



Rating Example #1

- Carpenter
- Age 25
- Low back injury
- Lumbar Fusion L3-5
- Injured has drop foot that requires use of AFO brace

Anterior
Lumbar
Fusion
with
Cages



Rating Example #1

Physician assigns impairment



- Lumbar DRE V: 28 WP
- Alteration of motion segment integrity
- Unresolved radicular symptoms

3

Rating Example #1

Rating issues:

- Two level fusion would indicate ROM method is applicable
- If DRE method applicable, is drop foot adequately assessed?

4

Rating Example #1

DEU Rating



Lumbar DRE V: 28 WP

15.03.01.00 – 28 – [5]36 – 380H – 42 – 37 PD

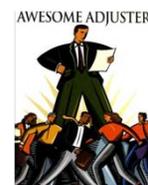
DEU Annotations

- ROM method appears applicable due to multi-level fusion.

5

Rating Example #1

Parties should follow up with physician



- Is ROM method applicable?
- Provide the impairments for the three components of ROM method:
 - Diagnosis
 - ROM
 - Nerve Root (motor and sensory deficits)

6

Rating Example #1

Possible questions to physician

- Does the standard AMA Guides rating accurately assess impairment?
- Is use of Gait impairment the most accurate way to assess this particular injury?

7

Rating Example #1

Physician Deposition

- Most accurate assessment of impairment as follows:
- Lumbar DRE V: 28 WP
- Gait Use of AFO Brace: 15 WP



8

Gait Table 17-5

Table 17-5 Lower Limb Impairment Due to Gait Derangement

Severity	Individual's Signs	Whole Person Impairment
Mild	a. Antalgic limp with shortened stance phase and documented moderate to advanced arthritic changes of hip, knee, or ankle	7%
	b. Positive Trendelenburg sign and moderate to advanced osteoarthritis of hip	10%
	c. Same as category a or b above, but individual requires part-time use of cane or crutch for distance walking but not usually at home or in the workplace	15%
	d. Requires routine use of short leg brace (ankle-foot orthosis (AFO))	15%
Moderate	e. Requires routine use of cane, crutch, or long leg brace (knee-ankle-foot orthosis (KAFO))	20%
	f. Requires routine use of cane or crutch and a short leg brace (AFO)	30%
	g. Requires routine use of two canes or two crutches	40%



Ankle Foot Orthosis

9

Rating Example #1

Almaraz/Guzman Rating

Lumbar DRE V: 28 WP

15.03.01.00 – 28 – [5]36 – 380H – 42 – 37 PD

Gait AFO Brace: 15 WP

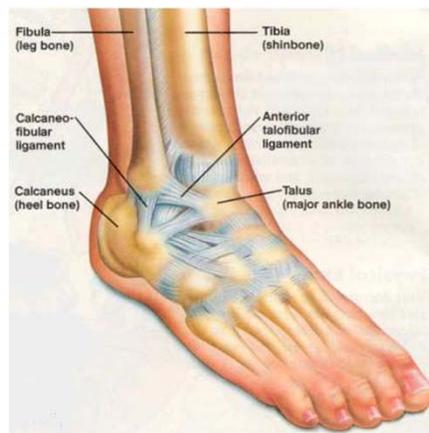
17.01.07.00 – 15 – [5]19 – 380I – 26 – 22 PD (A)

(A) 37 C 22 = 51 Final PD

10

Rating Example #2

- Farm laborer
- Age 35
- Left ankle injury



11

Rating Example #2

Physician assigns impairments



- Calf Atrophy 1 inch: 4 WP
- Ankle Muscle Strength Grade 4 all: 16 WP
- ROM S: 5-0-20: 6 WP

12

Rating Example #2

Physician Combines impairments at WP

16 C 6 C 4 = 24 WP

Rating Issues:

- Lower extremity impairments combine at LE index
- Table 17-2 not utilized

13

Calf Atrophy Calculation

Table 17-6 Impairment Due to Unilateral Leg Muscle Atrophy

Difference in Circumference (cm)	Impairment Degree	Whole Person (Lower Extremity) Impairment (%)
a. Thigh: The circumference is measured 10 cm above the patella with the knee fully extended and the muscles relaxed.		
0-0.9	None	0
1-1.9	Mild	1-2 (3-8)
2-2.9	Moderate	3-4 (8-13)
3+	Severe	5 (13)
b. Calf: The maximum circumference on the normal side is compared with the circumference at the same level on the affected side.		
0-0.9	None	0
1-1.9	Mild	1-2 (3-8)
2-2.9	Moderate	3-4 (8-13)
3+	Severe	5 (13)

