Code 333.X4iS/C 233.X4iR
X-3.13(S)(R)
Other Infiltrating Neoplastic Disease of a Vertebra (e.g., lymphoma)
Code 333.X4jS/C 233.X4jR

Thoracic Spinal or Radicular Pain Attributable to Metabolic Bone Disease (X-4)
Definition
Thoracic spinal pain associated with a metabolic bone disease that can reasonably be interpreted as the source of the pain.

Clinical Features
Thoracic spinal pain with or without referred pain.

Diagnostic Features
Imaging or other evidence of metabolic bone disease affecting the thoracic vertebral column, confirmed by appropriate serological or biochemical investigations and/or histological evidence obtained by needle or other biopsy.

Schedule of Metabolic Bone Diseases
X-4.1(S)(R)
  Osteoporosis of Age
  Code 332.X5aS/C  232.X5gR
X-4.2(S)(R)
  Osteoporosis of Unknown Cause
  Code 332.X5bS/C  232.X5hR
X-4.3(S)(R)
  Osteoporosis of Some Known Cause Other than Age
  Code 332.X5cS/C  232.X5iR
X-4.4(S)(R)
  Hyperparathyroidism
  Code 332.X5dS/C  232.X5jR
X-4.5(S)(R)
  Paget’s Disease of Bone
  Code 332.X5eS/C  232.X5kR
X-4.6(S)(R)
  Metabolic Disease of Bone Not Otherwise Classified
  Code 332.X5fS/C  232.X51R

Thoracic Spinal or Radicular Pain Attributable to Arthritis (X-5)

Definition
Thoracic spinal pain associated with arthritis that can reasonably be interpreted as the source of the pain.

Clinical Features
Thoracic spinal pain with or without referred pain.

Diagnostic Features
Imaging or other evidence of arthritis affecting the joints of the thoracic vertebral column.

Schedule of Arthritides
X-5.1  Rheumatoid Arthritis
  Code 334.X3aS/C  234.X3aR
X-5.2  Ankylosing Spondylitis
  Code 332.X8aS/C
X-5.3  Osteoarthritis
  Code 338.X6*S/C  238.X6bR
X-5.4 Seronegative Spondylarthropathy Not Otherwise Classified
Code 323.X8*S/C 223.X8*R

Remarks
Osteoarthritis is included in this schedule with some hesitation because there is only a weak relation between pain and this condition as diagnosed radiologically.

The alternative classification to “thoracic pain due to osteoarthrosis” should be “thoracic zygapophysial joint pain” if the criteria for this diagnosis are satisfied (see X10), or “thoracic spinal pain of unknown or uncertain origin” (see X-8).

Similarly, the condition of “spondylosis” is omitted from this schedule because there is no positive correlation between the radiographic presence of this condition and the presence of spinal pain.

Thoracic Spinal or Radicular Pain Associated with a Congenital Vertebral Anomaly (X-6)

Definition
Thoracic spinal pain associated with a congenital vertebral anomaly.

Clinical Features
Thoracic spinal pain with or without referred pain.

Diagnostic Features
Imaging evidence of a congenital vertebral anomaly affecting the thoracic vertebral column.

Remarks
There is no evidence that congenital anomalies per se cause pain. Although they may be associated with pain, the specificity of this association is unknown. This classification should be used only when the cause of pain cannot be otherwise specified and there is a perceived need to highlight the presence of the congenital anomaly, but should not be used to imply that the congenital anomaly is the actual source of pain.

Code
323.X0*S/C
223.XOaR

Pain Referred from Thoracic Viscera or Vessels and Perceived as Thoracic Spinal Pain (X-7)

Definition
Thoracic spinal pain associated with disease of a thoracic viscus or vessel that reasonably can be interpreted as the source of pain.

Clinical Features
Thoracic spinal pain with or without referred pain, together with features of the disease affecting the viscus or vessel concerned.
Diagnostic Features
Imaging or other evidence of the primary disease affecting a thoracic viscus or vessel.

Schedule of Diseases
X-7.1 Pericarditis
   Code 323.X2 (known infection);
   Code 323.X3 (unknown infective cause);
   Code 323.X1 (trauma);
   Code 323.X4 (neoplasm);
   Code 323.X5 (toxic)
X-7.2 Aneurysm of the Aorta
   Code 322.X6
X-7.3 Carcinoma of the Esophagus
   Code 353.X4

Thoracic Spinal Pain of Unknown or Uncertain Origin (X-8)

Definition
Thoracic spinal pain occurring in a patient whose clinical features and associated features do not enable
the cause and source of the pain to be determined, and in whom the cause or source of the pain cannot be
or has not been determined by special investigations.

