Non-Musculoskeletal Conditions MMI/IR

(Non-MSK MMI/IR)

Material Disclaimer

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Recent changes to Lifetime Income Benefits (LIBs)

House Bill 2468 – Changes to Lifetime Income Benefits (LIBS)

The 88th Legislature Regular Section (2023)

Amended Texas Labor Code Section 408.161(a)

- Redefines physically traumatic brain injuries for the purpose of entitlement to LIBS.
- Adds new Section 408.1615 to allow certain first responders to receive LIBS.

DWC has revised and adopted the rules necessary to implement HB 2468 (chapters 131, 127.1 and 127.25) effective June 25, 2024

House Bill 2468 – Changes to Lifetime Income Benefits (LIBS)

The new description that replaces the term "imbecility" is:

...a physically traumatic injury to the brain that, as determined using evidence-based medicine, results in a permanent major neurocognitive disorder:

(A) for which the employee requires occasional supervision in the performance of routine daily tasks of self-care; and
(B) that renders the employee permanently unemployable

House Bill 2468 – Changes to Lifetime Income Benefits (LIBS)

First Responders Eligible for LIBs

Based on specific certifications, first responders include: certain peace officers, technicians, fire fighters, volunteer firefighters and emergency medical services volunteers .

See Labor Code, Section 408.1615

House Bill 2468 – Changes to Lifetime Income Benefits (LIBS)

For First Responders:

- Continued entitlement to LIBs requires the IE to certify to the carrier that they were not employed in any capacity during the preceding year.
- An insurance carrier can periodically review the IE's continuing entitlement to LIBS once during a five-year period, or when there is evidence the IE's annual certification is not accurate.
- A new designated doctor exam for LIBs entitlement could be ordered.

https://www.tdi.texas.gov/wc/rules/2024rules.html

House Bill 2468 – Changes to Lifetime Income Benefits (LIBS)

Requests for DD examinations for LIBs are indicated in Box G of the DWC-032 Form.

The requester should include the criteria from the Labor Code required for the specific LIBs injury in question, on the DWC-032.

If you are assigned an exam for LIBs and have questions, contact DD Education at:

DesDoc.Education@tdi.Texas.gov
or call 512-804-4765

Non-Musculoskeletal MMI and IR

NON-MSK MMI and IR

As the DD, YOU define the compensable injury.

Rule 130.1(c)(3) Assignment of an impairment rating for the current compensable injury shall be based on the injured employee's condition on the MMI date considering the medical records and the certifying examination.

Non-MSK MMI/IR

AMA Guides 4th Edition

- Chapter 4 Nervous System *
  - Traumatic brain injury / Brainstem
  - Cranial Nerve / Brainstem
  - Spinal Cord Injury / Spinal cord
- Chapter 5 Respiratory *
- Chapter 6 Cardiovascular System
- Chapter 7 Hematopoietic System
- Chapter 8 Visual System *

Non-MSK MMI/IR Cases Discussed

AMA Guides 4th Edition

- Chapter 9 ENT *
- Chapter 10 Digestive System *
  - Hernia
- Chapter 11 Urinary and Reproductive
- Chapter 12 Endocrine System
- Chapter 13 Skin *
  - burn combined with Chapter 3 (Range of Motion)
- Chapter 14 Mental and Behavioral Disorders *
  - Post traumatic stress disorder as example

NON-MSK CHAPTERS

- Do NOT go outside of your Qualification table.
- However, if you receive an exam that seems to be out of your Qualification table based on records or the DWC-32 - **Contact DWC scheduling.**
- You may be the most qualified doctor that is a DD in that county. If so, you may be assigned the exam and sent a letter explaining that.
- **This is why it is important that you as a DD know how to do all the non-MSK sections.**

NON-MSK Chapters
How to Read the Tables

Tables listing classes of impairment in the non-MSK chapters list criteria for each class in several rows on the table.

- The criteria in the **first row** of a table should ALWAYS be present.
- When the table indicates "**AND**" between rows of criteria, BOTH of those two row's criteria must also be present
- When "**OR**" is between rows, the criteria for one or the other of those rows must be present

Non-MSK Conditions - MMI/IR

- Many of these conditions in the Non-MSK Chapters have ranges for ratings
- Consider the effects on the loss of structure or function on ability for ADLs (Table on page 317)
- Explain in report rationale for selecting
  - ❖ Appropriate class in a table
  - ❖ IR percentage within a class

Activities of Daily Living

Glossary, Page 317

Table. Activities of Daily Living, with Examples.

Activity	Example
Self-care, personal hygiene	Bathing, grooming, dressing, eating, eliminating
Communication	Hearing, speaking, reading, writing, using keyboard
Physical activity	*Intrinsic:* Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning
	Functional: Carrying, lifting, pushing, pulling, climbing, exercising
Sensory function	Hearing, seeing, tactile feeling, tasting, smelling
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination
Travel	Riding, driving, traveling by airplane, train, or car
Sexual function	Participating in desired sexual activity
Sleep	Having a restful sleep pattern
Social and recreational activities	Participating in individual or group activities, sports, hobbies

Additional Testing and Referrals

REFER FOR SPECIALTY EVALUATION IF NEEDED!

The designated doctor shall perform additional testing when necessary to resolve the issue in question. The designated doctor shall also refer an injured employee to other health care providers when the referral is necessary to resolve the issue in question and the designated doctor is not qualified to fully resolve the issue in question. Any additional testing or referral required for the evaluation is not subject to preauthorization requirements nor shall those services be denied retrospectively based on medical necessity, extent of injury, or compensability…

28 TAC § 127.10 (c)

Additional Testing and Referrals

- There will be times where testing is NOT necessary, if a SUFFICIENT review of pertinent facts / evidence from the records is documented and explained in your report.
- **DO NOT LET FAILURE to DOCUMENT EVIDENCE IN THE RECORDS be a reason to order testing.**
- NOT SUFFICIENT TO SAY TESTING was DONE and offer a conclusion

Additional Testing and Referrals

- IF testing is ordered:
  - **WHY = EXPLAIN WHY TESTING NEEDED**
  - **WHAT = EXPLAIN RESULTS of TESTING.** Pertinent positive and negative findings.
  - **HOW = INCORPORATE TEST RESULTS INTO MEDICAL DECISION MAKING.**

DWC Website
http://www.tdi.texas.gov//wc/dd/training.html

Traumatic Brain Injury

- You will NOT learn everything you need to successfully evaluate issues related to **TBI from this** NON-MSK presentation.
- Please refer to the two other educational opportunities for learning more about TBI
  - ✓ **Case Based Webinar #6 – TBI and Mental & Behavioral**
  - ✓ **Traumatic Brain Injury (stand alone Webinar)**

MENTAL & BEHAVIORAL / COVID-19

- You will NOT learn everything you need to successfully evaluate issues related to **Mental and Behavioral** and **Covid related** issues by only listening to this NON-MSK presentation.

