

SPINE IMPAIRMENTS

*Everything you wanted to know about
rating the spine, but were afraid to ask...*



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DWC Conference 2013*

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Presentation Overview



- 1) Why radiculopathy is important
- 2) Choice of rating method
 - DRE Method
 - ROM method
- 3) Spinal cord injuries
- 4) Pain
- 5) Almaraz/Guzman ratings

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Spine Impairments



Regions of the Spine

- Cervical
- Thoracic
- Lumbar

Spine is rated regionally

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Radiculopathy

Alteration of function of nerve root

Important for



- Choice of rating method
- Placement in DRE category

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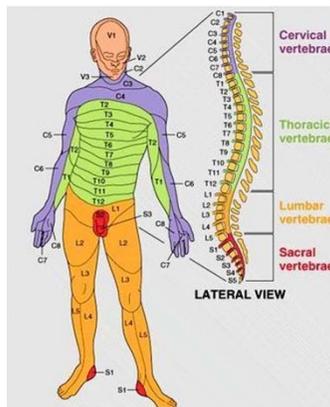
Radiculopathy

Verified radiculopathy

- Clinical findings in dermatome pattern
- Corresponding imaging studies

Unverified radiculopathy

No corresponding imaging studies



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Choice of Method

Two Standard Methods

- DRE
- ROM



DRE vs. ROM

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DRE (Diagnosis Related Estimate)

Criteria

- Single level involvement
- Corticospine injury

The DRE method is the principle methodology used to evaluate an individual who has had a distinct injury. (pg. 379)

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DRE Categories

DRE I	Subjective findings only
DRE II	Muscle guarding,/asymmetric ROM Unverified radiculopathy Resolved verified radiculopathy
DRE III	Unresolved verified radiculopathy Spine surgery one level
DRE IV	Alteration motion segment integrity (fusion) Bilateral or multi-level radiculopathy (cervical thoracic spines)
DRE V	Alteration motion segment integrity With radiculopathy

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DRE (Diagnosis Related Estimate)

Physicians should:

- Determine clinical findings
- Assess diagnostic test results
- Determine appropriate method
- Place in DRE category
- Choose WP impairment within range (ADL)
- Provide rationale for findings



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Example #1

- Carpenter, 28 years old
- Cervical spine injury
- C 5-6 herniation with radiculopathy resolved
- C 6-7 protrusion
- No difficulties with ADLs

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Example #1

DRE or ROM method?

DRE – one level of radiculopathy

If DRE, which category?

Cervical spine, DRE II (5-8 WP)

- resolved radiculopathy

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Example #1

Physician provides WP impairment within DRE category

5 WP (no difficulty ADL)

Rating

15.01.01.00 – 5 – [5]6 – 380H – 8 – 7 PD

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ROM Method

Criteria

- Multi-level or bilateral radiculopathy
- Multi-level surgery
- Multi-level AOMSI
- Multi-level fracture
- Recurrent radiculopathy



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ROM Method

Three Components of Impairment

- 1) Diagnosis (Table 15-7)
- 2) Range of motion measurements (Tables 15-8 through 15-14)
- 3) Nerve Deficit
 - Sensory deficit (Tables 15-15, 15-17, 15-18)
 - Motor deficit (Tables 15-16, 15-17, 15-18)

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Example #2

- Scout, Professional Sports, 59 years old
- L3-5 fusion with L3 nerve root deficit

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Example #2

- Which method should be used?

ROM

Two level fusion

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Example #2

- **Factors of Impairment**
- Two level fusion
- ROM: S: 15-0-30 (sacral 30 degrees) F: 10-0-10
- L3 Sensory, Grade 4, 25%
- L3 Motor, Grade 4, 25%

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Diagnostic Component

	Lumbar		
IV. Spinal stenosis, segmental instability, spondylolisthesis, fracture, or dislocation, operated on			
A. Single-level decompression without spinal fusion and without residual signs or symptoms	7	4	8
B. Single-level decompression without spinal fusion with residual signs or symptoms	9	5	10
C. Single-level spinal fusion with or without decompression without residual signs or symptoms	8	4	9
D. Single-level spinal fusion with or without decompression with residual signs and symptoms	10	5	12
E. Multiple levels, operated on, with residual, medically documented pain and rigidity.	Add 1% per level		
1. Second operation	Add 2%		
2. Third or subsequent operation	Add 1% per operation		

* The phrase "medically documented injury, pain, and rigidity" implies not only that an injury or illness has occurred but also that the condition is stable, as shown by the evaluator's history, examination, and other diagnostic data, and that a permanent impairment exists, which is at least partially due to the condition being evaluated.

