ERRATA

Guides to the Evaluation of Permanent Impairment

Fifth Edition

March 2002

NOTE: Changes to the original text have been underscored.

Chapter 1, page 16

References

5. *Idaho Code* Section 72-406(1).

Chapter 2, page 20

2.5e Pain

The impairment ratings in the body organ system chapters make allowance for expected accompanying pain. Chronic pain, also called chronic pain syndrome, is discussed in the chapter on pain (Chapter 18).

Chapter 2, page 24

Impairment Rating and Rationale Organ system and whole person impairment			
Body part or system	**Chapter No.**	**Table/Figure No.**	**% Impairment of the Whole Person**
a.			
b.			
c.			
d.			

Chapter 4, page 75

Impairment Rating: 55% impairment of the upper extremity due to vascular disease, combined with 25% impairment of the index (5% upper extremity) and ring (2% upper extremity) fingers due to amputation. This corresponds to 7% upper extremity impairment (see Section 16.2). Combining 55% with 7% yields an impairment of 58% of the left upper extremity, or 35% whole person impairment. The right upper extremity is in the middle range of class 2, or 25% of the upper right extremity, or 15% of the body as a whole. Combining these values yields 49% of the body as a whole.

Chapter 13, page 345

Sensory dysfunction, to be rated, must be considered permanent. The methodology used for spinal nerves, brachial plexus, and individual nerves is described below. Terms used to describe sensory impairment that may not be readily apparent to all readers are defined. *Sensation* refers to the sensory perception of the primary sensory modalities, pain, heat, cold, and touch, those involved in protective sensation. *Sensibility* refers to the discriminative features of sensation such as graphesthesia, stereognosis, or two-point discrimination. The issue of sensibility is important to the normal function of the hand. This is why sensory loss in the digits is focused on impaired two-point discrimination (see Tables 16-5 and 16-10).

Chapter 13, pages 345-346

13.9a Roots of Spinal Nerves

Spinal nerves are evaluated by loss of function in the peripheral nerve that receives contribution from the involved spinal root. If two or more spinal roots are involved, the increased loss of function from the contribution of two spinal roots to a peripheral nerve necessitates that the impairment be rated according to the brachial plexus (see Section 13.9b).

Chapter 13, page 346

Table 16-13 provides the maximum upper extremity impairment due to unilateral sensory or motor deficits of individual spinal roots C5 through T1. Once the sensory deficit or pain is estimated according to Table 13-23 and motor deficit according to 13-24, these percent deficits in the upper extremity are multiplied by the respective maximum sensory and/or motor impairments of the spinal nerve in question, Table 16-15. The sensory and motor impairments are combined using the Combined Values Chart, p. 604, for the total upper extremity impairment, which is then converted to whole person impairment (Table 16-3). If deficits are bilateral, the whole person impairment is found for each extremity and then combined using the Combined Values Chart.

Chapter 13, page 348

Comment: Method used to arrive at impairment rating:

Loss of function due to motor involvement of the common peroneal nerve (strength): Maximum motor loss in the peroneal nerve is 42% lower extremity impairment (Table 17-37) × 25% motor deficit, grade 4 (Table 13-24) = 11% lower extremity impairment.

Loss of function due to sensory involvement of common peroneal nerve: 25% representing sensory loss (Table 13-23) × 5% representing sensory function of common peroneal nerve (Table 17-37) = 1.25%, or 1% lower extremity impairment (rounded).

An 11% lower extremity impairment (motor) combined with a 1% lower extremity impairment (sensory) is 12% lower extremity impairment (see the Combined Values Chart, p. 604). The 12% lower extremity impairment is converted to 5% whole person impairment using Table 17-3.

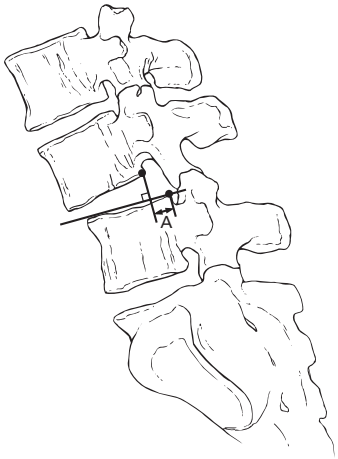
Chapter 13, page 348

Table 13-24 Classification and Procedure for Determining Nervous System Impairment Due to Loss of Muscle Power and Motor Function Resulting From Peripheral Nerve Disorders

Procedure
4. Find the maximum impairment due to the motor deficit for each nerve structure involved, as listed in Chapter 16, The Upper Extremities, and Chapter 17, The Lower Extremities: upper extremity nerves (Table 16-15), brachial plexus (Table 16-14), lower extremity nerves (Table 17-37), and lumbosacral nerves (Table 15-20).