- Please refer to other educational opportunities
  - ✓ **Case Based Webinar #6 – Mental & Behavioral**
  - ✓ **The DSM-V**
  - ✓ **Additional EBM related to Covid-19**

Case 1 - *Traumatic Brain Injury*

History of Injury

Injured employee fell 20 feet from scaffolding

Injuries sustained were:

- Traumatic brain injury with initial GCS 7
- Left Gr II AC sprain
- Left zygomatic and inferior orbital wall fracture
- C6 and C7 spinous process fracture
- Left 1st – 6th rib fractures
- Left pulmonary contusion

Case 1 - *Traumatic Brain Injury*

History of Injury

Initial CT imaging of the head demonstrated

- Small left temporal epidural hematoma with acute depressed (4 mm) skull fracture
- Right frontal / temporal lobe hemorrhagic contusion (contra coup lesion)
- No diffuse swelling or midline shift
- Left lateral upper maxillary bone fracture and left zygomatic fracture (orbital fractures)

Case 1 - *Traumatic Brain Injury*

History of Injury

- Initial GCS was 7/15
- Intubated and treated in ICU for 14 days
- Intermittently combative, so sedated
- On prophylactic Keppra x 14 days
- Initial increased intracranial pressure (ICP) treated with mannitol.
- Craniotomy to elevate skull fracture.
- When stable, OMS treated facial fractures
- Initiated PT, OT, and Speech / Language therapy as level of responsiveness improved

Case 1 - *Traumatic Brain Injury*

History of Injury

- Transferred from ICU after 14 Days to the floor for 4 days.
- At the time of his rehab admit, he was still somewhat combative / inappropriate and had a low GOAT score.
- Was in inpatient rehabilitation for 3 weeks, then attended CARF accredited out-patient cognitive behavioral therapy for 6 months, completed at ~ 9 months after the DOI.

Case 1 - *Traumatic Brain Injury*

History of Injury

- At ~ 3 months after the DOI, while in therapy , the claimant had a witnessed Grand Mal seizure and subsequently suffered intermittent minor focal motor seizures in the right upper extremity
- EEG confirmed abnormal seizure activity in the left temporal lobe
- Responded to anti-seizure medication with no recurrence of Grand Mal, but continued mild focal motor seizures over the next 6 months.
- Saw the neurologist monthly between months 3 - 9

Case 1 - *Traumatic Brain Injury*

DD Evaluation > 18 months after DOI - History

- He saw his PM&R doctor monthly for the first year after the DOI for ADLs and community reintegration
- The IE returned to work with some changes in duties at 9 months
  - He keeps a notebook and uses his phone as a memory aid.
  - He functions at work, as the things he does are based on prior / old memory.
- At 12 months he reported to the PM&R doctor that he has more difficulties in new situations or social situations, as those can make him anxious.

Case 1 - *Traumatic Brain Injury*

DD Evaluation - > 18 months after DOI - History

- At 12 months, the PM&R doctor was of the opinion that he was stable enough in function to be seen every 6 months
- Due to breakthrough focal motor seizures, he continued to see the neurologist monthly up to 9 months after the DOI.
- His employer made him supervisor of the crew at ~ 14 months.

Case 1 - *Traumatic Brain Injury*

DD Evaluation - > 18 months after DOI – History (continued)

- He was evaluated by the neurologist every 3 months up until 18 months after the DOI.
- At 18 months, the IE was to follow up with the neurologist every 6 months for a med refills
- The IE felt he was making improvements in memory and function until ~ 18 months after the DOI.

Case 1 - *Traumatic Brain Injury*

DD Evaluation > 18 months after DOI - EXAM

- Alert and oriented x 4
- Mood / affect within normal limits, but appears anxious.
- IE had mild concerns about his appearance related to residuals of his facial fractures.
- Increased psychomotor activity, but no exaggerated pain behaviors.

Case 1 – *Traumatic Brain Injury*

DD Evaluation > 18 months after DOI – EXAM (continued)

- Speech is without dysarthria.
- Mild difficulty finding words, naming objects
- Minimal difficulty following multi-step commands if offered slowly.
- No other obvious receptive or expressive aphasia

Case 1 - *Traumatic Brain Injury*

DD Evaluation – EXAM (continued)

- Cranial nerve function is intact
- Gait and Cerebellar Exam remarkably normal
- No sensory / motor deficits
- No spasticity, hyperreflexia, clonus, and negative Hoffman's / Babinski test
- No evidence of a tremor or other movement disorder

Case 1 - *Traumatic Brain Injury*

DD Evaluation

- **DD considered the medical evidence in the records, the certifying exam and the EBM.**
- **Ordered Neuropsychological evaluation to evaluate residuals of the TBI**
  - Results were a valid representation with good effort and consistent responses
  - Results were consistent with residual mild cognitive deficit. Also consistent with the
    - ❖ location of original or residual imaging abnormalities
    - ❖ Other evidence in the records

Case 1 - *Traumatic Brain Injury*

DD Evaluation - > 18 months after DOI

DD orders MRI of brain with contrast

FINDINGS:

- Left temporal lobe encephalomalacia
- No residual left subdural hematoma
- Resolved contusion of right temporoparietal area

Case 1 - *Traumatic Brain Injury*

Question for DD:

On MMI date, what is whole person IR?

