Upper Extremity Complicated Cases

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Diagnosis Based Impairments

The upper extremity is divided into four regions:

[This means 4 basic tables]

- **digits / hand**
- **wrist**
- **elbow**
- **shoulder**

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- Diagnoses are defined in three major categories:
  - soft tissue,
  - muscle / tendon,
  - ligament /bone / joint
- This means there will be a section for each category in each of the 4 major tables

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Definition of Impairment Classes

		Impairment Range	
Class	Problem	Upper Extremity (UEI)	Whole Person (WPI)
0	No objective findings	0%	0%
1	Mild	1%–13%	1%–8%
2	Moderate	14%–25%	8%–15%
3	Severe	26%–49%	16%–29%
4	Very severe	50%–100%	30%–60%

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DBI = Diagnosis-Based Impairment Generic Grid

Dx =					
Diagnostic Criteria	Class 0	Class 1	Class 2	Class 3	Class 4
Ranges	0%	1% - 13%	14% - 25%	26% - 49%	50% - 100%
Grade		A B C D E	A B C D E	A B C D E	A B C D E
Soft Tissue					
Muscle / Tendon					
Ligament/ Bone/Joint					

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Principles of Assessment

Steps involved: In all sections of chapter 15

1. Determine the **diagnosis:**
   - This determines the **Table** used
   - This determines the impairment **class**
2. Assess "Grade Modifiers" :
   - Function: ADLs, QuickDASH,
   - Physical Exam:
   - Clinical studies:
   - ✓ Used **only if** the examiner determines they are RELIABLE and ASSOCIATED with the diagnosis.

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Steps for Calculating an IR

- **STEP 1: MMI and DIAGNOSIS**
  - **Confirm MMI**
  - **Determine the diagnosis and confirm**
- **STEP 2**
  - **Identify the diagnosis in the appropriate REGIONAL GRID**
  - **Identify the severity of the diagnosis to determine the IMPAIRMENT CLASS**
  - **Identify the default value in the impairment class**
- **STEP 3**
  - **Modify the default value with ADJUSTMENT FACTORS, determined using ADJUSTMENT GRIDS**
  - **Function: ADLs, QuickDASH**
  - **Physical Exam:**
  - **Clinical studies:**
  - **Used only if the examiner determines they are RELIABLE and ASSOCIATED with the diagnosis.**

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Grade Modifiers

Non-Key Factor	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Functional History	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Physical Exam	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Clinical Studies	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem

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Functional History: Upper Extremity

- Consider symptoms, ADL ability, and **"may use"** the QuickDASH (page 406)

TABLE 15-7

Functional History Adjustment: Upper Extremities

	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Class Definitions	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
	Asymptomatic	Pain/symptoms with strenuous/vigorous activity; +/– medication to control symptoms	Pain/ symptoms with normal activity; +/– medications to control symptoms	Pain/symptoms with less than normal activity (minimal); +/– medications to control symptoms	Pain/symptoms at rest; +/– medications to control symptoms
		AND able to perform self-care activities independently	AND able to perform self-care activities with modification but unassisted	AND requires assistance to perform self-care activities	AND unable to perform self-care activities
***Quick*DASH Score**	0–20	21–40	41–60	61–80	81–100

Has the QuickDASH become a default methodology ?

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THE QuickDASH OUTCOME MEASURE

INSTRUCTIONS

This questionnaire asks about your symptoms as well as your ability to perform certain activities.

Please answer every question, based on your condition in the last week, by circling the appropriate number.

If you did not have the opportunity to perform an activity in the past week, please make your best estimate of which response would be the most accurate.

It doesn't matter which hand or arm you use to perform the activity; please answer based on your ability regardless of how you perform the task.

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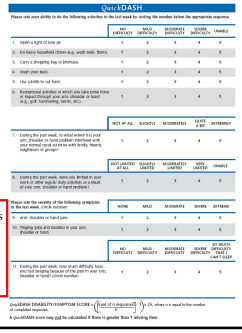
Functional History: Upper Extremity

Page 406

- "… may be used… "
- "… only to assist … "
- "… does **not** serve as a basis for
- defining further impairment …"

- "… assess the reliability of the
- functional reports recognizing the
- potential influence of behavioral
- and psychological factors."

- **If** the grade for functional history differs
- by 2 or more grades from that defined
- by physical examination or clinical
- studies the functional history should be
- assumed to be **unreliable."**



QuickDASH

Please rate your ability to do the following activities in the last week by circling the number below the appropriate response.

	NO DIFFICULTY	MILD DIFFICULTY	MODERATE DIFFICULTY	SEVERE DIFFICULTY	UNABLE
1. Open a tight or new jar.	1	2	3	4	5
2. Do heavy household chores (e.g., wash walls, floors).	1	2	3	4	5
3. Carry a shopping bag or briefcase.	1	2	3	4	5
4. Wash your back.	1	2	3	4	5
5. Use a knife to cut food.	1	2	3	4	5
6. Recreational activities in which you take some force or impact through your arm, shoulder or hand (e.g., golf, hammering, tennis, etc.).	1	2	3	4	5

	NOT AT ALL	SLIGHTLY	MODERATELY	QUITE A BIT	EXTREMELY
7. During the past week, to what extent has your arm, shoulder or hand problem interfered with your normal social activities with family, friends, neighbours or groups?	1	2	3	4	5

	NOT LIMITED AT ALL	SLIGHTLY LIMITED	MODERATELY LIMITED	VERY LIMITED	UNABLE
8. During the past week, were you limited in your work or other regular daily activities as a result of your arm, shoulder or hand problem?	1	2	3	4	5

Please rate the severity of the following symptoms in the last week. (circle number)

	NONE	MILD	MODERATE	SEVERE	EXTREME
9. Arm, shoulder or hand pain.	1	2	3	4	5
10. Tingling (pins and needles) in your arm, shoulder or hand.	1	2	3	4	5

	NO DIFFICULTY	MILD DIFFICULTY	MODERATE DIFFICULTY	SEVERE DIFFICULTY	SO MUCH DIFFICULTY THAT I CAN'T SLEEP
11. During the past week, how much difficulty have you had sleeping because of the pain in your arm, shoulder or hand? (circle number)	1	2	3	4	5

QuickDASH DISABILITY/SYMPTOM SCORE = $\left(\frac{\text{[sum of } n \text{ responses]}}{n} - 1\right) \times 25$, where n is equal to the number of completed responses.