Clinical Features
Thoracic spinal pain with or without referred pain.

Diagnostic Features
Thoracic spinal pain for which no other cause has been found or can be attributed.

Pathology
Unspecified.

Remarks
This definition is intended to cover those complaints that for whatever reason currently defy conventional
diagnosis. It does not encompass pain of psychological origin. It presupposes an organic basis for the
pain, but one that cannot be or has not been established reliably by clinical examination or special
investigations such as imaging techniques or diagnostic blocks.

This diagnosis may be used as a temporary diagnosis. Patients given this diagnosis could in due course be
accorded a more definitive diagnosis once appropriate diagnostic techniques are devised or applied. In
some instances, a more definitive diagnosis might be attainable using currently available techniques, but
for logistic or ethical reasons these may not have been applied.

Upper Thoracic Spinal Pain of Unknown or Uncertain Origin (X-8.1)

Definition
As for X-8, but the pain is located in the upper thoracic region.
Clinical Features
Spinal pain located on the upper thoracic region.

Diagnostic Criteria
As for X-8, save that the pain is located in the upper thoracic region.

Pathology
As for X-8.

Remarks
As for X-8.

Code
3XX.X8bS/C
2XX.X8fR

Midthoracic Spinal Pain of Un-known or Uncertain Origin (X-8.2)

Definition
As for X-8, but the pain is located in the middle thoracic region.

Clinical Features
Spinal pain located on the midthoracic region.

Diagnostic Criteria
As for X-8, save that the pain is located in the midthoracic region.

Pathology
As for X-8.

Remarks
As for X-8.

Code
3XX.X8cS/C
2XX.X8gR

Lower Thoracic Spinal Pain of Unknown or Uncertain Origin (X-8.3)

Definition
As for X-8, but the pain is located in the lower thoracic region.

Clinical Features
Spinal pain located on the lower thoracic region.

Diagnostic Criteria
As for X-8, save that the pain is located in the lower thoracic region.
Pathology
As for X-8.

Remarks
As for X-8.

Code
3XX.X8dS/C
2XX.X8hR

Thoracolumbar Spinal Pain of Unknown or Uncertain Origin (X-8.4)

Definition
As for X-8, but the pain is located in the thoracolumbar region.

Clinical Features
Spinal pain located on the thoracolumbar region.

Diagnostic Criteria
As for X-8, save that the pain is located in the thoracolumbar region.

Pathology
As for X-8.

Remarks
As for X-8.

Code
3XX.X8eS/C
2XX.X81R

Thoracic Discogenic Pain (X-9)

Definition
Thoracic spinal pain, with or without referred pain, stemming from a thoracic intervertebral disk.

Clinical Features
Spinal pain perceived in the thoracic region, with or without referred pain.

Diagnostic Criteria
The patient’s pain must be shown conclusively to stem from an intervertebral disk by demonstrating either
either (1) that selective anesthetization of the putatively symptomatic intervertebral disk completely
relieves the patient of the accustomed pain for a period consonant with the expected duration
of action of the local anesthetic used;

or (2) that selective anesthetization of the putatively symptomatic intervertebral disk
substantially relieves the patient of the accustomed pain for a period consonant with the
expected duration of action of the local anesthetic used, save that whatever pain persists can
be ascribed to some other coexisting source or cause;
or (3) that provocation diskography of the putatively symptomatic disk reproduces the patient’s accustomed pain, provided that provocation of at least two adjacent intervertebral disks clearly does not reproduce the patient’s pain, and provided that the pain cannot be ascribed to some other source innervated by the same segments that innervate the putatively symptomatic disk.

**Pathology**
Unknown, but presumably the pain arises as a result of chemical or mechanical irritation of the nerve endings in the outer anulus fibrosus, initiated by injury to the anulus, or as a result of excessive stresses imposed on the anulus by injury, deformity, or other disease within the affected segment or adjacent segments.

**Remarks**
Provocation diskography alone is insufficient to establish conclusively a diagnosis of discogenic pain because of the propensity for false-positive responses, either because of apprehension on the part of the patient or because of the coexistence of a separate source of pain within the segment under investigation. If analgesic diskography is not performed or is possibly false-negative, criterion 3 must be explicitly satisfied. Otherwise, the diagnosis of “discogenic pain” cannot be sustained, whereupon an alternative classification must be used.

Thoracic diskography is particularly hazardous because of the risk of pneumothorax. No publications have formally described this procedure or experience with it. Until its safety and clinical utility have been established, thoracic diskography should be restricted to centers capable of dealing with potential complications and prepared to determine its utility by way of formal study.