(Considering ONLY the TBI)

Case 1 - *Traumatic Brain Injury*

Let's look at the evidenced based medicine so we can address the facts of the case

Traumatic Brain Injury

Traumatic Brain Injury (TBI):

- Specific terminology for a head injury event that results in **dysfunction of the brain.**
- Traumatic brain injuries can be caused by:
  - Direct trauma
  - An acceleration / deceleration (A/D) force to the head

NOT EVERY DIRECT TRAUMA or A/D EVENT CAUSES A TBI

Traumatic Brain Injury

- **There is a simplistic way to evaluate / classify TBI as per the** American Congress of Rehabilitation Medicine (ACRM) from 2010.

- There are updated 2023 criteria of MILD TBI **as per the** ACRM
- Be familiar with these 2023 criteria, as MILD TBI are the most common (over 80 %).
- PLEASE REFER to the APPENDIX at the end of the presentation for this up to date information.

Traumatic Brain Injury

The American Congress of Rehabilitation Medicine (ACRM) Position Statement for T**raumatic Brain Injury** (Menon et al 2010).

- TBI is defined as "***an alteration of brain function or other evidence of brain pathology caused by an external force"*.**
- There are associated specific clinical findings of **alteration of brain function.**

Traumatic Brain Injury

2010 ACRM Position Statement for TBI

The clinical findings of alteration of brain function entail:

1. Any loss of consciousness or decreased consciousness,
2. Any loss of memory for events immediately before (retrograde amnesia) or after the injury (post traumatic amnesia),
3. Any alteration in mental state at the time of the injury (confusion, disorientation, slow thinking etc.),
4. Neurologic deficits (weakness, loss of balance, change in vision, dyspraxia, paresis / plegia, sensory loss, aphasia etc.)

Traumatic Brain Injury

CLINICAL CRITERIA for TBI

Criteria	MILD	MODERATE	SEVERE
Structural imaging	Definition Dependent *	Normal or abnormal	Normal or abnormal
Loss of consciousness (LOC)	0-30 minutes	> 30 min and < 24 hrs	> 24hrs
Alteration of consciousness (AOC) **	A moment up to 24 hours **	> 24 hours. Severity based on other criteria	
Post Traumatic amnesia (PTA)	0-1 day	> 1 and < 7 days	> 7 days
GCS (BEST score in first 24 hours)	13-15	9-12	< 9

** and ** on next slide*

Traumatic Brain Injury:

CONCUSSION is a MILD form of TBI

- Most concussions are a GCS of 14 – 15.
- > 90 % of concussions will resolve within 3 months (unless repeated concussions).
- Collections of potential concussion / Mild TBI related symptoms that increase days to weeks after a potential TBI event are unlikely to be due to a concussion. #
  - # Unless complication of post traumatic edema in the first 24 – 48 hours

Traumatic Brain Injury

An injured employee with a GCS of 15 and a direct trauma or potential acceleration / deceleration event should always be diagnosed with a mild TBI (concussion).

1. True
2. False

Traumatic Brain Injury

Post-Concussion Syndrome (PCS)

- PCS is frequently MIS-USED term. (Especially with ICD-10 coding)
- 1st three months = concussion symptoms.
- Post Concussion **Symptoms** = Persistence of validated concussion based symptoms that last > 3 months
- Post Concussion SYNDROME = a more complex bio-psycho-social construct that is controversial

Traumatic Brain Injury

Post-Concussion Syndrome (PCS)

- **Consider:**
  - Symptoms that could potentially be concussion symptoms are common in healthy populations without a concussion.
  - EBM shows that persistent TBI symptoms are consciously embellished in up to ~15 – 30 % of cases.
- **Please refer to the TBI Power Point module or the TBI PDF for more information.**

Traumatic Brain Injury

An injured employee with potential concussion symptoms that arise several days (> 72 hours) to weeks after a direct trauma or Acceleration/ Deceleration event should all be attributed to the injury event.

1. True
2. False

Traumatic Brain Injury
Assessing Impairment

- **Covered in AMA Guides in section 4.1a and 4.1c**
- Goal is to objectively assess any change in / loss of functioning due to TBI, in order to have an accurate rating
- Chapter 14 notes, ***"neuropsychological assessment . . . may be useful in determining deficiencies in brain functioning, particularly in individuals with subtle signs such as those that may be seen in traumatic brain injuries."***

CHAPTER 4 – Nervous System: Assessing Impairment 4.1a – 4.1c

WHEN Neuropsychological Testing is obtained:

- **YOU must still be aware of how to interpret and apply the test results**
  - ✓To the other evidence in the records
  - ✓To your certifying exam
  - ✓To the guidelines for MMI and IR
- Neuropsychologists that are not MDs / DOs are not trained and certified in assessing MMI / IR

CHAPTER 4 – Nervous System:

Neuropsychological Testing is performed to OBJECTIVELY assess:

- **Validity of the diagnosis**
  - **Concussion?**
  - **Alternate Explanation for the collection of symptoms / complaints**
- **Current level of function**
  - Help to assess if at MMI
  - Help to determine IR.

CHAPTER 4 – Nervous System: Elements of Neuropsychological Testing:

- MMPI – 2 – RF / MMPI – 3 / PAI (Personality Assessment Inventory):
  - Assess mood / emotions,
  - Coping style,
  - Somatization,
  - Behavioral and interpersonal functioning,
  - Substance abuse,
  - Exaggeration
  - Minimization - "Good Old Days" Bias
  - Malingering
- This portion of testing is very important to assess **validity of effort**

CHAPTER 4 – Nervous System:

Elements of Neuropsychological Testing (cont.):

- Specific tests with embedded validity criteria = Performance Validity Measures (PVMs).
  - ✓ concentration, memory, attention, effort
  - Victoria Symptom Validity Test (VSVT)
  - Dot Counting Test (DCT)
  - Portland Digit Recognition Test (PDRT)
  - Rey 15 Item Test
  - Test of Memory Malingering (TOMM)
  - Structured Inventory of Malingered Symptomatology
  - Word Memory Test (WMT)

CASE 1
CHAPTER 4 – Nervous System:

- What are we rating based on Case 1?