A QuickDASH score may not be calculated if there is greater than 1 missing item.

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6th Edition: ROM

15.7b International Classification of Functioning Range of Motion Model

To facilitate reproducibility and to adjust to the ICF Model of impairment, the Sixth Edition of the *Guides* reflects motion loss as grade modifiers, as shown in the following table.

Grade Modifier	Severity	Range of Motion
0	Normal	
1	Mild	60%–90% of normal motion (average: 75% of normal motion)
2	Moderate	30%–60% of normal motion (average: 45% of normal motion)
3	Severe	<30% of normal motion (average: 15% of normal motion)
4	Very severe	Joint ankylosis

- "Swanson" PIE charts are **GONE**
- ROM VARIES day to day, as does body weight, blood pressure, temperature

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TABLE 15-8
Physical Examination Adjustment: Upper Extremities

	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Clinic Definitions	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Observed or Palpatory Findings (tenderness, swelling, mass, or crepitance)	No consistent findings	Minimal palpatory findings consistently documented without observed abnormalities	Moderate palpatory findings consistently documented, and supported by observed abnormalities	Severe palpatory findings consistently documented, and supported by observed motion abnormalities or greater abnormalities	Very severe palpatory findings consistently documented, and supported by observed severe abnormalities
Stability	Stable	Grade 1 (slight) instability	Grade 2 (moderate) instability	Grade 3 (severe) instability	Gross instability
Hand/finger/thumb		Pain with stressing of ligament, but no opening of joint with stress	Pain and slight opening	Pain and >5 mm of joint opening with stress	Severe instability
Wrist		Clicking or clunking by history, but not reproducible	Clicking or clunking by history, reproducible on physical examination		
Wrist excessive passive/active palmar/dorsal joint deviation degrees compared to contralateral		<30° passive <20° active	30°–39° passive 20°–30° active	<20° passive <30° active	
Shoulder		Grade 1 (slight) instability; subluxable	Grade 2 (moderate) instability; easily subluxable	Grade 3 (serious) instability; dislocatable with anesthesia or sedation	
Alignment/ Deformity	Normal for individual with symmetry to opposite side	Mild	Moderate	Severe	Very severe
Range of Motion (reference Section 15.3)	None	Mild decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 1%–5% digit impairment. For wrist, elbow, or shoulder, this reflects a total joint impairment of <12% upper extremity impairment.	Moderate decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 20% to 39% digit impairment. For wrist, elbow, or shoulder this reflects a total joint impairment of 13% to 25% upper extremity impairment.	Severe decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 40% to 70% digit impairment. For wrist, elbow, or shoulder this reflects a total joint impairment of 26% to 42% upper extremity impairment.	Very severe decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 71% to 100% digit impairment. For wrist, elbow, or shoulder this reflects a total joint impairment >42% upper extremity impairment.
Muscle Atrophy (asymmetry compared to opposite normal)	<1 cm	1.0–1.9 cm	2.0–2.9 cm	3.0 cm–3.9 cm	4.0 cm +

Note: ROM indicates range of motion; GH indicates Glenohumeral.

Physical Exam
Upper Extremities

- Observed and palpatory findings
- Stability
- Hand/finger/thumb
- Wrist
- Wrist [excessive medial/lateral deviation]
- Shoulder
- Alignment/deformity
- Range of motion
- Muscle atrophy

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TABLE 15-33
Elbow/Forearm Range of Motion

Grade Modifier		0	1	2	3	4
Severity		**None (Normal)**	**Mild**	**Moderate**	**Severe**	**Ankylosis**
Motion (percentage compared to normal)		≥90%	61% to 90%	31% to 60%	≤30%	
Joint						
Elbow	60% Elbow					
Flexion	Motion° = % Upper Extremity Impairment (% UEI)	≥140° = 0%	110° to 130° = 3% UEI 70° to 100° = 8% UEI	60° to 20° = 27% UEI	≤10° = 40% UEI	80° = 21% UEI 50° to 70° or 90° to 100° = 25% UEI ≤40° or ≥110° 38% UEI
Extension		0° = 0%	10° to 40° lag = 2% UEI 50° to 60 lag = 5% UEI	70° to 90° lag = 11% UEI	≥90° lag = 30% UEI	
Forearm	40% Elbow					
Pronation	Motion° = % Upper Extremity Impairment (% UEI)	≥80° = 0% ≥ 70°	70° to 50° = 1% UEI 60°	40° to 20° = 3% UEI	≤10° = 10% UEI	20° pronation = 8% UEI 30° to 60° pronation or 10° pronation to 20° supination = 15% UEI ≥70° pronation or ≥30° supination = 25% UEI
Supination		~~≥80°~~ = 0%	~~70°~~ to 50° = 1% UEI	40° to 20° = 2% UEI	≤10° = 10% UEI	

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TABLE 15-34
Shoulder Range of Motion