† Structural tests include radiographs, myelograms with and without CT scan, CT scan and MRI with and without contrast, and diskogram with and without CT scan.

Diagnosis 12 + 1 = 13 WP

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ROM Component

Table 15-8 Impairment Due to Abnormal Motion of the Lumbar Region: Flexion and Extension*

The proportion of flexion and extension of total lumbosacral motion is 75%.

Sacral (Hip) Flexion Angle (°)	True Lumbar Spine Flexion Angle (°)	% Impairment of the Whole Person
45+	60+	0
	45	2
	15	7
30-45	0	10
	40+	4
	20	7
0-29	0	10
	30+	5
	15	8
	0	11

True Lumbar Spine Extension From Neutral Position (0°) to:	Degrees of Lumbosacral Spine Motion		% Impairment of the Whole Person
	Lost	Retained	
0	25	0	7
10	15	10	5
20	10	15	2
25	5	20	2
	0	25	0

*Use this table only if the sum of sacral (hip) flexion and sacral (hip) extension is within 15° of the straight-leg-raising test on the tighter side; see text.

ROM Component

Table 15-9 Impairment Due to Abnormal Motion and Ankylosis of the Lumbar Region: Lateral Bending

Abnormal Motion
Average range of left and right lateral bending is 50°; the proportion of total lumbosacral motion is 40% of the total spine.

a.	Left Lateral Bending From Neutral Position (0°) to:	Degrees of Lumbosacral Motion		% Impairment of the Whole Person
		Lost	Retained	
	0	25	0	5
	10	15	10	3
	15	10	15	2
	20	5	20	1
	25	0	25	0
b.	Right Lateral Bending From Neutral Position (°) to:	Degrees of Lumbosacral Motion		% Impairment of the Whole Person
		Lost	Retained	

Spine ROM Problem

ROM (Tables 15-8, 15-9)

- Forward flexion 30 degrees = 4 WP
- Extension 10 degrees = 3 WP
- Lt lateral bending 10 degrees = 3 WP
- Rt lateral bending 10 degrees = 3 WP
- Total 13 WP

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Spine ROM Problem

Combine diagnosis and ROM impairment

13 C 13 = 24 WP

Adjust for disability

15.03.02.04 – 24 – [5]31 – 251E – 29 – 36 PD (A)

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Neurologic Component

Table 15-18 Unilateral Spinal Nerve Root Impairment Affecting the Lower Extremity*

Nerve Root Impaired	Maximum % Loss of Function Due to Sensory Deficit or Pain	Maximum % Loss of Function Due to Strength
L3	5	20
L4	5	34
L5	5	37
S1	5	20

* For description of the process of determining impairment percent, see text.

$$\text{Sensory} = 5 \times 25\% = 1 \text{ LE} \times .4 = 0 \text{ WP}$$

$$\text{Motor} = 20 \times 25\% = 5 \text{ LE} \times .4 = 2 \text{ WP}$$

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Example # 2

Motor nerve deficit

15.03.02.06 – 2 – [5]3 – 251E – 3 – 4 PD

Combining Diag/ROM and Nerve Deficit

36 C 4 = 39 Final PD

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When both DRE and ROM Apply

In the small number of instances in which the ROM and DRE methods can both be used, evaluate the individual with both methods and award the higher rating. (pg. 380)

Multi-level or bilateral radiculopathy

In cervical or thoracic spine

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Can ROM Method be used twice?