Chapter 15, page 378

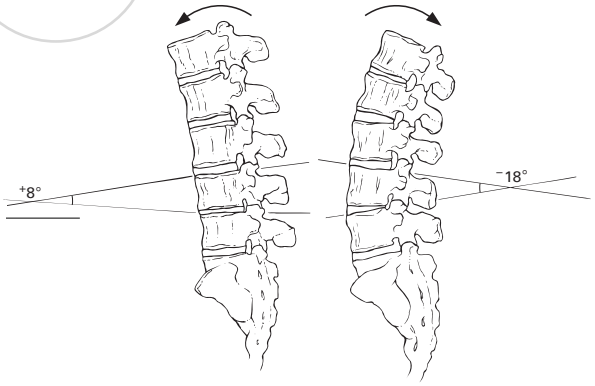
Figure 15-3a Loss of Motion Segment Integrity, Translation



A dot is placed at the posterior superior corner of the lower vertebra, and a separate dot is placed at the posterior-inferior corner of the upper vertebra. The distance (A) is measured as illustrated by the figure, using two intersecting lines. Measurements are obtained in flexion (as in Figure 15-3A) and extension, and the difference is calculated. A value greater than 2.5 mm in the thoracic spine, greater than 4.5 mm in the lumbar spine, and greater than 3.5 mm in the cervical spine qualifies as loss of structural integrity.

Chapter 15, page 379

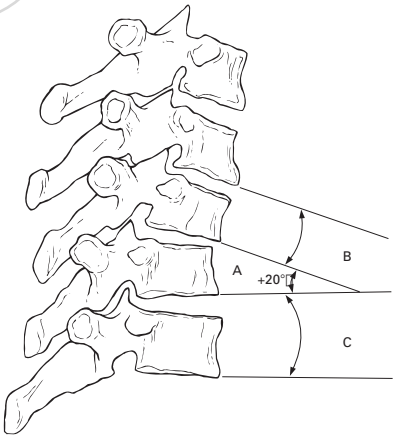
Figure 15-3b Loss of Motion Segment Integrity, Angular Motion (Sagittal Rotation), Lumbar Spine



Lines are drawn along the superior border of the vertebral body of the lower vertebrae and the superior border of the body of the upper vertebrae and the lines extended until they join. The angles are measured and subtracted. Note that lordosis (extension) is represented by a negative angle and kyphosis (flexion) by a positive angle. Loss of motion segment integrity is defined as motion greater than 15° at L1-2, L2-3, and L3-4 and greater than 20° at L4 to L5. Loss of integrity of the lumbosacral joint is defined as angular motion between L5 and S1 that is greater than 25°. The flexion angle is +8° and the extension angle is –18°. In the illustration, the flexion angle is +8°. Therefore (+8) – (–18) = +26° and would qualify for loss of structural integrity at any lumbar level.

Chapter 15, page 379

Figure 15-3c Loss of Motion Segment Integrity, Cervical Spine



Lines are drawn along the inferior borders of the two vertebral bodies adjacent to the level in question and of the vertebral bodies above and below those two vertebrae. Angles A, B, and C are measured. Flexion view only is necessary. Loss of motion segment integrity is defined as motion at the level in question that is more than 11° greater than at either adjacent level.

Chapter 15, page 381

15.3 Diagnosis-Related Estimates Method

The DRE method has five diagnosis-related categories for each of the three spinal regions. In assigning the individual to the correct DRE category, one of two approaches is used. The first is based on symptoms, signs, and appropriate diagnostic test results. The second is based on the presence of fractures and/or dislocations with or without clinical symptoms. If a fracture is present that places the individual into a DRE category, no other verification is required. The symptoms, signs other than fractures, and tests used to assist correct categorization of an individual are defined in Box 15-1.

Chapter 15, page 383

To use the DRE method, obtain an individual's history, examine the individual, review the results of appropriate diagnostic studies, and place the individual in the appropriate category. Although there are five categories, almost all individuals will fall into one of the first three DRE categories. Altered motion segment integrity (ie, increased motion or loss of motion) qualifies the individual for category IV or V. A fracture and/or dislocation, with or without clinical symptoms, permits placement of the individual into a DRE category with no additional verification. If there are impairments in different spinal regions, rate each spinal region separately using the DRE method; then combine the ratings using the Combined Values Chart on page 604. As stated previously, fractures at more than one level in the same spinal region should be rated using the ROM method.