Grade Modifier		0	1	2	3	4
Severity		**None (Normal)**	**Mild**	**Moderate**	**Severe**	**Ankylosis**
Motion (percentage compared to normal)		≥90%	61% to 90%	31% to 60%	≤30%	
Joint						
Shoulder	50% Shoulder					
Flexion	Motion° = % Upper Extremity Impairment (% UEI)	≥180° = 0%	90° to 170° = 3% UEI	20° to 80° = 9% UEI	≤10° = 16% UEI	20° to 40° flexion = 15% UEI 10° flexion to extension or ≥50° flexion = 25% UEI
Extension		≥50° = 0%	30° to 40° = 1% UEI	10° extension to 10° flexion = 2% UEI	≥10° flexion/(10)	
Shoulder	30% Shoulder					
Abduction	Motion° = % Upper Extremity Impairment (% UEI)	≥170° = 0%	90° to 160° = 3% UEI	20° to 80° = 6% UEI	≤10° = 10% UEI	20° to 50°flexion = 9% UEI 10° flexion to extension or ≥60° flexion = 16% UEI
Adduction		≥40° = 0%	10° to 30° = 1% UEI	0° to 30° abduction = 2% UEI	≥40° abduction = 10% UEI	
Shoulder	20% Shoulder					
Internal rotation (IR)	Motion° = % Upper Extremity Impairment (% UEI)	≥80° IR = 0%	50° IR to 70° IR = 2% UEI	10° ER to 40° IR = 4% UEI	≤20° ER = 8% UEI	20° to 50° IR = 6% UEI ≥60° IR or 10° IR to ER = 0% UEI
External Rotation (ER)		≥60° ER = 0%	50° ER to 30° IR = 2% UEI	50° IR to 40° IR = 4% UEI	≥60° IR = 9% % UEI	

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TABLE 15-34
Shoulder Range of Motion

3 + 3 + 1 + 4 = 11% WPI

Grade Modifier		0	1	2	3	4
Severity		None (Normal)	Mild	Moderate	Severe	Ankylosis
Motion (percentage compared to normal)		≥90%	61% to 90%	31% to 60%	≤30%	
Joint						
Shoulder	50% Shoulder					
Flexion	Motion° = % Upper Extremity Impairment (% UEI)	≥180° = 0%	90° to 170° = 3% UEI	20° to 80° = 9% UEI	≤10° = 16% UEI	
Extension		≥50° = 0%	30° to 40° = 1% UEI	10° extension to 10° flexion = 2% UEI	≥10° flexion/(10)	
Shoulder	30% Shoulder					
Abduction	Motion° = % Upper Extremity Impairment (% UEI)	≥170° = 0%	90° to 160° = 3% UEI	20° to 80° = 6% UEI	≤10° = 10% UEI	
Adduction		≥40° = 0%	10° to 30° = 1% UEI	0° to 30° abduction = 2% UEI	≥40° abduction = 10% UEI	
Shoulder	20% Shoulder					
Internal rotation (IR)	Motion° = % Upper Extremity Impairment (% UEI)	≥80° IR = 0%	50° IR to 70° IR = 2% UEI	10° ER to 40° IR = 4% UEI	≤20° ER = 8% UEI	
External Rotation (ER)		≥60° ER = 0%	50° ER to 30° IR = 2% UEI	50° IR to 40° IR = 4% UEI	≥60° IR = 9% % UEI	

3% UEI
0% UEI
3% UEI
1% UEI
4% UEI
0% UEI

Flexion 100°

Extension 60°

Abduction 100°

Adduction 20°

Internal rotation 20°

External rotation 70°

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Convert ROM to Grade Modifier for Use in Diagnosis Based Rating

TABLE 15-35
Range of Motion Grade Modifiers

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	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Digit	Normal	<20% total digit impairment	20% to 39% digit impairment	40% to 70% digit impairment	>70% digit impairment.
Hand, wrist, elbow, or shoulder		<12% upper extremity impairment for *total* motion impairment	12% to 23% upper extremity impairment for *total* motion impairment	24% to 42% upper extremity impairment for *total* motion impairment	>42% upper extremity impairment for *total* motion impairment

TABLE 15-8
Physical Examination Adjustment: Upper Extremities

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	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Class Definitions	No problem	Mild problem	Moderate problem	severe problem	Very severe problem
Range of Motion (reference Section 15.7)	None	Mild decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment <20% digit impairment. For wrist, elbow, hand, or shoulder, and reflects a total joint impairment of <12% upper extremity impairment.	Moderate decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 20% to 39% digit impairment. For wrist, elbow, hand, and shoulder this reflects a total joint impairment of 12% to 23% upper extremity	Severe decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment of 40% to 70% digit impairment. For wrist, elbow, hand, and shoulder this reflects a total joint impairment of 24% to 42% upper extremity	Very severe decrease from normal or uninjured opposite side For digit impairments only, this reflects a total digit impairment >70% digit impairment. For wrist, elbow, hand, and shoulder this reflects a total joint impairment >42% upper extremity impairment.

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Physical exam

- "If exam findings are unreliable **or** inconsistent, or if unrelated to the condition being rated, they are **excluded** from the grading process" (pg 407)
- Table 15-8
- Section 15-7 addresses ROM

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Clinical Studies page 410

- Use only 1 diagnosis to get Class
- Use "other pathology" to ADJUST Grade

TABLE 15-9
Clinical Studies Adjustment: Upper Extremities

	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Class Definitions	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Imaging Studies	No available clinical studies or relevant findings	Clinical studies confirm diagnosis, mild pathology	Clinical studies confirm diagnosis, moderate pathology	Clinical studies confirm diagnosis, severe pathology	Clinical studies confirm diagnosis, very severe pathology
Shoulder			Clinical studies confirm one of the following symptomatic diagnoses: rotator cuff tear, SLAP or other labral lesion, biceps tendon pathology		Clinical studies confirm more than one of the following symptomatic diagnoses: rotator cuff tear, SLAP or other labral lesion, biceps tendon pathology. The most significant diagnosis is the only one rated.

NOT Stated, BUT Logically
This same concept should apply
To the digit, wrist, and elbow.