  Traumatic Brain Injury - Severe

- Know the NINE categories of potential impairment for TBI.
- Some of the NINE methods:
  - Will not be medically probable due to a MILD TBI.
  - May be possible with a Moderate to Severe TBI

Traumatic Brain Injury

Those with MILD TBI are UNLIKELY to meet these Chapter 4, IR criteria:

- Permanent Disturbances of Consciousness
- Aphasia or Communication issues
- Major Motor or Sensory
- Movement Disorder
- Episodic Neurologic issues
- Sleep and Arousal Issues (Central Sleep Apnea)

Traumatic Brain Injury:

THE PRIOR 6 CATEGORIES WILL USUALLY ONLY BE PRESENT WHEN THERE IS :

- Evidence of a Moderate TBI (GCS = 9 – 12) or Severe TBI (GCS = 3 – 8).
- Evidence of significant imaging findings such as intracerebral lesions (Intracerebral Hematoma, Intracerebral Contusion, Cerebral Edema) or depressed skull fracture
- For those with Mod / Severe TBI, don't forget associated complications such as pituitary dysfunction, heterotopic ossification, etc.

WHAT ARE WE RATING IN THIS CASE?

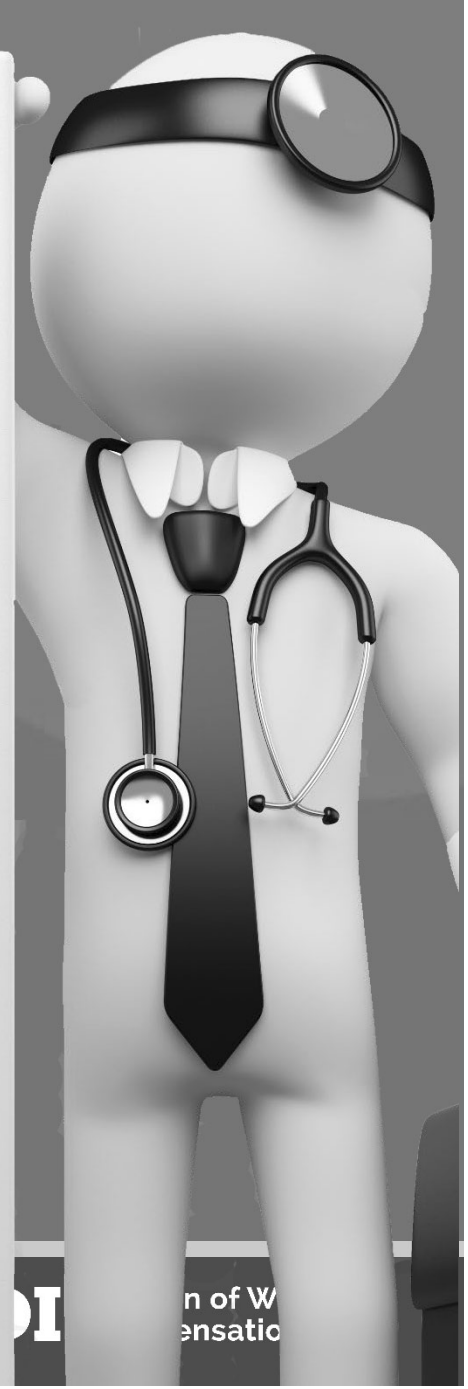
Case 1 - Traumatic Brain Injury

4.1 Central Nervous System - Cerebrum or Forebrain

(AMA Guides, Page 140)

9 Categories of Impairment

- **Pick most severe of first five categories**
  1. Disturbances of consciousness and awareness
  2. Aphasia or communication disturbances
  3. **Mental status and integrative functioning abnormalities**
  4. Emotional/behavioral disturbances
  5. Special types of preoccupation or obsession



Case 1
Traumatic Brain Injury

Table 2. Mental Status Impairments.

Impairment description	% Impairment of the whole person
Impairment exists, but ability remains to perform satisfactorily most activities of daily living	1 - 14
Impairment requires direction and supervision of daily living activities	15 - 29
Impairment requires directed care under continued supervision and confinement in home or other facility	30 - 49
Individual is unable without supervision to care for self and be safe in any situation	50 - 70

Case 1 - Traumatic Brain Injury

4.1 Central Nervous System
Cerebrum or Forebrain
(AMA Guides, page 140)

9 Categories of Impairment

- **Combine most severe of first five categories with any of last four categories**

6. Major motor or sensory abnormalities
7. Movement disorders
8. **Episodic neurologic disorders**
9. Sleep and arousal disorders

Case 1
Traumatic Brain Injury

Table 5. Impairments Related to Epilepsy, Seizures, and Convulsive Disorders.

Impairment description	% Impairment of the whole person
Paroxysmal disorder with predictable characteristics and unpredictable occurrence that does not limit usual activities but is a *risk* to the patient or limits performance of daily activities	0 - 14
Paroxysmal disorder that interferes with *some* activities of daily living	15 - 29
Severe paroxysmal disorder of such frequency that it limits activities to those that are supervised, protected, or restricted	30 - 49
Uncontrolled paroxysmal disorder of such severity and constancy that it *totally limits* the individual's daily activities	50 - 70

Case 1 - Traumatic Brain Injury

Mental Status Impairment

1% - 14% (Table 2) cw

Epilepsy / Seizures

0% -14% (Table 5)

= **1% WP - 26% WP**

Select the IR percentage within the range that best fits clinical condition of the IE.

EXPLAIN HOW & WHY!

Questions about Case 1?

Case 2
Visual System

History of Injury

- IE struck in left eye and orbit with a piece of wood
- Native lens intact bilaterally
- At MMI best corrected visual acuity
  - Right eye distant 20/25, near 14/21
  - Left eye distant 20/200, near 14/70

Case 2
Visual System

History of Injury

- Monocular visual field assessment via Goldman perimeter
  - Peripheral vision left eye 480º (20º loss)
  - No loss of visual field in right eye
- Normal ocular motility
- No diplopia

Case 2
Visual System

Question for DD:

On MMI date, what is whole person IR?