If more than one spinal region is impairment and both regions meet the criteria for ROM, then only one can be rated using ROM and the other using DRE. (pg. 381)

ROM method is used only in one spine region per injury in standard AMA Guides rating

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Example #3

- Jockey, 34 years old
- Cervical spine injury
- Discectomy C5-6
- Continued bilateral radiculopathy
- Difficulty with most ADLs



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Example #3

- Physician chooses DRE Method
- Physician selects DRE III category – 15 WP
- DRE Rating

15.01.01.00 – 15 – [5]19 – 590J – 28 – 27 PD

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Example #3

- DEU Annotation on Rating
- Higher of ROM or DRE IV category (25-28 WP) may be applicable.
- What would you do?

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Corticospine Injury

- Spinal cord injury
- DRE method
- Combine with Table 15-6 impairments

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Corticospinal Tract Involvement

Physician should:

- Identify level of cord involvement
- Determine the degree of residual function
- Use appropriate DRE category
- Rate applicable Table 15-6 impairments

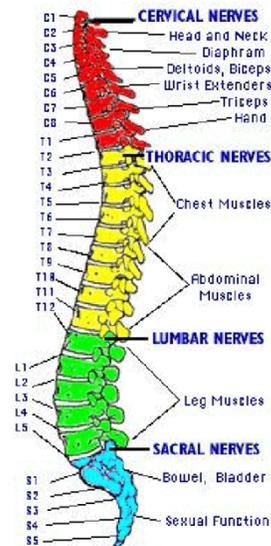


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Corticospine Injury

Table 15-6 Impairments

- One Upper extremity
- Two Upper extremities
- Station and Gait Disorders
- Bladder Impairment
- Anorectal Impairment
- Sexual Impairment
- Impairment of Respiration



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Example #4

- **Fish and Game Warden, 45 years old**
- Spinal cord injury at L3 resulting in DRE III = 13 WP
- Necessity for use of wheelchair, Class 4 = 55 WP
- No voluntary control of bladder or bowel
 - Bladder, Class 4 = 50 WP
 - Anorectal, Class 3 = 50 WP
- No sexual function, Class 3 = 20 WP

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Example #4

DRE III Rating

15.03.01.00 – 13 – [5]17 – 490I – 23 – 24 PD (A)

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Example #4

c. Criteria for Rating Impairments Due to Station and Gait Disorders (lower extremity weakness - paralysis)

Class 1 1%-9% Impairment of the Whole Person	Class 2 10%-19% Impairment of the Whole Person	Class 3 20%-39% Impairment of the Whole Person	Class 4 40%-60% Impairment of the Whole Person
Rises to standing position; walks, but has difficulty with elevations, grades, stairs, deep chairs, and long distances	Rises to standing position; walks some distance with difficulty and without assistance, but is limited to level surfaces	Rises and maintains standing position with difficulty; cannot walk without assistance	Cannot stand without help, mechanical support, and/or an assistive device

15.04.03.00 – 55 – [5]70 – 490I – 77 – 79 PD

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Example #4

Criteria for Rating Neurologic Impairment of the Bladder

Class 1 1%-9% Impairment of the Whole Person	Class 2 10%-24% Impairment of the Whole Person	Class 3 25%-39% Impairment of the Whole Person	Class 4 40%-60% Impairment of the Whole Person
Individual has some degree of voluntary control but is impaired urgency or intermittent incontinence	Individual has good bladder reflex activity, limited capacity, and intermittent emptying without voluntary control	Individual has poor bladder reflex activity, intermittent dribbling, and no voluntary control	Individual has no reflex or voluntary control of bladder

15.04.04.00 – 50 – [2]57 – 490H – 63 – 65 PD

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Example #4

e. Criteria for Rating Neurologic Anorectal Impairment		
Class 1 1%-19% Impairment of the Whole Person	Class 2 20%-39% Impairment of the Whole Person	Class 3 40%-50% Impairment of the Whole Person
individual has reflex regulation but only limited voluntary control	individual has reflex regulation but no voluntary control	individual has no reflex regulation or voluntary control
f. Criteria for Rating Neurologic Sexual Impairment		
Class 1 1%-9% Impairment of the Whole Person	Class 2 10%-19% Impairment of the Whole Person	Class 3 20% Impairment of the Whole Person
Sexual functioning is possible, but with difficulty of erection or ejaculation in men or lack of awareness, excitement, or lubrication in either sex	Reflex sexual functioning is possible, but there is no awareness	No sexual functioning