1 inch = 2.54 cm

14

Muscle Strength Calculation

Table 17-8 Impairment Due to Lower Extremity Muscle Weakness

Muscle Group		Whole Person (Lower Extremity) [Foot] Impairment (%)				
		Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Hip	Flexion	6 (15)	6 (15)	6 (15)	4 (10)	2 (5)
	Extension	15 (37)	15 (37)	15 (37)	15 (37)	7 (17)
	Abduction*	25 (62)	25 (62)	25 (62)	15 (27)	10 (25)
Knee	Flexion	10 (25)	10 (25)	10 (25)	7 (17)	5 (12)
	Extension	10 (25)	10 (25)	10 (25)	7 (17)	5 (12)
Ankle	Flexion (plantar flexion)	15 (37) [53]	15 (37) [53]	15 (37) [53]	10 (25) [35]	7 (17) [24]
	Extension (dorsiflexion)	10 (25) [35]	10 (25) [35]	10 (25) [35]	10 (25) [35]	5 (12) [17]
	Inversion	5 (12) [17]	5 (12) [17]	5 (12) [17]	5 (12) [17]	2 (5) [7]
	Eversion	5 (12) [17]	5 (12) [17]	5 (12) [17]	5 (12) [17]	2 (5) [7]
Great toe	Extension	3 (7) [10]	3 (7) [10]	3 (7) [10]	3 (7) [10]	1 (2) [3]
	Flexion	[17]	(12) [17]	5 (12) [17]	5 (12) [17]	2 (5) [7]

* Hip adduction weakness is evaluated as an obturator nerve impairment (see Table 17-37).

15

Range of Motion Impairment

Table 17 -11

Motion	Mild 7 LE	Moderate 15 LE	Severe 30 LE
Plantar Flexion	11-20 Degrees	1-10 Degrees	None
Extension	0-10 Degrees	-----	-----

Extension 5 degrees =

Flexion 20 degrees =

16

Combining Impairments (Table 17-2 Condensed)

	Gait	Atrophy	Muscle Strength	ROM	DJD	DBE
Gait		X	X	X	X	X
Atrophy	X		X	X	X	X
Muscle Strength	X	X		X	X	X
ROM	X	X	X		X	X
DJD	X	X	X	X		
DBE	X	X	X	X		

17

DEU Rating



Calf Atrophy 1 inch: 11 LE (not used)

Ankle Muscle Strength Grade 4 all: 34 LE = 14 WP

- Ankle ROM S: 5-0-20: 14 LE (not used)

17.07.05.00 – 14 – [2]16 – 491H – 20 – 19 PD

18

Rating Example #2

DEU Annotations

- Table 17-2 applied in rating, but physician did not utilize
- Impairments combined at LE index per PDRS page 1-11.

19

Rating Example #3

Police Officer

Age 47

Diagnosis

- Shoulder injury
- Rotator Cuff Tear

Impairment factors

- Decreased Motion
- Loss of muscle strength



20

Example #3



Physician assigns impairment

ROM S: 40-0-120 F: 140-0-30 R: 80-0-60 = 10 UE

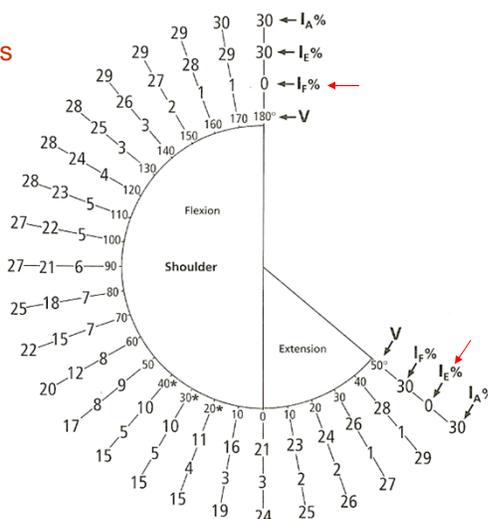
Muscle Strength Grade 4 25% abduction/flexion = 9 UE