Case 2 - Visual System

Monocular method of visual field assessment *(pages 217-218)*

Left Eye

- Loss of central vision
  - Distance 20/200, near 14/70 = 83% left eye *(Table 3, page 212)*
- Loss of visual field
  - 480º of peripheral vision (20º lost) = 4% left eye *(Table 5, page 214)*
- Combine loss of central vision and visual field
  - 83% left eye cw 4% left eye = 84% left eye

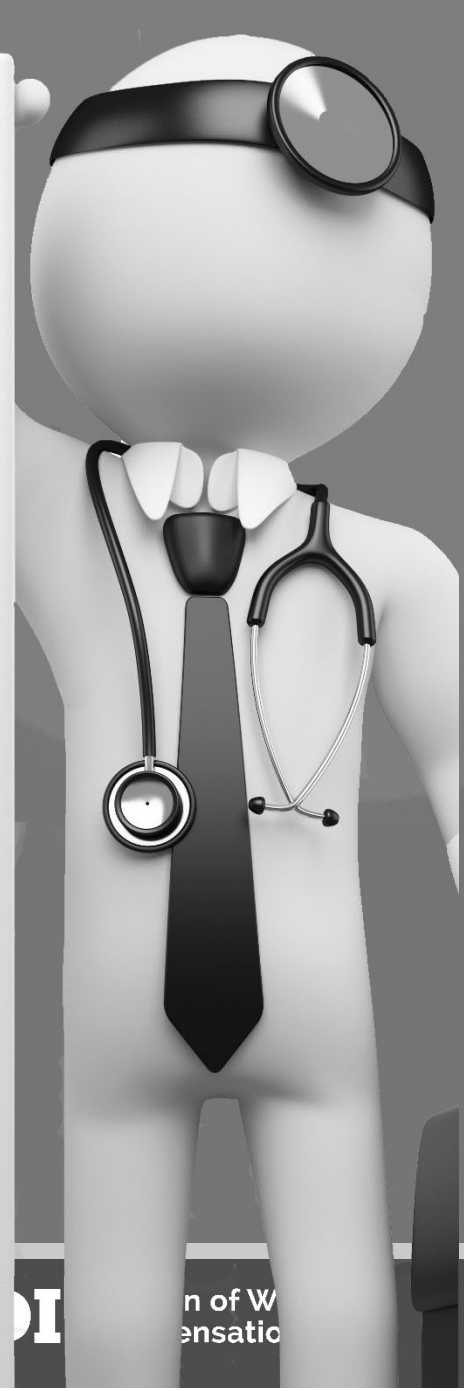


Table 3. Loss (in %) of Central Vision* in a Single Eye.

Snellen rating for distance in feet	Approximate Snellen rating for near in inches													
	14/14	14/18	14/21	14/24	14/28	14/35	14/40	14/45	14/60	14/70	14/80	14/88	14/112	14/140
20/15	0 50	0 50	3 52	4 52	5 53	25 63	27 64	30 65	40 70	43 72	44 72	45 73	48 74	49 75
20/20	0 50	0 50	3 52	4 52	5 53	25 63	27 64	30 65	40 70	43 72	44 72	46 73	48 74	49 75
20/25	3 52	3 52	5 53	6 53	8 54	28 64	30 65	33 67	43 72	45 73	46 73	48 74	50 75	52 76
20/30	5 53	5 53	8 54	9 54	10 55	30 65	32 66	35 68	45 73	48 74	49 74	50 75	53 76	54 77
20/40	8 54	8 54	10 55	11 56	13 57	33 67	35 68	38 69	48 74	50 75	51 76	53 77	55 78	57 79
20/50	13 57	13 57	15 58	16 58	18 59	38 69	40 70	43 72	53 77	55 78	56 78	58 79	60 80	62 81
20/60	16 58	16 58	18 59	20 60	22 61	41 70	44 72	46 73	56 78	59 79	60 80	61 81	64 82	65 83
20/70	18 59	18 59	21 61	22 61	23 62	43 72	46 73	48 74	58 79	61 81	62 81	63 82	66 83	67 84
20/80	20 60	20 60	23 62	24 62	25 63	45 73	47 74	50 75	60 80	63 82	64 82	65 83	68 84	69 85
20/100	25 63	25 63	28 64	29 64	30 65	50 75	52 76	55 78	65 83	68 84	69 84	70 85	73 87	74 87
20/125	30 65	30 65	33 67	34 67	35 68	55 78	57 79	60 80	70 85	73 87	74 87	75 88	78 89	79 90
20/150	34 67	34 67	37 68	38 69	39 70	59 80	61 81	64 82	74 87	77 88	78 89	79 90	82 91	83 92
20/200	40 70	40 70	43 72	44 72	45 73	65 83	67 84	70 85	80 90	83 91	84 92	85 93	88 94	89 95
20/300	43 72	43 72	45 73	46 73	48 74	68 84	70 85	73 87	83 91	85 93	86 93	88 94	90 95	92 96
20/400	45 73	45 73	48 74	49 74	50 75	70 85	72 86	75 88	85 93	88 94	89 94	90 95	93 97	94 97
20/800	48 74	48 74	50 75	51 76	53 77	73 87	75 88	78 89	88 94	90 95	91 96	93 97	95 98	97 99

*Upper number shows % loss of central vision without allowance for monocular aphakia or monocular pseudophakia; lower number shows % loss of central vision with allowance for monocular aphakia or monocular pseudophakia.

Table 5. Loss of Monocular Visual Field.

Total degrees		% of Loss
Lost	Retained	
0	500*	0
5	495	1
10	490	2
15	485	3
20	480	4
25	475	5
30	470	6
35	465	7
40	460	8
45	455	9
50	450	10
55	445	11
60	440	12
65	435	13
70	430	14
75	425	15
80	420	16
85	415	17
90	410	18
95	405	19
100	400	20
105	395	21
110	390	22
115	385	23
120	380	24
125	375	25
130	370	26
135	365	27
140	360	28
145	355	29
150	350	30
155	345	31
160	340	32
165	335	33
170	330	34
175	325	35
180	320	36
185	315	37
190	310	38
195	305	39
200	300	40
205	295	41
210	290	42
215	285	43
220	280	44
225	275	45
230	270	46
235	265	47
240	260	48
245	255	49
250	250	50
255	245	51
260	240	52
265	235	53
270	230	54
275	225	55
280	220	56
285	215	57
290	210	58
295	205	59
300	200	60
305	195	61
310	190	62
315	185	63
320	180	64
325	175	65
330	170	66
335	165	67
340	160	68
345	155	69
350	150	70
355	145	71
360	140	72
365	135	73
370	130	74
375	125	75
380	120	76
385	115	77
390	110	78
395	105	79
400	100	80
405	95	81
410	90	82
415	85	83
420	80	84
425	75	85
430	70	86
435	65	87
440	60	88
445	55	89
450	50	90
455	45	91
460	40	92
465	35	93
470	30	94
475	25	95
480	20	96
485	15	97
490	10	98
495	5	99
500	0	100

*Or more.