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TABLE 15-9
Pages 410 - 411
Clinical Studies Adjustment: Upper Extremities

	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Class Definitions	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Nerve Conduction Testing	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Partial axonal loss	Total axonal loss/denervation
Electrodiagnostic Testing *Note:* If the EMG test results meet some of, but not all of, the criteria for a specific class, the next lower class is the class to be used in rating the impairment	Normal	Needle EMG done at least 3 wk but less than 9 mo after injury shows at least 1+ fibrillation potentials and positive waves in at least 2 muscles innervated by the injured nerve. If the EMG study is first done more than 9 mo post injury, the exam shows high-amplitude polyphasic muscle potentials in at least 1 muscle and recruitment in that muscle is at least mildly reduced.	Needle EMG done at least 3 wk but less than 9 mo after injury shows at least 2+ fibrillation potentials and positive waves in at least 2 muscles innervated by the injured nerve. If the EMG study is first done more than 9 mo post injury, the exam shows high-amplitude polyphasic muscle potentials in at least 2 muscles and recruitment in those muscles is at least moderately decreased.	Needle EMG done at least 3 wk but less than 9 mo after injury shows at least 3+ fibrillation potentials and positive waves in at least 3 muscles innervated by the injured nerve. If the EMG study is first done more than 9 mo post injury, the exam shows high-amplitude polyphasic muscle potentials in at least 3 muscles and recruitment in those muscles is severely decreased.	Needle EMG done at least 3 wk but less than 9 mo after injury shows at least 4+ fibrillation potentials and positive waves in at least 3 muscles innervated by the injured nerve. If the EMG study is first done more than 9 mo post injury, the exam shows no motor units (fibrofatty replacement of muscle) in at least 2 muscles.

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Generic Example

TABLE 15-10 Methodology for Determining the Grade in an Impairment Class

DIAGNOSTIC CRITERIA (KEY FACTOR)	CLASS 0	CLASS 1	CLASS 2	CLASS 3	CLASS 4
IMPAIRMENT RANGES (UPPER EXTREMITY %)	0	1%–13% UE	14%–25% UE	26%–49% UE	50%–100% UE
GRADE		A B C D E	A B C D E	A B C D E	A B C D E
EXAMPLE RATING		3 4 5 6 7 ↑ Class 1 Default	16 18 20 22 24 ↑ Class 2 Default	26 28 30 32 34 ↑ Class 3 Default	50 52 54 56 58 ↑ Class 4 Default

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Net Adjustment Formula

Adjustment	-2	-1	0	1	2
Grade	A	B	C	D	E

Modifiers permit moving Up or Down within a Class to a different severity Grade.

Modifiers do **NOT** permit changing to a different Class.

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Net Adjustment Formula: Mathematical Explanation

Net adjustment may be obtained by a mathematical formula and then use of the resultant value to define the grade. The following abbreviations are used:

CDX = Class of Diagnosis (Regional Grid)
GMFH = Grade Modifier for Functional History
GMPE = Grade Modifier for Physical Examination
GMCS = Grade Modifier for Clinical Studies

Net Adjustment = (GMFH − CDX) + (GMPE − CDX) + (GMCS − CDX)

Grade Assignments

Net Adjustment (from default C)	Grade
−2	A
−1	B
0	C
1	D
2	E

For example, if the diagnosis is in impairment class 2, then CDX = 2. If net adjustment value is −2, then the Grade is A.

- The "Net Adjustment Formula" is the Method used to adjust the impairment rating WITHIN a Class.

MATH

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Mathematical Explanation

For the mathematically inclined, net adjustment may be obtained by a mathematical formula and then using the resultant value to define the grade. The following abbreviations are used:

CDX = Class of Diagnosis (Regional Grid)
GMFH = Grade Modifier for Functional History
GMPE = Grade Modifier for Physical Examination
GMCS = Grade Modifier for of Clinical Studies

Net Adjustment = (GMFH-CDX)+(GMPE-CDX)+(GMCS-CDX)

Grade Assignments

Adjustment	Grade
≤-2	A
-1	B
0	C
1	D
≥2	E

For example, if CDX = 2, GMFH = 3, GMPE = 2, and GMCS = 3, the Net Adjustment = 2 and Grade = E

Example:

Class 2 impairment (by diagnosis)

FH = grade 1
PE = grade 2
CS = grade 3

NA = (1-2) + (2-2) + (3-2)
OR
NA = minus 1 + 0 + 1 = 0

A Net adjustment of zero means The rating is grade C (the default rating)

A Net Adjustment of + 1 would mean grade D, while a Net Adjustment of – 1 would mean Grade B is the final rating.

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Class 4 EXCEPTION

- "If the key factor (diagnosis) is class 4, and both non-key factors were grade modifier 4, the difference would summate to zero, and placement in a grade above the default value C in class 4 would not be possible. To correct this deficiency, if the key factor is class 4, **automatically add +1 to the value of each non-key factor**."

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UE DBI Example - Wrist

39 yr old suffers FOOSH with distal radius fracture treated with ORIF.

Seen 4 months later doing "just okay" with complaints of pain with extension.

Healed fracture on x-ray with no angulation or deformity. Back to normal work with no restrictions.

At MMI with tenderness to palpation distal radius, but normal ROM and strength.

QuickDASH administered with score of 38, thought by examiner to be valid.