**Code**
- 333.X11S: Trauma
- 333.X6aS: Degeneration
- 333.X7cS: Dysfunctional

**Thoracic Zygapophysial Joint Pain (X-10)**

**Definition**
Thoracic spinal pain, with or without referred pain, stemming from one or more of the thoracic zygapophysial joints.

**Clinical Features**
Thoracic spinal pain with or without referred pain.

**Diagnostic Criteria**
No criteria have been established whereby zygapophysial joint pain can be diagnosed on the basis of the patient’s history or by conventional clinical examination.

The condition can be diagnosed only by the use of diagnostic intraarticular zygapophysial joint blocks. For the diagnosis to be declared, all of the following criteria must be satisfied.

1. The blocks must be radiologically controlled.
2. Arthrography must demonstrate that any injection has been made selectively into the target joint, and any material that is injected into the joint must not spill over into adjacent structures that might otherwise be the actual source of the patient’s pain.
3. The patient’s pain must be totally relieved following the injection of local anesthetic into the target joint.
4. A single positive response to the intraarticular injection of local anesthetic is insufficient for the diagnosis to be declared. The response must be validated by an appropriate control test that excludes false-positive responses on the part of the patient, such as:
   - no relief of pain upon injection of a nonactive agent;
   - no relief of pain following the injection of an active local anesthetic into a site other than the target joint; or
   - a positive but differential response to local anesthetics of different durations of action injected into the target joint on separate occasions.

Local anesthetic blockade of the nerves supplying a target zygapophysial joint may be used as a screening procedure to determine in the first instance whether a particular joint might be the source of symptoms, but the definitive diagnosis may be made only upon selective intraarticular injection of the putatively symptomatic joint.

**Pathology**
Unknown and unstudied.

**Remarks**
See also Thoracic Segmental Dysfunction (X-15).

**Code**
333.X1mS/C Trauma
333.X6bS/C Degeneration
333.X7tS/C Dysfunctional

**Reference**

**Costo-Transverse Joint Pain (X-11)**

**Definition**
Thoracic spinal pain, with or without referred pain, stemming from one or more of the costo-transverse joints.

**Clinical Features**
Thoracic spinal pain, with or without referred pain, aggravated by selectively stressing a costo-transverse joint.

**Diagnostic Criteria**
No criteria have been established whereby costotransverse joint pain can be diagnosed on the basis of the patient’s history or by conventional clinical examination. Stressing the putatively symptomatic joint by selectively gliding the related rib ventrad, cephalad, or caudal constitutes presumptive evidence that the joint may be symptomatic.

The condition can be firmly diagnosed only by the use of diagnostic local anesthetic blocks of the putatively symptomatic joint. For the diagnosis to be firmly sustained, all of the following criteria must be
satisfied.

If intraarticular blocks are used,
1. The blocks must be radiologically controlled.
2. Arthrography must demonstrate that any injection has been made selectively into the target joint, and any material that is injected into the joint must not spill over into adjacent structures that might otherwise be the actual source of the patient’s pain.
3. The patient’s pain must be totally relieved following the injection of local anesthetic into the target joint.
4. A single positive response to the intraarticular injection of local anesthetic is insufficient for the diagnosis to be declared. The response must be validated by an appropriate control test that excludes false-positive responses on the part of the patient, such as:
   • no relief of pain upon injection of a nonactive agent;
   • no relief of pain following the injection of an active local anesthetic into a site other than the target joint; or
   • a positive but differential response to local anesthetics of different durations of action injected into the target joint on separate occasions.

If periarticular blocks are used, an injection of contrast medium of a volume identical to that of the volume of local anesthetic used must show that the dispersal of injectate does not embrace structures that might constitute alternative sources of the patient’s pain. Otherwise criteria 3 and 4 for intraarticular blocks must apply.

**Pathology**
Unknown and unstudied.

**Code**
- 333.X1nS  Trauma
- 333.X6cS  Degeneration
- 333.X7eS  Dysfunctional

**Thoracic Muscle Sprain (X-12)**

**Definition**
Thoracic spinal pain stemming from a lesion in a specified muscle caused by strain of that muscle beyond its normal physiological limits.

**Clinical Features**
Thoracic spinal pain, with or without referred pain, associated with tenderness in the affected muscle and aggravated by either passive stretching or resisted contraction of that muscle.