Case 2 - Visual System

Monocular method of visual field assessment *(pages 217-218)*

Right Eye

- Loss of central vision
  - Distance 20/25, near 14/21 = 5% right eye
  - Normal visual field
  - 5% right eye cw 0% right eye = 5% right eye

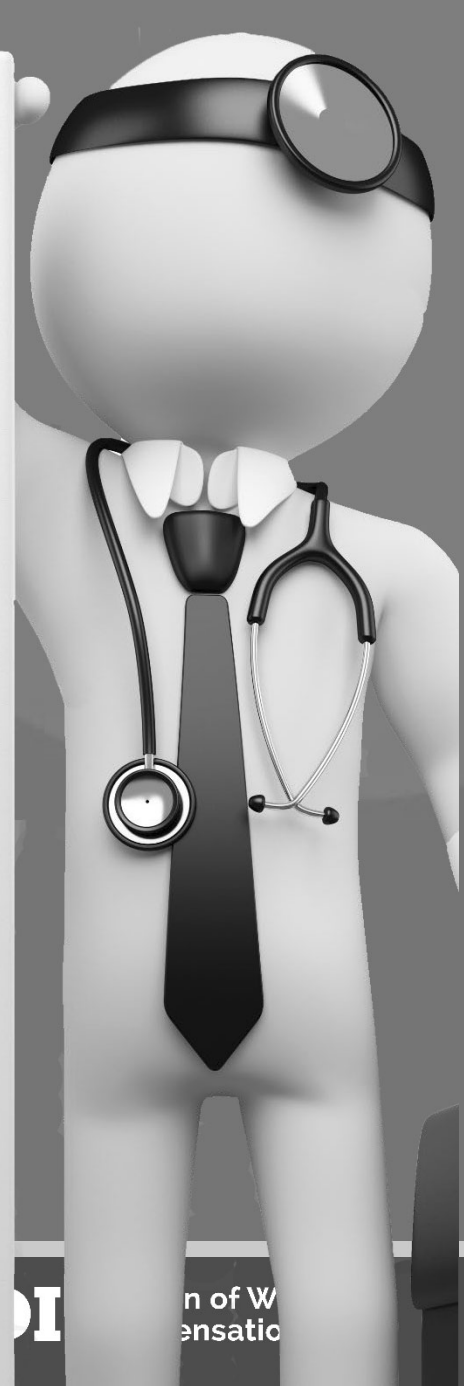


Table 3. Loss (in %) of Central Vision* in a Single Eye.

Snellen rating for distance in feet	Approximate Snellen rating for near in inches													
	14/14	14/18	14/21	14/24	14/28	14/35	14/40	14/45	14/60	14/70	14/80	14/88	14/112	14/140
20/15	0 50	0 50	3 52	4 52	5 53	25 63	27 64	30 65	40 70	43 72	44 72	45 73	48 74	49 75
20/20	0 50	0 50	3 52	4 52	5 53	25 63	27 64	30 65	40 70	43 72	44 72	46 73	48 74	49 75
20/25	3 52	3 52	5 53	6 53	8 54	28 64	30 65	33 67	43 72	45 73	46 73	48 74	50 75	52 76
20/30	5 53	5 53	8 54	9 54	10 55	30 65	32 66	35 68	45 73	48 74	49 74	50 75	53 76	54 77
20/40	8 54	8 54	10 55	11 56	13 57	33 67	35 68	38 69	48 74	50 75	51 76	53 77	55 78	57 79
20/50	13 57	13 57	15 58	16 58	18 59	38 69	40 70	43 72	53 77	55 78	56 78	58 79	60 80	62 81
20/60	16 58	16 58	18 59	20 60	22 61	41 70	44 72	46 73	56 78	59 79	60 80	61 81	64 82	65 83
20/70	18 59	18 59	21 61	22 61	23 62	43 72	46 73	48 74	58 79	61 81	62 81	63 82	66 83	67 84
20/80	20 60	20 60	23 62	24 62	25 63	45 73	47 74	50 75	60 80	63 82	64 82	65 83	68 84	69 85
20/100	25 63	25 63	28 64	29 64	30 65	50 75	52 76	55 78	65 83	68 84	69 84	70 85	73 87	74 87
20/125	30 65	30 65	33 67	34 67	35 68	55 78	57 79	60 80	70 85	73 87	74 87	75 88	78 89	79 90
20/150	34 67	34 67	37 68	38 69	39 70	59 80	61 81	64 82	74 87	77 88	78 89	79 90	82 91	83 92
20/200	40 70	40 70	43 72	44 72	45 73	65 83	67 84	70 85	80 90	83 91	84 92	85 93	88 94	89 95
20/300	43 72	43 72	45 73	46 73	48 74	68 84	70 85	73 87	83 91	85 93	86 93	88 94	90 95	92 96
20/400	45 73	45 73	48 74	49 74	50 75	70 85	72 86	75 88	85 93	88 94	89 94	90 95	93 97	94 97
20/800	48 74	48 74	50 75	51 76	53 77	73 87	75 88	78 89	88 94	90 95	91 96	93 97	95 98	97 99

*Upper number shows % loss of central vision without allowance for monocular aphakia or monocular pseudophakia; lower number shows % loss of central vision with allowance for monocular aphakia or monocular pseudophakia.

Table 5. Loss of Monocular Visual Field.