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UE DBI Wrist Example

First step = Diagnosis Page 396

Second step Find Class = Class 1 with default IR = 3% UE

TABLE 15-3 (CONTINUED) Wrist Regional Grid: Upper Extremity Impairments

IMPAIRMENT CLASS	CLASS 0	CLASS 1	CLASS 2	CLASS 3	CLASS 4
IMPAIRMENT RANGES (upper extremity %)	0	1%–13% UE	14%–25% UE	26%–49% UE	50%–100% UE
GRADE		A B C D E	A B C D E	A B C D E	A B C D E
LIGAMENT/BONE/JOINT*					
Wrist sprain/hx dislocation* including carpal instability	0 No residual findings +/– surgical treatment	6 7 8 9 10 Mild instability (grade modifier 1 per radiographic studies and criteria in Table 15-9) (clinical studies excluded from adjustment process)	14 15 16 17 18 Moderate instability (grade modifier 2 per radiographic studies and criteria in Table 15-9) 20 22 24 25 25 Severe instability (grade modifier 3 per radiographic studies and criteria in Table 15-9) (clinical studies excluded from adjustment process)		
Triangular fibrocartilage complex (TFCC) tear*	0 No residual findings +/– surgical treatment	6 7 8 9 10 Documented TFCC injury +/– surgery with residual findings			
Fracture*	0 No residual findings +/– surgical treatment	1 2 3 4 5 Residual symptoms, consistent objective findings and/or functional loss, with normal motion			

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UE DBI Example Wrist

Third Step =
Evaluate Non key adjustment factors

FH = QuickDASH of 38
PE = Basically normal
CS = Not applicable as defines Class

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UE DBI Example Wrist

FH = Grade 1

TABLE 15-7
Functional History Adjustment: Upper Extremities

	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
Class Definitions	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
	Asymptomatic	Pain/symptoms with strenuous/vigorous activity; +/− medication to control symptoms	Pain/ symptoms with normal activity; +/− medications to control symptoms	Pain/symptoms with less than normal activity (minimal); +/ medications to control symptoms	Pain/symptoms at rest; +/− medications to control symptoms
		Able to perform self-care activities independently	Able to perform self-care activities with modification but unassisted	Requires assistance to perform self-care activities	Unable to perform self-care activities
QuickDASH Score	0–20	21–40	41–60	61–80	81–100

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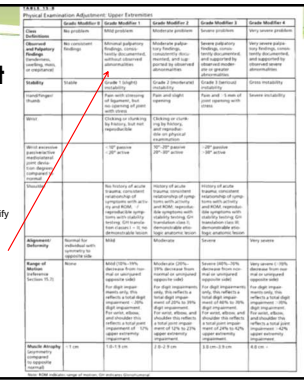
UE DBI Example Wrist

PE = Grade 0

Some may say Grade 1: depends on how you classify "minimal palpatory findings"



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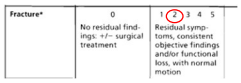
UE DBI Example Wrist

Net Adjustment Calculation

(GMFH-CDX) + (GMPE-CDX) + (GMCS-CDX)
(1-1) + (0-1) + (n/a) = (-1)

Grade B with final rating of 2% UE



Fracture*	0 No residual findings; +/- surgical treatment	1 **2** 3 4 5 Residual symptoms, consistent objective findings and/or functional loss, with normal motion

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Distal Biceps Tendon Rupture

- 55-year-old man.
- Initial exam was consistent with ruptured distal biceps tendon.
- Surgical treatment was recommended, but the patient refused.
- At MMI, the patient had some complaints of decreased strength of the arm and pain with normal activity.

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Distal Biceps Tendon Rupture

Functional Assessment: The *Quick*DASH score was 30.

- **Physical Exam:** Tenderness was noted in the ante-cubital fossa. Strength in flexion and supination was diminished to 4/5. 1 cm atrophy of upper arm compared to opposite. Range of motion of the elbow was normal.
- **Clinical Studies:** An MRI of the elbow confirmed a tear of the distal biceps tendon.

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Distal Biceps Tendon Rupture

Distal biceps or triceps tendon rupture[a]	0 **No residual findings: +/− surgical treatment**	3 4 5 6 7 **Residual loss of strength, functional with normal motion**

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Distal Biceps Tendon Rupture

Class 1 Example Calculation: Default for Diagnosis = 5% UEI[a]

CDX	GMFH	GMPE	GMCS
1	2	1	n/a

(GMFH − CDX) (2 − 1) = 1
+ (GMPE − CDX) + (1 − 1) =0
+ (GMCS − CDX) n/a

Net adjustment = 1

Adjustment of +1 equals 1 position to the right of default grade C and results in

Class 1, Grade D=6% UEI

[a] CDX indicates Class of diagnosis; GMFH, grade modifier for functional history; GMPE, grade modifier for physical examination; GMCS, grade modifier for clinical studies; and UEI, upper extremity impairment.

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Rotator Cuff Repair

44-year-old woman.

History: The patient sustained trauma to her left shoulder after a fall in a parking lot at work. She is 6 months post rotator cuff repair. Medical records confirm rotator cuff injury with previous full-thickness rotator cuff tear. Residual pain on active range of motion interferes with normal activities, such as dressing and bathing.

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Rotator Cuff Repair

Physical Examination: Normal motion. No gross neurologic deficits or glenohumeral joint instability are seen on static or dynamic shoulder examination. On manual muscle testing there is moderate weakness of the supraspinatus (abduction) and shoulder external rotation, but testing produces an increase in the preexisting pain. 1 cm atrophy of upper arm.

Clinical Studies: MRI finding of a moderate-sized (2.5-cm) full-thickness rotator cuff tear.

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Rotator Cuff Repair

Diagnosis: Status post rotator cuff repair.

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Rotator Cuff Repair

- **"In the Shoulder, it is <u>not uncommon</u> for rotator cuff tears, SLAP or other labral lesions, and biceps tendon pathology to <u>all be present simultaneously</u>. The evaluator is expected to <u>choose the most significant diagnosis</u> and to <u>rate ONLY that diagnosis</u> … the <u>grade can be modified</u> according to <u>the Clinical Studies Adjustment Table</u> (15-9)." page 409**

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Impairment Rating

- Diagnosis of "Rotator cuff injury, full-thickness tear," and per criteria of "Residual loss, functional with normal motion" assigned to class 1 with midrange default of 5% UEI

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Adjustment Grids

- Functional History: Grade modifier 2 for pain with normal activity.
- Physical Examination: Grade modifier 1 due to muscle atrophy of 1 cm.
- Clinical Studies: n/a (tear used as basis for diagnostic criteria and imaging studies pre-operative) Numerical adjustment is 1

- Moved 1 position to the right of default value C to grade D. 6% UEI. Converts to 4% WPI.