Chapter 15, page 394

Example 15-14
15% to 18% Impairment Due to Radiculopathy

Subject: 44-year-old man.

History: Sustained a blow to his posterior neck from a machine support that slipped. Unable to use his dominant left hand for ADL without considerable pain in neck, left upper back, and ulnar left upper limb. No discomfort in the lower extremities. Refuses surgery.

Current Symptoms: Neck pain, radiating to the ulnar hand with numbness of the ring and little fingers.

Physical Exam: Decreased range of motion in the neck with severe radiating pain to the left arm in a C8 distribution.

Clinical Studies: MRI: left posterolateral disk herniation C7-T1.

Diagnosis: Radiculopathy due to disk herniation.

Impairment Rating: 18% impairment of the whole person.

Comment: Residual symptoms and functional limitations to perform ADL.

Chapter 15, page 406

6. An accessory validity test can be performed for lumbosacral flexion and extension.[35] In this test, record the straight-leg-raising angle of the supine individual by placing an inclinometer on each tibial crest with the knees extended and the hip flexed (Figure 15-8d). Compare the straight-leg-raising angle to the sum of the sacral flexion and extension (sacral or hip motion) angles (Figures 15-8b and 15-8c). If the straight-leg-raising angle exceeds the sum of sacral flexion and extension angles by more than 15°, the lumbosacral flexion test is invalid. Normally, the straight-leg-raising angle is about the same as the sum of the sacral flexion-extension angle. If the individual resists passive SLR without other evidence of radiculopathy, the accessory test is also invalid. If invalid, the examiner should either repeat the flexion-extension test or disallow impairment for lumbosacral spine flexion and extension.

Chapter 15, page 424

Table 15-17 Unilateral Spinal Nerve Root Upper Extremity Impairment*

Nerve Root Impaired	Maximum % Loss of Function Due to Sensory Deficit or Pain	Maximum % Loss of Function Due to Strength
C5	5	30
C6	8	35
C7	5	35
C8	5	45
T1	5	20

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

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

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.

15.12a Examples Using the ROM Method

Example 15-22
20% Impairment Due to Herniated Disk With Radiculopathy

Subject: 55-year-old man.

History: Developed low back pain and right sciatica after lifting furniture at home. A herniated lumbar disk was treated surgically, with near complete relief of pain. About 15 months ago postoperatively, he reinjured his lumbar spine while lifting on the job. An MRI showed a recurrent herniated disk at the same level and side as before. He underwent a second diskectomy, but this time was unrelieved of pain.

Current Symptoms: Back and unilateral, radiating right leg pain, unchanged for many months.

Physical Exam: Healed scar on the back. Straight leg raising caused pain along the lateral leg and foot at 30°. The right Achilles reflex was absent. Numbness in the right S1 nerve root distribution range of motion and straight-leg-raising testing using the double-inclinometer technique resulted in the following measurements: true lumbar extension 20°; true lumbar flexion 30°; left lateral flexion 25°; right lateral flexion 20°.

The sensory changes in S1 nerve distribution were judged to be grade 4 according to Table 15-15, and weakness in the S1-innervated muscles was judged to be grade 4 according to Table 15-16.

Clinical Studies: MRI after the second injury: recurrent herniated disk. Repeat MRI with gadolinium after surgery and failure to improve: only perineural scarring. Repeat routine x-rays: slight disk space narrowing at the involved level.

Diagnosis: Recurrent herniated disk with radiculopathy.

Impairment Rating: 20% impairment of the whole person.

Comment: Individual has a 12% whole person impairment according to Table 15-7, 10% due to "surgically treated disk lesion with residual, medically documented pain and rigidity," added to 2% for the second operation. He has an impairment of 2% impairment due to loss of lumbar extension and 4% due to loss of flexion, with at least 45° of sacral (hip) motion (Table 15-8) and 6% loss due to extension and flexion. He has 0% impairment due to loss of left lateral lumbar flexion, 1% loss of right lateral flexion (Table 15-9), and 1% loss of lateral movement. He therefore has 7% impairment due to loss of lumbar motion. From Table 15-15 we see that he has a grade 4 sensory loss of S1. Multiplying 25% (the maximum percentage in this case) by the 5% for maximum loss of S1 sensation from Table 15-18 results in a rating of 1% of the lower extremity due to sensory loss. We also see that he has a grade 4 motor loss according to Table 15-16. Multiplying 25% (the maximum in this case) by the 20% from Table 15-18 for S1 motor loss results in 5% lower extremity impairment due to motor loss of S1. Combining the 1% for sensory loss and the 5% for motor loss results in a 6% impairment due to neurologic loss of the lower extremity. Convert the 6% lower extremity impairment to 2% whole person impairment using Table 17-3. Using the Combined Values Chart to combine the impairment from Table 15-7 (12%) with the impairments due to loss of motion (7%) and neurologic involvement (2%) results in a whole person impairment of 20%. In some cases, the physician may be asked to apportion the findings. One approach is to subtract 10% from the latest impairment rating due to the first injury, assuming it was a DRE III without ROM data after the first operation and the radiculopathy had resolved after the first surgery.