10 C 9 = 18 UE x .6 = 11 WP

Shoulder ROM Example

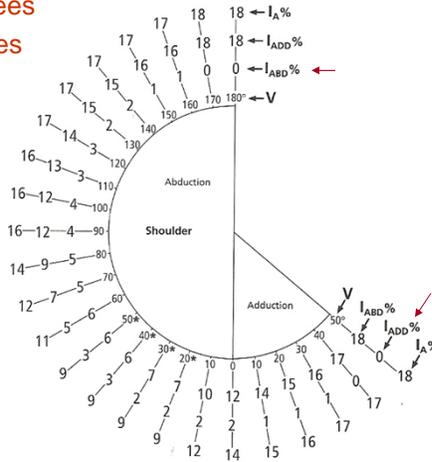
Extension 40 degrees

Flexion 120 degrees



Shoulder ROM Example

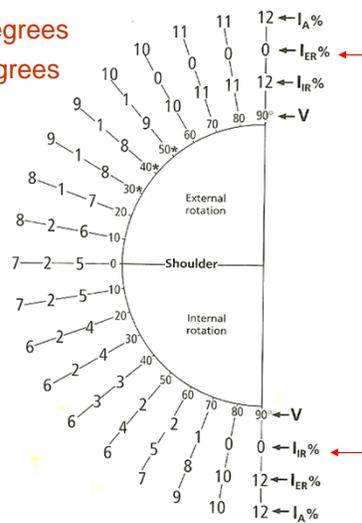
Abduction 140 degrees
Adduction 30 degrees



23

Shoulder ROM Example

External Rotation 80 degrees
Internal Rotation 60 degrees



24

Shoulder ROM

Extension	=
Flexion	=
Abduction	=
Adduction	=
External Rotation	=
Internal Rotation	=
Total	=

25

Shoulder Muscle Strength

Flex 25% x 24 =

Abd 25% x 12 =

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

26

DEU Rating

Shoulder Muscle Strength: 9 UE

Shoulder ROM: 10 UE

$10 \text{ C } 9 = 18 \text{ UE} \times .6 = 11 \text{ WP}$

16.02.02.00 – 11 – [7]15 – 490I – 21 – 24 PD

27

DEU Annotations

- Strength cannot be rated if maximum application of force is prevented by decreased motion.
- Rating assumes strength impairment due to an unrelated etiologic or pathomechanical cause. Otherwise impairment based on anatomic findings should be used.

28

Rating Example #3

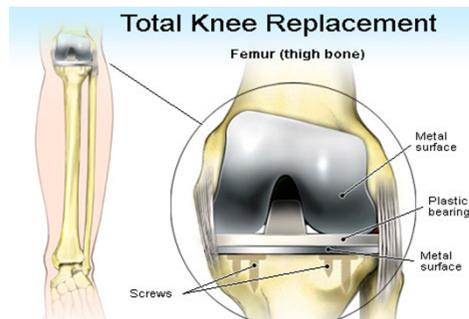
Possible questions to physician

- Does decreased motion prevent maximum application of force?
- What is the cause of the muscle strength and decreased motion. If they are due to the same causes, should they be combined?

29

Rating Example #4

- Truck driver
- Age 56
- Left knee replacement



30

Rating Example #4

- Physician utilizes Table 17-35

Knee Result Factors

- Constant Moderate pain
- Knee ROM S: 0-10-110
- No Instability
- No loss passive extension
- Good knee alignment

31

Table 17-35 (p. 549)
Knee Replacement Results

a. Pain	Points	c. Stability	Points
None	50	Anteroposterior	
Mild or occasional	45	<5 mm	10
Stairs only	40	5-9 mm	5
Walking and stairs	30	>9 mm	0
Moderate		Mediolateral	
Occasional	20	5 degrees	15
Continual	10	6-9	10
Severe	0	10-14	5
b. Range of Motion		≥15	0
Add 1 point per 5 degrees			

S: 0-10-110 =

32

Knee Replacement Result

Table 17-35

Points Assigned

• Pain	pts
• Range of motion S: 0-10-110	pts
• Anterior Posterior Stability	pts
• Mediolateral Stability	<u>pts</u>
Subtotal	pts

33

Table 17-35 (p. 549)
Knee Replacement Results

Deductions	Points	Deductions	Points
d. Flex Contracture		f. Alignment	
5-9 degees	2	0-4 degrees	0
10-15	5	5-10	3 per degree
16-20	10	11-15	3 per degree
>20	15	> 15	20
e. Extension Lag			
<10 degrees	5		
10-20	10		
> 20	15		

34

Knee Replacement Results

- Table 17-5
- Deductions
- Flexion Contracture (Passive)
- Extension lag (Active)
- Alignment

Total Deductions

Net Points

35

Rating Example #4

Table 17-33 Knee Replacement Results

- 85-100 points = Good = 15 WP
- 50-84 points = Fair = 20 WP
- < 50 points = 30 WP

36

Rating Example #4

Physician gives 3 WP add-on for pain

DEU rating

17.05.10.08 – 33 – [2]38 – 350G – 41 – 47 PD
3 WP add-on included for pain

37

Rating Example #4

DEU Annotates Rating

- Since pain is a consideration in knee replacement result, there is possible duplication between knee replacement and pain add-on.

38

Rating Example #4

Possible question for physician

- Is the pain add-on in addition to the level of pain already considered in determining the knee replacement result?