15.04.05.00 – 50 – [2]57 – 490H – 63 – 65 PD

15.04.06.00 – 20 – [2]23 – 490F – 23 – 24 PD

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Example #4

15.03.01.00 – 13 – [5]17 – 490I – 23 – 24 PD (A)

15.04.03.00 – 55 – [5]70 – 490I – 77 – 79 PD (A)

15.04.04.00 – 50 – [2]57 – 490H – 63 – 65 PD (A)

15.04.05.00 – 50 – [2]57 – 490H – 63 – 65 PD (A)

15.04.06.00 – 20 – [2]23 – 490F – 23 – 24 PD (A)

79 C 65 = 93

93 C 65 = 98

98 C 24 = 98

98 C 24 = 98 Final PD

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Example #4

- LC 4662
- Paralysis = 100%
- Confined to wheelchair

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Spine Rating Pitfalls

- Incorrect rating method
- Not providing WP impairment within DRE category
- Not providing Sacral (hip) flexion angle
- Not providing diagnostic component for ROM method
- Not addressing motor/sensory deficit for ROM method

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Pain

Pain is defined in the AMA Guides by the International Association for the Study of Pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.”

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Pain

Impairment ratings in the Guides already have accounted for commonly associated pain, including that which may be experienced in areas distant to the specific site of pathology.

i.e. cervical spine with radiating pain down arm, the arm pain has been accounted for in the cervical spine impairment.

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Pain

- Chapter 18, AMA Guides, 5th edition
- 2005 PDRS, page 1-12
- Maximum allowance for pain resulting from a single injury is 3 WP regardless of number of impairments resulting from injury.
- Physician needs to use their clinical judgment as to what constitutes normal or expected pain.
- Physician must provide rationale for pain.
- Physician must assign 1, 2 or 3 WP for pain if applicable.

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Almaraz/Guzman

- Physician may use four corners of AMA Guides
- Accurate rating
- Rationale
- DEU will provide both standard AMA Guides rating and Almaraz/Guzman rating

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Almaraz/Guzman

Table 6-9 Criteria for Rating Permanent Impairment Due to Herniation

Class 1 0%-9% Impairment of the Whole Person	Class 2 10%-19% Impairment of the Whole Person	Class 3 20%-30% Impairment of the Whole Person
Palpable defect in supporting structures of abdominal wall <i>and</i> slight protrusion at site of defect with increased abdominal pressure; readily reducible <i>or</i> occasional mild discomfort at site of defect but not precluding most activities of daily living	Palpable defect in supporting structures of abdominal wall <i>and</i> frequent or persistent protrusion at site of defect with increased abdominal pressure; manually reducible <i>or</i> frequent discomfort, precluding heavy lifting but not hampering some activities of daily living	Palpable defect in supporting structures of abdominal wall <i>and</i> persistent, irreducible, or irreparable protrusion at site of defect <i>and</i> limitation in activities of daily living

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Almaraz/Guzman Example

- Use of Table 6-9 – Class 2 19 WP
- DEU Rating
- Rating per Almaraz case
- 15.03.01.99 – 19 – [5]24 – 491H – 29 – 25 PD

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Use of Table 6-9

Strengths

- Within 4 corners
- Physician expert opinion

Weaknesses

- Not typically used to rate spine
- Criteria for category not met
- Possible introduction of work restriction

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SB 863 and the Spine

- For DOI after 1/1/2013,
- No longer use FEC rank [5],
- Use of 1.4 modifier instead
- No longer rate add-ons for sleep, sex or psyche

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Physician Responsibilities

- Clinical and diagnostic findings
- Choice of method
- Provide impairments for appropriate method
- Almaraz/Guzman if applicable
- Apportionment
- Always have rationale



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Parties Responsibilities

- Identify possible rating issues
- Read DEU annotations on ratings
- Clarify with physician



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Redding California

Where the Pavement Ends



The fun begins