Example 15-24
27% Impairment Due to Compression Fractures

Subject: 54-year-old woman.

History: Fell from a ladder and sustained burst fractures of L2 with loss of height of 55% and L3 with loss of height of 20%. Treated with bracing and the fractures healed. Returned to work as a customer service agent 6 months after the injury.

Current Symptoms: No neurologic findings, but she has back pain after heavy activity.

Physical Exam: Mild tenderness to palpation at the fracture site. Neurologic examination is negative. Straight leg raising is negative. True lumbar extension is 10°, flexion is 30°, and left and right lateral bending are each 10°. There is normal hip motion.

Clinical Studies: Repeat x-rays of the area: healed fractures with persistent loss of height of greater than 50% at L2 and 20% at L3.

Diagnosis: Compression fractures L2 and L3.

Impairment Rating: 23% impairment of the whole person.

Comment: Injuries at two vertebrae within the same region, with a 55% compression of L2, according to Table 15-7, results in an impairment of 12%. The compression fracture of L3 results in an impairment of 5%, according to Table 15-7. The instructions are to combine these two impairment ratings; doing so results in an impairment rating of 16%.

The woman has true lumbar extension of 10° which, according to Table 15-8, results in an impairment of 5%, a lumbar flexion of 30°, which results in an impairment of 4% (Table 15-8), and left and right lateral bending of 10°, which results in an impairment of 2% for each (Table 15-9). Adding these four impairments due to loss of motion results in an impairment of 13%. Combining the impairment of 16% from Table 15-7 and the 13% from Tables 15-8 and 15-9 results in a whole person impairment of 27%.

15.15 Spine Evaluation Summary

See Table 15-20 for a spine evaluation summary form.

Table 15-20 Spine Evaluation Summary•

Name _____ Soc. Sec. No. _____ Date _____

Impairment	Cervical	Thoracic	Lumbar
1. DRE Method (Tables 15-3 through 15-5)			
2. Range-of-Motion Method (and Table 15-8)			
3. Nerve root: Loss of sensation with or without pain Loss of strength			
4. Other (From Section 15.14)			
5. Regional impairment total (combine impairments in each column using the Combined Values Chart, p. 604)			
6. Spine impairment total (combine all regional totals using the Combined Values Chart)			

7. Impairment(s) of other organ systems: for each impairment list condition, page number in *Guides,* and percentage of impairment.

	Impaired System	% Impairment	*Guides* Page Number
a.			
b.			
c.			
d.			
e.			

8. Impairment of the whole person: Use Combined Values Chart to combine spine impairment with the impairment(s) listed in 7 above. If several impairments are listed, combine spine impairments with the larger or largest value, then combine the resulting percentage with any other value(s), until all the listed impairments have been accounted for.

Total whole person impairment: _____

* Either the DRE or the range-of-motion method should be used for each region, as discussed in the text.

Chapter 16, page 451

Digital joints are measured with the wrist held in neutral position and the forearm pronated. To measure the ROM of individual joints, the proximal joint(s) are stabilized in extension, and only the joint being measured is flexed. Note that if all three joints are flexed simultaneously, as in making a fist, active flexion of the metacarpophalangeal joint will be decreased. In some cases of decreased finger motion due to limited excursion of the activating musculotendinous unit or blockage of motion by the antagonistic musculotendinous unit, the measurement of individual joints, as described earlier, can be normal or near normal. [Sentence deleted.] Flexion of each joint is measured while all three joints are held in a position of maximum active flexion, or the finger is flexed as a whole unit; similarly, extension of each joint is measured while all three joints are held in maximum extension. The methods used to derive motion impairment of a digit using individual joint measurements and the total active range of motion of a digit are different, as explained on p. 465, Combining Abnormal Motion at More Than One Finger Joint. *The joint measurement technique that best reflects the existing impairment is selected.*

Chapter 16, page 498

Analysis:

Left upper extremity: 55% impairment of the upper extremity (middle range of class 3) due to peripheral vascular disease; 7% of the upper extremity due to finger amputations (see Section 16.2 and Figure 16-5). Combining these values yields 58% impairment of the left upper extremity, or 35% whole person impairment.