Total degrees		% of Loss
Lost	Retained	
0	500*	0
5	495	1
10	490	2
15	485	3
20	480	4
25	475	5
30	470	6
35	465	7
40	460	8
45	455	9
50	450	10
55	445	11
60	440	12
65	435	13
70	430	14
75	425	15
80	420	16
85	415	17
90	410	18
95	405	19
100	400	20
105	395	21
110	390	22
115	385	23
120	380	24
125	375	25
130	370	26
135	365	27
140	360	28
145	355	29
150	350	30
155	345	31
160	340	32
165	335	33
170	330	34
175	325	35
180	320	36
185	315	37
190	310	38
195	305	39
200	300	40
205	295	41
210	290	42
215	285	43
220	280	44
225	275	45
230	270	46
235	265	47
240	260	48
245	255	49
250	250	50
255	245	51
260	240	52
265	235	53
270	230	54
275	225	55
280	220	56
285	215	57
290	210	58
295	205	59
300	200	60
305	195	61
310	190	62
315	185	63
320	180	64
325	175	65
330	170	66
335	165	67
340	160	68
345	155	69
350	150	70
355	145	71
360	140	72
365	135	73
370	130	74
375	125	75
380	120	76
385	115	77
390	110	78
395	105	79
400	100	80
405	95	81
410	90	82
415	85	83
420	80	84
425	75	85
430	70	86
435	65	87
440	60	88
445	55	89
450	50	90
455	45	91
460	40	92
465	35	93
470	30	94
475	25	95
480	20	96
485	15	97
490	10	98
495	5	99
500	0	100

Case 2 - Visual System

Monocular method of visual field assessment *(pages 217-218)*

- For worse eye combine eye IR% for ocular motility/diplopia with eye IR% for central vision and visual field
  - Normal ocular motility/no diplopia
  - 84% left eye cw 0% = 84% left eye
- Determine visual system IR% – origin of “better eye” (BE) and “worse eye” (WE) *(Table 7, pages 219-221)*
  - Origin of 84% left eye and 5% right eye = 25% visual system
- Convert visual system to whole person *(Table 6, page 218)*
  - 25% visual system = 24% WP

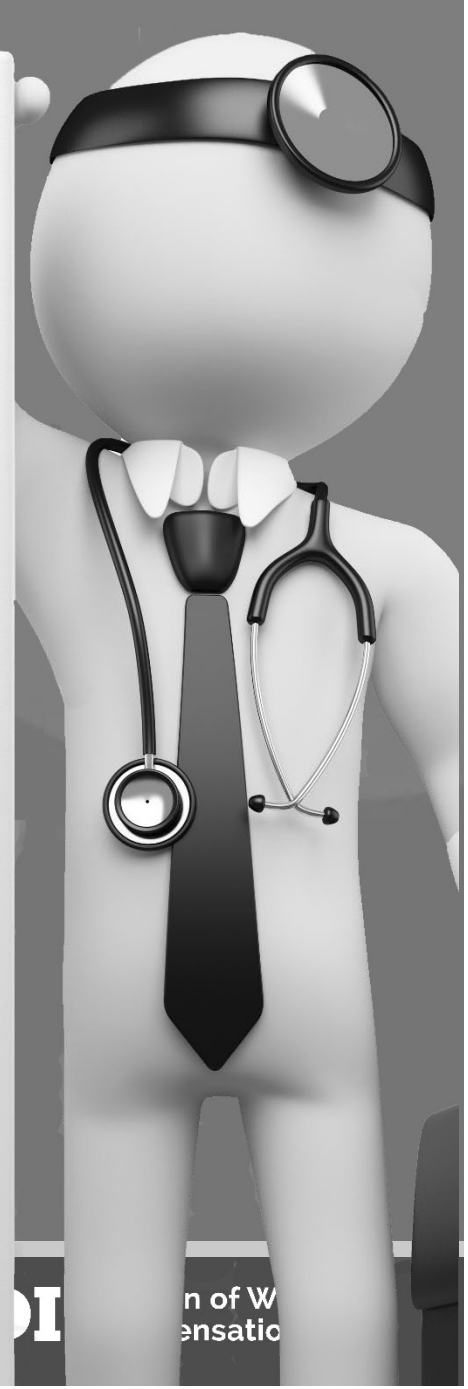


Table 7. Visual System Impairment for Both Eyes.

The values in this table are based on the following formula:

$$\frac{3 \times \text{impairment value of better eye} + \text{impairment value of worse eye}}{4} = \text{impairment of visual system}$$

The guides to the table are percentage impairment values for each eye. The percentage for the worse eye is read at the side of the table. The percentage for the better eye is read at the bottom of the table. At the intersection of the column for the worse eye and the column for the better eye is the impairment of visual system value.

For example, when there is 60% impairment of one eye and 30% impairment of the other eye, read down the side of the table until you come to the larger value (60%). Then follow across the row until it is intersected by the column designated by 30% at the bottom of the page. At the intersection of these two columns is printed the number 38. This number (38) represents the percentage impairment of the visual system when there is 60% impairment of one eye and 30% impairment of the other eye.

If bilateral aphakia is present and corrected central vision has been used in evaluation, impairment of the visual system is weighted by an additional 25% decrease in the value of the remaining corrected vision. For example, a 38% impairment (62% remaining) would be increased to 38% + (25%) (62%) = 54%.

% Impairment worse eye

0	0																																																	
1	0	1																																															
2	1	1	2																																														
3	1	2	2	3																																												
4	1	2	3	3	4																																										
5	1	2	3	4	4	5																																								
6	2	2	3	4	5	5	6																																						
7	2	3	3	4	5	6	6	7																																					
8	2	3	4	4	5	6	7	7	8																																				
9	2	3	4	5	5	6	7	8	8	9																																			
10	3	3	4	5	6	6	7	8	9	9	10																																		
11	3	4	4	5	6	7	7	8	9	10	10	11																																	
12	3	4	5	5	6	7	8	8	9	10	11	11	12																																
13	3	4	5	6	6	7	8	9	9	10	11	12	12	13																															
14	4	4	5	6	7	7	8	9	10	10	11	12	13	13	14																														
15	4	5	5	6	7	8	8	9	10	11	11	12	13	14	14	15																													
16	4	5	6	6	7	8	9	9	10	11	12	12	13	14	15	15	16																												
17	4	5	6	7	7	8	9	10	10	11	12	13	13	14	15	16	16	17																											
18	5	5	6	7	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18																										
19	5	6	6	7	8	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19																									
20	5	6	7	7	8	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20																								
21	5	6	7	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21																							
22	6	6	7	8	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22																						
23	6	7	7	8	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23																					
24	6	7	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24																				
25	6	7	8	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25																			
26	7	7	8	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26																		
27	7	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27																	
28	7	8	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28																
29	7	8	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29															
30	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30														
31	8	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31													
32	8	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31	32												
33	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	32	33											
34	9	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34										
35	9	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31	32	33	34	34	35									
36	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	32	33	34	35	35	36								
37	9	10	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	36	36	37							
38	10	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31	32	33	34	34	35	36	37	37	38						
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41	10	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31	32	33	34	34	35	36	37	37	38	39	40	40	41			
42	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	32	33	34	35	35	36	37	38	38	39	40	41	41	42		
43	11	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	36	36	37	38	39	39	40	41	42	42	43	
44	11	12	13	13	14	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31	32	33	34	34	35	36	37	37	38	39	40	40	41	42	43	43	44					
45	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	32	33	34	35	35	36	37	38	38	39	40	41	41	42	43	44	44	45				
46	12	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	36	36	37	38	39	39	40	41	42	42	43	44	45	45	46			
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48	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	32	33	34	35	35	36	37	38	38	39	40	41	41	42	43	44	44	45	46	47	47	48	
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	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**