**Diagnostic Criteria**
The following criteria must all be satisfied.
1. The affected muscle must be specified.
2. There is a history of activities consistent with the affected muscle having been strained.
3. The muscle is tender to palpation.
4. a) Aggravation of the pain by any clinical test that can be shown to selectively stress the affected muscle, or
   b) Selective infiltration of the affected muscle with local anesthetic completely relieves the patient’s pain.
Pathology
Rupture of muscle fibers, usually near their myotendinous junction, that elicits an inflammatory repair response.

Code
333.X10S  Trauma
333.X7fS  Dysfunctional

Thoracic Trigger Point Syndrome (X-13)

Definition
Thoracic spinal pain stemming from a trigger point or trigger points in one or more of the muscles of the thoracic spine.

Clinical Features
Thoracic spinal pain, with or without referred pain, associated with a trigger point in one or more muscles of the vertebral column.

Diagnostic Criteria
The following criteria must all be satisfied.
1. A trigger point must be present in a muscle, consisting of a palpable, tender, firm, fusiform nodule or band orientated in the direction of the affected muscle’s fibers.
2. The muscle must be specified.
3. Palpation of the trigger point reproduces the patient’s pain and/or referred pain.
4. Elimination of the trigger point relieves the patient’s pain. Elimination may be achieved by stretching the affected muscle, dry needling the trigger point, or infiltrating it with local anesthetic.

Pathology
Unknown. Trigger points are believed to represent areas of contracted muscle that have failed to relax as a result of failure of calcium ions to sequestrate. Pain arises as a result of the accumulation of algogenic metabolites.

Remarks
For the diagnosis to be accorded, the diagnostic criteria for a trigger point must be fulfilled. Simple tenderness in a muscle without a palpable band does not satisfy the criteria, whereupon an alternative diagnosis should be accorded, such as muscle strain, if the criteria for that condition are fulfilled, or spinal pain of unknown or uncertain origin.

Code
332.X1aS  Trauma
332.X6aS  Degeneration
332.X7hS  Dysfunctional

References
Thoracic Muscle Spasm (X-14)

Definition
Thoracic spinal pain resulting from sustained or repeated involuntary activity of the thoracic spinal muscles.

Clinical Features
Thoracic spinal pain for which there is no other underlying cause, associated with demonstrable sustained muscle activity.

Diagnostic Features
None.

Pathology
Unknown. Presumably sustained muscle activity prevents adequate wash-out of algogenic chemicals produced by the sustained metabolic activity of the muscle.

Remarks
While there are beliefs in a pain-muscle spasm-pain cycle, clinical tests or conventional electromyography have not been shown to demonstrate reliably the presence of sustained muscle activity in such situations. The strongest evidence for repeated involuntary muscle spasm stems from sleep-EMG studies conducted on patients with low-back pain, but although it is associated with back pain, a causal relationship between this type of muscle activity and back pain has not been established.

Code
332.X1bS Trauma
332.X2iS Infection
332.X4*S Neoplasm
332.X6bS Degenerative
332.X7iS Dysfunctional
332.X8fS Unknown

References


Thoracic Segmental Dysfunction (X-15)

Definition
Thoracic spinal pain ostensibly due to excessive strains imposed on the restraining elements of a single spinal motion segment.

**Clinical Features**
Thoracic spinal pain, with or without referred pain, that can be aggravated by selectively stressing a particular spinal segment.

**Diagnostic Criteria**
All the following criteria should be satisfied.
1. The affected segment must be specified.
2. The patient’s pain is aggravated by clinical tests that selectively stress the affected segment.
3. Stressing adjacent segments does not reproduce the patient’s pain.

**Pathology**
Unknown. Presumably involves excessive strain imposed by activities of daily living on structures such as the ligaments, joints, or intervertebral disk of the affected segment.

**Remarks**
This diagnosis is offered as a partial distinction from spinal pain of unknown origin, insofar as the source of the patient’s pain can at least be narrowed to a particular offending segment. Further investigation of a patient accorded this diagnosis might result in the patient’s condition being ascribed a more definitive diagnosis such as discogenic pain or zygapophysial joint pain, but the diagnosis of segmental dysfunction could be applied if facilities for undertaking the appropriate investigations are not available, if the physician or patient does not wish to pursue such investigations, or if the pain arises from multiple sites in the same segment.

For this diagnosis to be sustained it is critical that the clinical tests used be shown to be able to stress selectively the segment in question and to have acceptable interobserver reliability.

**Code**
333.X1pS/C Trauma
333.X7dS/C Dysfunctional

**Radicular Pain Attributable to a Prolapsed Thoracic Disk (X-16)**

**Code**
303.X1aR Trauma
303.X6bR Degenerative
203.X1cR Trauma 203.X6bR (arm) Degenerative