Right upper extremity: 25% of the upper extremity (middle range of class 2), or 15% whole person impairment.

Impairment Rating: *Combining* 35% with 15% gives 45% whole person impairment.

Chapter 16, page 502

Wrist Elbow Joint Active Radial and Ulnar Deviations

Active radial or ulnar deviation of the wrist or elbow is measured from the neutral position. The severity of lateral deviation is rated according to the excess number of angulation degrees compared to the normal opposite side (Table 16-24). The percentage of impairment is multiplied by the relative value of the joint (Table 16-18) to obtain the upper extremity impairment.

If the same joint presents other findings, the rules outlined on page 499 must be followed to avoid duplication of impairments.

Chapter 16, page 510

Table 16-35 Impairment of the Upper Extremity Due to Strength Deficit From Musculoskeletal Disorders Based on Manual Muscle Testing of Individual Units of Motion of the Shoulder and Elbow

% Upper Extremity Impairment			
Joint Relative Value	Unit of Motion Relative Value	Strength Deficit*	
		5%-25%†	30%-50%‡
Shoulder (60%)			
Flexion	24	1-6	7-12
Extension	6	0-2	2- 3
Abduction	12	1-3	4- 6
Adduction	6	0-2	2- 3
Internal rotation	6	0-2	2- 3
External rotation	6	0-2	2- 3
Elbow (70%)			
Flexion	21	1-5	6-11
Extension	21	1-5	6-11
Pronation	14	1-4	4- 7
Supination	14	1-4	4- 7

* Use clinical judgment to select the appropriate percentage from the range of values shown for each severity grade.

† Complete range of motion against gravity with some resistance.

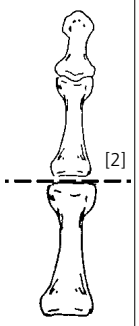
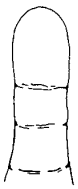
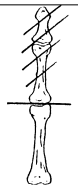
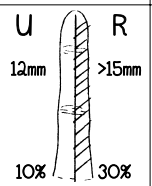
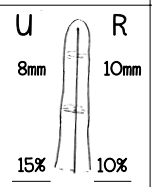
‡ Complete range of motion against gravity only without resistance.

Derived from Section 16.4 and Table 16-11 by G. de Groot Swanson, Grand Rapids, Michigan.

Figure 16-52 Upper Extremity Impairment Evaluation Record–**Part 1 (Hand)** Side ☐R ☒L