41

41

Class 1 Example Calculation: Default for Diagnosis = 5% UEI[a]

CDX	GMFH	GMPE	GMCS
1	2	1	n/a

(GMFH − CDX) (2 − 1) = 1
+ (GMPE − CDX) + (1 − 1) =0
+ (GMCS − CDX) n/a

Net adjustment = 1

Adjustment of +1 equals 1 position to the right of default grade C and results in

Class 1, Grade D=6% UEI

[a] CDX indicates Class of diagnosis; GMFH, grade modifier for functional history; GMPE, grade modifier for physical examination; GMCS, grade modifier for clinical studies; and UEI, upper extremity impairment.

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Significant Comment for Distal Clavicle Resection

Page 387
"when rating rotator cuff injury/impingement or glenohumeral pathology/surgery, incidental resection arthroplasty of the AC joint is not rated".

43

PERIPHERAL NERVES & ENTRAPMENT

44

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Peripheral Nerve

- Must identify involved structure and the nature of involvement.
- "Neurologic impairment is assessed only for objective involvement of the specific nerve or nerves." (p. 419)
- "Only unequivocal and permanent deficits are given permanent impairment ratings." (p. 423)
- Peripheral Nerve impairment may be combined with DBI, ONLY if the DBI does not encompass the nerve impairment (p. 419)
- Impairment strictly from a peripheral nerve lesion, is rated ONLY using this section "to avoid duplication or unwarranted increase in the impairment estimation." (p. 423)

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Entrapment Neuropathy
Section 15.4f p. 432-433, 445-450 and Appendix 15-B p. 487-490

- Section 15.4f Entrapment Neuropathy, is used to rate peripheral nerve "entrapment" or focal compromise (local compression) involving the median, ulnar, or radial nerves. (p. 432)
- Method deviates slightly from the DBI method:
  - The diagnosis has been established so only grade modifiers are used to establish the rating (p. 433)

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Entrapment Neuropathy (p. 445)

- "The diagnosis of a focal neuropathy syndrome ***MUST be documented by sensory and motor nerve conduction studies and/or needle EMG*** in order to be ratable as impairment using this section."
- "If nerve conduction testing has not been performed or does NOT meet this section's diagnostic criteria, there is no ratable impairment from this section."

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Grade Modifiers for Entrapment Neuropathy

- History
- Physical Findings
- Functional Scale (***Quick***DASH)
- Clinical Studies (electrodiagnostics)

Entrapment neuropathy is rated using ONLY the methods described in this section.

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Nerve Entrapment: History

- Grade modifiers are based on interference with ADLs listed in Table 15-22.
- Work is NOT considered an ADL.

Use in establishing Grade Modifier for Functional History

Table 15-22 is identical to Table 1-1

TABLE 1-1
Self-Care

Activities of Daily Living (ADLs)
Bathing, showering
Bowel and bladder management
Dressing
Eating
Feeding
Functional mobility
Personal device care
Personal hygiene and grooming
Sexual activity
Sleep/rest
Toilet hygiene

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Nerve Entrapment: History

- Grade 1: Mild intermittent symptoms describes symptoms that are not constant. The individual can perform all ADLs, despite symptoms." (p. 433)
- The vast majority of patients are Grade 0 or 1

TABLE 15-23
Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA

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Nerve Entrapment: Physical Exam (p. 433)

- "Provocative testing using the Tinel sign, Phalen test, Adson test and so on may give clues as to the diagnosis, but the sensitivity and specificity of these tests are too low to be useful for confirmation of a diagnosis for the purpose of impairment rating."
- "Reliable objective exam findings are":
  - Muscle atrophy
  - Neurologic weakness (Not grip strength; NOT weakness due to pain)
- "Somewhat reliable subjective findings":
  - 2-point discrimination
  - Monofilament testing
  - Absent sharp vs dull discrimination

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Nerve Entrapment: Physical Exam (p. 433)

- "Sensory change in which the individual comments that a stimulus feels subjectively different in one nerve distribution compared with others and changes in vibration perception are not sensitive or specific enough for use in the diagnosis of local nerve compromise for impairment rating purposes."
- "The vast majority of focal neuropathy syndromes come to medical attention long before they develop the severe neuropathy that manifests as objective findings of
  - Sensory loss (decreased 2-point discrimination or sharp vs dull perception)
  - Or motor weakness on examination."

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Nerve Entrapment: Physical Exam

- Nerve entrapment is diagnosed based on believable symptoms and an abnormal nerve conduction study, and normal neurologic exam.
- "In cases in which an examiner finds either sensory loss or neurologic strength loss on physical exam
  - And yet the nerve conduction studies are either normal or show only conduction delay,
  - Logically either the physical exam or the nerve conduction testing is incorrect." (p. 445)

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N

TABLE 15-23
Entrapment/Compression Neuropathy Impairment

DIAGNOSIS

Grade Modifiers

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

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Functional Score

- *Quick*DASH functional assessment tool
  - Appendix 15-A
- Grade Modifier Ranges: Table 15-23

FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3

- Functional score > 60 is not consistent with mild impairment → incorrect dx or "a second diagnosis, including symptom magnification" has been overlooked

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Clinical Exam and EMG / NCS

- **If either motor or sensory loss is present on examination,**
  - **at least conduction block and usually actual axon loss or a combination of both must be present on NCS**
  - **If conduction studies are normal or show only conduction delay, either the PE or NCS is incorrect (p. 445)**

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Impairment Rating

- **Documented by sensory and motor NCS and/or needle EMG to be ratable**
- **If testing has not been performed or does not meet this section's dx criteria then there is no ratable impairment from this section**
  - **Rate using Section 15.2, DBI: Nonspecific hand, wrist or elbow pain**
- **Physicians may choose to use different values when diagnosing focal nerve compromise for treatment purposes" (p. 446)**

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Entrapment Neuropathy (p. 448)

- Post operative nerve conduction studies are not required to rate impairment for focal nerve compromise.
- Whether or not the nerve conduction studies recover to normal after surgical or nonsurgical treatment does not influence the impairment rating.