Name A.B. Example 16-74 Age 36 Sex ☒M ☐F Dominant hand ☐R ☒L Date

Occupation Construction Worker Diagnosis Crush Injury

			Abnormal Motion: Record motion or ankylosis angles and digit impairment %				Amputation: Mark level & impairment %	Sensory Loss: Mark type, level, & impairment %	Other Disorders: List type & impairment %	Hand Impairment%: ●Combine digit imp % ✱Convert to hand imp %	
			Flexion	Extension	Ankylosis	Imp %					
Thumb	IP	Angle°	30	-10		6					
		Imp %	4	2							
	MP	Angle°	30	-15		4					
		Imp %	3	1							
				Motion	Ankylosis	Imp %	[2]				
	CMC	Radial abduction Angle°	30			3				Abnormal motion [1]	26
		Imp %	3							Amputation [2]	
		Adduction Cm	4			4				Sensory loss [3]	
		Imp %	4							Other disorders [4]	
		Opposition Cm	4			9				Total digit imp % ●Combine 1, 2, 3, 4	26
		Imp %	9				‡UE IMP % = [5]				
						[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % ✱Convert above	10
		Add digit impairment % CMC + MP + IP = 26									
			Flexion	Extension	Ankylosis	Imp %					
Index	DIP	Angle°	30	-10		23				Abnormal motion [1]	56
		Imp %	21	2						Amputation [2]	
	PIP	Angle°	70	-10		21				Sensory loss [3]	
		Imp %	18	3						Other disorders [4]	
	MP	Angle°	50	-10		29				Total digit imp % ●Combine 1, 2, 3, 4	56
		Imp %	22	7							
		●Combine digit impairment % MP, PIP, DIP = 56				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % ✱Convert above	11
Middle	DIP	Angle°	30	-10		23				Abnormal motion [1]	56
		Imp %	21	2						Amputation [2]	
	PIP	Angle°	70	-10		21				Sensory loss [3]	
		Imp %	18	3						Other disorders [4]	
	MP	Angle°	50	-10		29				Total digit imp % ●Combine 1, 2, 3, 4	56
		Imp %	22	7							
		●Combine digit impairment % MP, PIP, DIP = 56				[1]	Digit [2] IMP % =	Digit [3] IMP % =	Digit [4] IMP % =	Hand impairment % *Convert above	11
Ring	DIP	Angle°								Abnormal motion [1]	32
		Imp %								Amputation [2]	80
	PIP	Angle°								Sensory loss [3]	40
		Imp %								Other disorders [4]	
	MP	Angle°	50	-20		32				Total digit imp % ●Combine 1, 2, 3, 4	92
		Imp %	22	10							
		●Combine digit impairment % MP, PIP, DIP = 32				[1]	Digit [2] IMP % = 80	Digit [3] IMP % = 40	Digit [4] IMP % =	Hand impairment % *Convert above	9
Little	DIP	Angle°			10	33				Abnormal motion [1]	84
		Imp %			33					Amputation [2]	
	PIP	Angle°			60	60				Sensory loss [3]	25
		Imp %			60					Other disorders [4]	
	MP	Angle°	50	-20		32				Total digit imp % ●Combine 1, 2, 3, 4	88
		Imp %	22	10							
		●Combine digit impairment % MP, PIP, DIP = 84				[1]	Digit [2] IMP % =	Digit [3] IMP % = 25	Digit [4] IMP % =	Hand impairment % *Convert above	9

Total hand impairment: Add hand impairment % for thumb + index + middle + ring + little finger =	50	%
Convert total hand impairment to upper extremity impairment† (if thumb metacarpal intact, enter on Part 2, line II) =	45	%
‡Add thumb ray upper extremity amputation imp [5] ____% + hand upper extremity imp ____% =		%
If hand region impairment is only impairment, convert upper extremity impairment to whole person impairment§ =	27	%

● Combined Values Chart (p. 604). *Use Table 16-1 (digits to hand). †Use Table 16-2 (hand to upper extremity). §Use Table 16-3.

Courtesy of G. de Groot Swanson, MD, Grand Rapids, Michigan.

Chapter 17, page 558

Example 17-23
10% Impairment Due to Undisplaced Tibial Plateau Fracture and Peroneal Neuropathy

Physical Exam: 2° limitation in the extension of the knee; flexes to 100°. No malalignment. There is 2.5 cm of atrophy of the calf. Knee ligaments are stable. Numbness on the lateral side of the lower leg and foot that is judged to be grade 2 according to Table 16-10. He has weakness of the peroneal innervated muscles that is judged to be grade 3 according to Table 16-11.

Chapter 18, page 572

As noted earlier, the distinction between well-recognized conditions and ambiguous or controversial ones is subtle, so that no definitive list of ambiguous or controversial conditions can be given. The examining physician can, however, identify ambiguous or controversial syndromes by asking the following questions:

Chapter 18, page 573

18.3d How to Rate Pain-Related Impairment: Overview

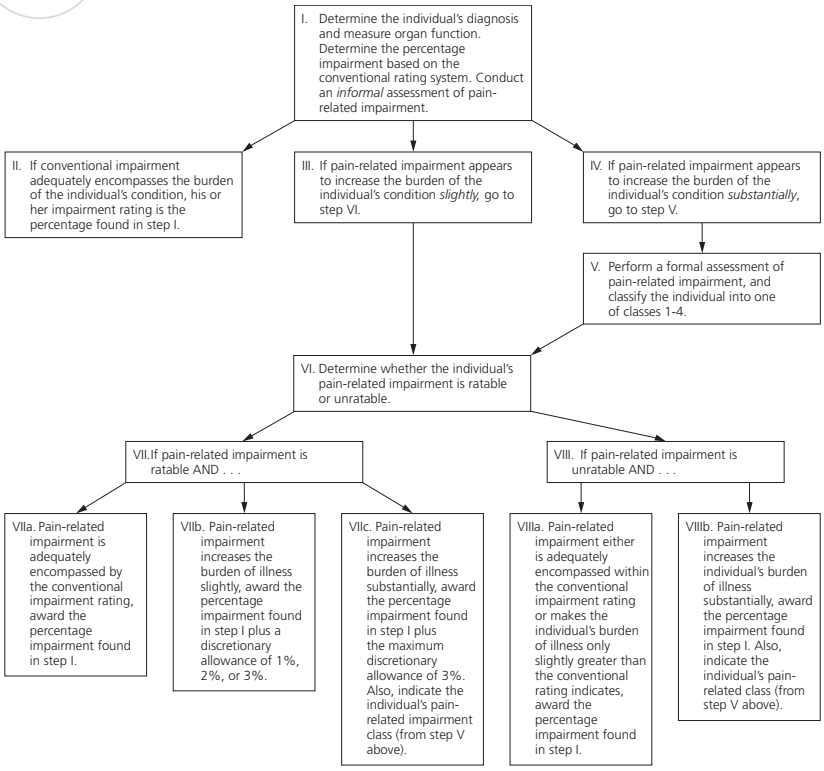
The system described in this chapter relies largely on self-reports by individuals. Thus, it differs significantly from the conventional rating system, which relies primarily on objective indices of organ dysfunction or failure. The present system assesses pain intensity, emotional distress related to pain, and ADL deficits secondary to pain. ADL deficits are given the greatest weight. An individual's pain-related impairment evaluation should be aborted if his or her behavior during the evaluation raises significant issues of credibility. If an individual has clinical findings atypical of a well-accepted medical condition, or is diagnosed with a condition that is vague or controversial, his or her pain-related impairment evaluation should be completed, but the results of the evaluation must be interpreted differently. Specifically, an examiner should characterize the resulting pain-related impairment as *unratable*, and should not award quantitative impairment.

A detailed protocol for assessing pain-related impairment is described below and outlined in Figure 18-1.

I. Evaluate the individual according to the body part or organ rating system (ie, the conventional rating system), and determine an impairment percentage. During the evaluation, the examiner should informally assess pain-related impairment.
II. If the body system impairment rating appears to adequately encompass the pain experienced by the individual due to his or her medical condition, his or her impairment rating is as indicated by the body system impairment rating.
III. If the individual appears to have pain-related impairment that has increased the burden of his or her condition *slightly,* proceed to Step VI.
IV. If the individual appears to have pain-related impairment that has increased the burden of his or her condition *substantially,* perform a formal pain-related impairment assessment (Step V). Then proceed to Step VI.
V. In a formal pain-related impairment assessment, the examiner administers and scores the inventory shown in Table 18-4 and provides quantitative ratings of an individual's pain behavior and credibility. The examiner then calculates the individual's total pain-related impairment as shown in Table 18-6, and determines the individual's pain-related impairment class as shown in Table 18-7.
VI. Determine whether the individual's pain-related impairment is ratable or unratable.
VII. If pain-related impairment is ratable, the examiner may award quantitative pain-related impairment of up to 3% and should (when appropriate) also designate the qualitative pain-related impairment class that best characterizes the individual's condition,
VIII. If pain-related impairment is unratable, the examiner should not award quantitative pain-related impairment but should (when appropriate) designate the pain-related impairment class that best characterizes the individual's condition,

Replacement figure:

Figure 18-1 Algorithm for Rating Pain-Related Impairment in Conditions Associated With Conventionally Ratable Impairment



d. Follow the instructions given in Table 18-6 to combine scores from each of the above five domains (severity of pain, ADL restrictions, emotional distress, pain behaviors, and credibility) into a total pain-related impairment score. These scores are not impairment ratings but are used only to classify the individual as discussed under e.
e. Follow the instructions given in Table 18-7 to convert this total pain-related impairment score into one of the four categories of impairment described in Table 18-3 (ie, mild, moderate, moderately severe, or severe).

4. Review the material provided in Sections 18.3a and 18.3b to determine whether the pain-related impairment is ratable or unratable.
5. If an individual has ratable pain-related impairment, determine his or her final impairment rating as follows:
   a. If an individual's conventional impairment rating adequately encompasses the burden of his or her condition, the individual should not receive any additional pain-related impairment.
   b. If pain-related impairment increases the individual's burden of illness *slightly* beyond that indicated by his or her conventional impairment rating, award the conventional impairment and combine this with discretionary quantitative pain-related impairment of 1%, 2%, or 3%.
   c. If pain-related impairment increases the individual's burden of illness *substantially* beyond that indicated by his or her conventional impairment rating, award the conventional impairment and combine this with discretionary quantitative pain-related impairment of 3%. Also, indicate the individual's *qualitative* pain-related class.
6. If an individual has unratable pain-related impairment, determine his or her final impairment rating as follows:
   a. If an individual's conventional impairment rating adequately encompasses the burden of his or her condition, or if it increases the burden of illness only slightly, the individual should not receive any additional pain-related impairment.
   b. If pain-related impairment increases the individual's burden of illness substantially beyond that indicated by his or her conventional impairment rating, award the conventional impairment rating and indicate the individual's *qualitative* pain-related impairment class.