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Maximal Medical Impairment (p. 443)

- Lesions at the wrist may take 6-9 months; more focal lesions can take 1-2 years
  - Although grip strength may continue to improve, rating does not need to be delayed for that
- MMI when
  - No additional improvement is likely to occur and no specific medical intervention is necessary
  - Stable for 2 consecutive office visits at least one month apart
- Impairment may be calculated if patient declines surgery
- Functional score should reflect symptoms insufficient to warrant surgery

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Nerve Entrapment: Rating Methodology (p. 449)

1. Determine the appropriate grade modifier for test findings [EMG/NCT], history, and physical exam.

TABLE 15-23
Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

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Nerve Entrapment: Rating Methodology (p. 449)

Determine the average value for the 3 modifiers, which is the FINAL rating category.

- Example: 2 + 1 + 1 = 4; 4 ÷ 3 = 1.3, which rounds to 1

TABLE 15-23
Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

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Nerve Entrapment: Rating Methodology (p. 449)

2. Identify the row "UE Impairment"

TABLE 15-23
Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

In the appropriate **Grade** column, the middle number is the "default impairment"

- Middle of 3 numbers (not 5).

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Nerve Entrapment: Rating Methodology (p. 449)

3. This value is modified up or down based on the *Quick*DASH.
   - *Quick*DASH is the same grade as the rating category, use the "default" or middle number for the rating.
   - *Quick*DASH is a higher grade, use highest impairment.
   - *Quick*DASH is a lower grade, use the lowest impairment.

FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Category =1 *Quick*DASH = 1 (1-1) = 0 default → 2% UE
Category =1 *Quick*DASH = 2 (2-1) = 1 → 3% UE

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Multiple Simultaneous Neuropathies (p. 448)

- "Individual risk factors such as pre-existing diabetic peripheral neuropathy and hereditary generalized peripheral neuropathy likely play a role in persons who present with simultaneous carpal tunnel syndrome and ulnar neuropathy at the elbow."
- 2 compression neuropathies may be rated using this section, and in this section only, the functional scale would apply to each diagnosis."
- "The nerve qualifying for the larger impairment is given the full impairment."

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Multiple Simultaneous Neuropathies (p. 448)

- "The nerve qualifying for the smaller impairment is rated at 50% (one-half) of the impairment listed in Table 15-23 …"
- The impairments are then combined
- "If **3** focal neuropathies are diagnosed and supported by the requirements of inclusion, the third (or smallest impairment) is not rated."
- "If **more than 3** diagnosable focal neuropathies are identified and supported by the requirements of inclusion, this section should NOT be used."

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Multiple Simultaneous Neuropathies (p. 448)

- "Individual risk factors such as pre-existing diabetic peripheral neuropathy and hereditary generalized peripheral neuropathy likely play a role in persons who present with simultaneous carpal tunnel syndrome and ulnar neuropathy at the elbow."
- 4 or More Simultaneous Neuropathies:
  - "The peripheral neuropathy section of the neurology chapter should be used, as in these cases almost always the principle problem is a generalized peripheral neuropathy (medical disease) and not related to occupational or avocational activities.
  - In jurisdictions that require apportionment, the majority of causation…would be apportioned to medical disease and not to occupation."
  - *Go to Chapter 13 Tables 13-11 and 13-12*

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Carpal Tunnel Example

- Mr Kraemer is a 50-year old RHD chicken plucker with a one-year history of pain numbness and weakness into his left hand. Nerve conduction studies revealed a motor conduction block with axon loss.
- He has comorbidities of obesity and diabetes.
- An endoscopic decompression is performed

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Carpal Tunnel Example

- Post operatively he complains of intermittant symptoms of numbness and an inability to hold his knife
- Post operative exam reveals 4/5 strength of the Abductor Pollicis Brevis, thenar atrophy and 9 mm two point discrimination
- His *Quick*Dash score was 61.

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TABLE 15-23

Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

Test Findings are grade modifier of 3(axon loss)
History grade modifier 2 (significant intermittent symptoms
Physical Findings are grade modifier 3 (atrophy)

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TABLE 15-23
Entrapment/Compression Neuropathy Impairment

Clinical	Grade Modifier 0	Grade Modifier 1	Grade Modifier 2	Grade Modifier 3	Grade Modifier 4
TEST FINDINGS	Normal	Conduction delay (sensory and/or motor)	Motor conduction block	Axon loss	Almost dead nerve
HISTORY	Asymptomatic	Mild intermittent symptoms	Significant intermittent symptoms	Constant symptoms	NA
PHYSICAL FINDINGS	Normal	Normal	Decreased sensation	Atrophy or weakness	NA
FUNCTIONAL SCALE	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Normal (0–20) 0 Mild (21–40) 1 Moderate (41–60) 2	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	Mild (21–40) 1 Moderate (41–60) 2 Severe (61–80) 3	NA
UE IMPAIRMENT	0	1 2 3	4 5 6	7 8 9	NA

Note: NA indicates not applicable; UE, upper extremity.

Add the grade modifiers and divide by 3 = 2.66. This is rounded up to 3 with a default of 8%.
Then, look at the *Quick*Dash of 61. First, this score is compatible with a grade modifier of 3. Next it falls into the severe range and so we move up to a 9% PPI.