Table 18-6 Worksheet for Calculating Total Pain-Related Impairment Score

1. Sum the scores for Section I of Table 18-4, items A-D, and divide by 4; add response to item E. Range is from 0 to 20.	_____
2. Total scores for Section II of Table 18-4, items A-P, divide by 16, and multiply by 3. Range is from 0 to 30.	_____
3. Sum scores for Section III of Table 18-4, items A-E, and divide by 5. Range is from 0 to 10.	_____
4. Global pain behavior rating from Table 18-5 (rating should be any number between –10 and +10).	_____
Subtotal steps 1 through 4 (maximum = 70)	_____
5. Physician adjustment based on clinical judgment of individual's credibility. Add or subtract 0 to 10.	_____
6. Total pain-related impairment score = total of steps 1 through 5	_____

Impairment Rating: Based on the procedures described in Tables 18-4 through 18-7, the individual's total pain-related impairment score is 20. She is therefore classified as having mild pain-related impairment. The examiner has the option of awarding 1%, 2%, or 3% quantitative impairment to reflect this. There is no ratable impairment based on organ or body part dysfunction.

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Impairment Rating: (1) Conventional: 23% whole person impairment based on DRE category IV. The high end of the impairment range of 20% to 23% was awarded because of the individual's complex surgical history, reports of severe activity restrictions, and functional limitations on examination.
(2) Pain related: The total pain-related impairment score is 46, indicating moderately severe pain-related impairment. The impairment is ratable. It is felt to be adequately encapsulated in the relatively high impairment awarded for his lumbar spine DRE Category IV rating.

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Impairment Rating: (1) Conventional: 5% impairment of the upper extremity due to loss of sensory function in the right superficial radial nerve and 5% impairment of the upper extremity due to loss of sensory function in the left superficial radial nerve. Using the Combined Values Chart (p. 604) yields a total of 10% impairment of the upper extremities, or 6% whole person impairment.
(2) Pain related: Using the procedures described in Tables 18-4 through 18-7, the total pain-related impairment score is 61, indicating severe pain-related impairment. It is felt that the impairment is ratable and not adequately encapsulated in the conventional impairment rating provided above. The individual is awarded quantitative pain-related impairment of 3%. This is combined with her conventional impairment to yield total whole person impairment of 9%.

Table A-1 Recording ROM Measurements for the Upper Extremities*

Joint	Plane	Normal Active ROM ROM-0-ROM (°)	Clinical Examples	
			Text Description	SFTR Recording (°)
Shoulder	Sagittal	S: Extension -0- flexion (40) -0- (180)	Left extends to 40°, flexes to 150°	Left S: 40-0-150
			Right extends to 30°, flexes to 110°	Right S: 30-0-110
Shoulder	Frontal	Abduction -0- adduction (180) -0- (30)	Left abducts to 100°, adducts to 10°	Left F: 100-0-10
			Right abducts to 150°, adducts to 30°	Right F: 150 -0-30
Shoulder	Rotation	External rotation -0- internal rotation (90) -0- (80)	Left external rotation to 90°, internal rotation to 80°	Left R: 90-0-80
			Right external rotation to 80°, internal rotation to 40°	Right R: 80-0-40
Elbow	Sagittal	Extension -0- flexion (0) -0- (150)	Left extends to 0°, flexes to 150°	Left S: 0-0-150
			Right hyperextends to 0°, flexes to 110°	Right S: 0-0-110
Forearm	Rotation	Supination -0- pronation (80) -0- (80)	Left supinates to 60°, pronates to 80°	Left R: 60-0-80
			Right supinates to 80°, pronates to 80°	Right R: 80-0-80
Wrist	Sagittal	Extension -0- flexion (60) -0- (60)	Ankylosis of left wrist in 20° extension	Left S: 20-0
			Right extends to 20°, flexes to 50°	Right S: 20-0-50
Wrist	Frontal	Radial deviation -0- ulnar deviation (20) -0- (30)	Left radial deviates to 20°, ulnar deviates to 30°	Left F: 20-0-30
			Right radial deviates to 10°, ulnar deviates to 10°	Right F: 10-0-10

* Normal ranges are in parentheses.