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Multiple Upper Extremity Impairments

History: A factory worker has a 20-year history of performing repetitive, forceful tasks, primarily involving his right upper extremity. He has been an exemplary employee and has continued to work despite a several year history of problems with discomfort in his elbow and wrist. He was diagnosed years ago as having lateral epicondylitis, and has received appropriate conservative therapy which improved his symptoms. Four years ago an MRI revealed a triangular fibrocartilage complex (TFCC) tear and he underwent surgical intervention with marked improvement in the pain he had been experiencing. Two years ago he was diagnosed as having a right carpal tunnel syndrome, electrodiagnostically confirmed, and he underwent a carpal tunnel release with resolution of his symptoms. One year ago he caught his right little finger in a press and the distal portion was amputated. There were no previous impairment ratings.

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Current Symptoms

His only complaint of significance is his "tennis elbow" pain, and to a lesser degree occasional discomfort in his wrist. He denies any sensory difficulties or weakness. He denies any difficulties with his activities of daily living that he would attribute to his amputation.

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Functional Assessment

The *Quick*DASH score is 21

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Physical Exam

Right little finger is amputated at the level of the distal interphalangeal joint; otherwise no observed abnormalities except very faint scars from his surgeries. Tender approximately 2 cm. distal to the lateral epicondyle in the area of the extensor carpi radialis brevis muscle. Wrist extension and supination against resistance with the elbow extended increases his symptoms. Minimal tender over the TFCC and proximal palm. Range of motion is full and no neurological deficits.

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Clinical Studies

Wrist and elbow X rays are unremarkable. MRI revealed a small triangular fibro-cartilage complex (TFCC) tear. Electrodiagnostic studies pre-operatively revealed mild sensory and motor conduction delays of the right median nerve.

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Diagnosis

(1) Lateral epicondylitis

(2) Triangular fibrocartilage complex (TFCC) tear, surgically repaired

(3) Carpal Tunnel Syndrome, resolved, s/p Carpal tunnel release

(4) Amputation little finger at DIP joint.

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Impairment Rating:

There are 4 ratable conditions. The first 2 diagnoses are rated as a Diagnosis-Based Impairment (Section 15.2). The carpal tunnel syndrome is rated by Section 15.4f, Entrapment Neuropathy and the amputation is rated by Section 15.6. Functional adjustments are applied only to the single, highest diagnosis-based impairment (DBI), which after rating was determined to be his triangular fibrocartilage complex (TFCC) tear.

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Triangular fibrocartilage complex (TFCC) tear is rated using Table 15-3, Wrist Regional Grid: Upper Extremity Impairments. Under the section "Ligament/Bone/Joint" and diagnosis "Triangular fibrocartilage complex (TFCC) tear" and per criteria of "Documented TFCC injury +/− surgery with residual findings" he is assigned to class 1 with midrange default value of 8% UEI. Adjustment Grids: Functional History: Grade modifier 1 (*Quick*DASH in range of 21 to 40), Physical Examination: Grade modifier 1 (Minimal palpatory findings, consistently documented, without observed abnormalities), and Clinical Tests: Grade modifier 1 (interpreted as "Clinical studies confirm diagnosis, mild pathology"). Net adjustment compared with diagnostic class is 0, resulting in grade C and remains at 8% UEI.

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Lateral Epicondylitis is rated using Table 15-4, Elbow Regional Grid: Upper Extremity Impairments. Under the section "Muscle/Tendon" and diagnosis "Epicondylitis" and per criteria of "History of painful injury, residual symptoms without consistent objective findings" he is assigned to class 1 with midrange default value of 1% UEI. Adjustment Grids: Functional History: Grade modifier 1 (*Quick*DASH in range of 21 to 40, however cannot be applied since this is not the highest diagnosis-based impairment), Physical Examination: Grade modifier 1 (Minimal palpatory findings, consistently documented, without observed abnormalities), and Clinical tests: n/a. The only potential adjustment is the physical examination; however, this has a grade consistent with the diagnostic class and therefore the impairment remains at the default 1% UEI.

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Carpal tunnel syndrome was confirmed electrodiagnostically and the patient is at maximal medical improvement. Rating is based on Table 15-23, Entrapment / Compression Neuropathy. Testing findings are grade modifier 1 (conduction delay), history is grade modifier 0 (no symptoms), and physical findings are grade modifier 1(normal). The grade modifiers total 2 (1 + 0 + 1) and average 0.67 (1). Therefore, grade modifier 1 is selected with a default of 2% UEI. The *Quick*DASH is 21, however using clinical judgment the physician determined that his current difficulties relating to the *Quick*DASH were unrelated to the carpal tunnel syndrome, and rather due to other conditions, primarily his lateral epicondylitis. From a functional perspective the physician determined that the carpal tunnel syndrome was resolved and that from a functional perspective this would most appropriately be considered as normal. Therefore the lowest UEI for that grade modifier is selected, ie, 1% UEI.

80

Amputation impairment is based on Figure 15-10, Impairments of the Digits and the Hand for Amputations at Various Levels. Amputation of the little finger at the DIP joint results in 5% UEI.

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His final impairment is based on the combined impairment of 1% UEI (lateral epicondylitis), 8% UEI (TFCC tear), 1% UEI (carpal tunnel syndrome), and 5% UEI (amputation). The largest impairments are combined first and the combined rating is 15% UEI. Converts by Table 15-11, Impairment Values Calculated From Upper Extremity Impairment to 9% WPI.

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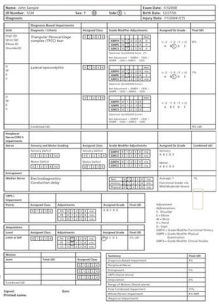
Figure 15-31

2022, The Upper Extremities, AMA Guides to the Evaluation of Permanent Impairment, Sixth Edition, 2022, Multiple Upper Extremity Impairments



Upper Extremity Impairment Evaluation Example

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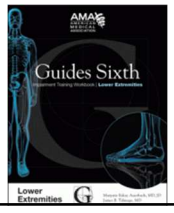

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Thank You

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