% Impairment better eye

TDI Division of Workers' Compensation

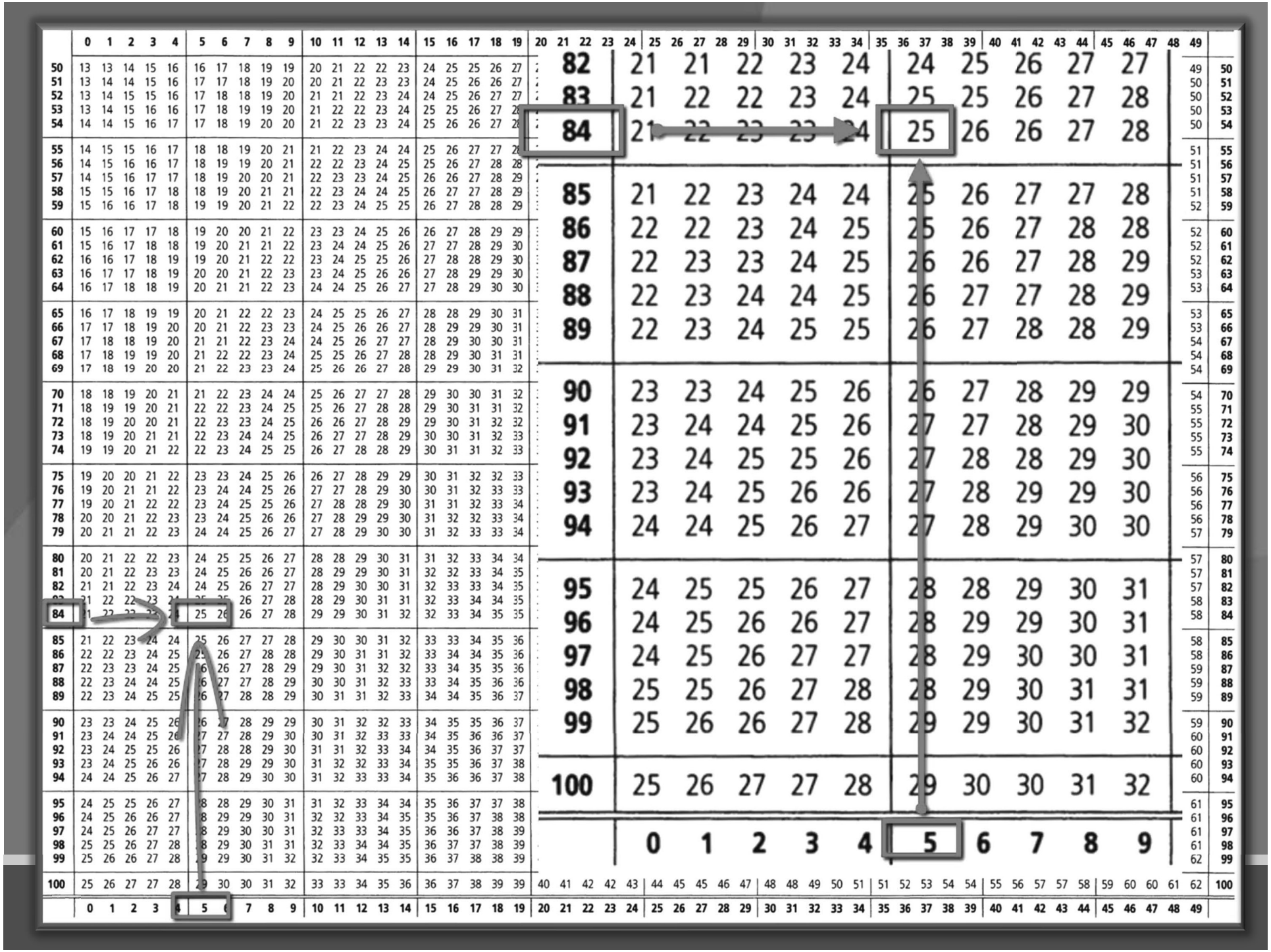


Table 6. Impairment of the Visual System as It Relates to Impairment of the Whole Person.

% Impairment of the											
Visual system	Whole person	Visual system	Whole person	Visual system	Whole person	Visual system	Whole person	Visual system	Whole person	Visual system	Whole person
0	0	15	14	30	28	45	42	60	57	75	71
1	1	16	15	31	29	46	43	61	58	76	72
2	2	17	16	32	30	47	44	62	59	77	73
3	3	18	17	33	31	48	45	63	59	78	74
4	4	19	18	34	32	49	46	64	60	79	75
5	5	20	19	35	33	50	47	65	61	80	76
6	6	21	20	36	34	51	48	66	62	81	76
7	7	22	21	37	35	52	49	67	63	82	77
8	8	23	22	38	36	53	50	68	64	83	78
9	8	24	23	39	37	54	51	69	65	84	79
10	9	25	24	40	38	55	52	70	66	85	80
11	10	26	25	41	39	56	53	71	67	86	81
12	11	27	25	42	40	57	54	72	68	87	82
13	12	28	26	43	41	58	55	73	69	88	83
14	13	29	27	44	42	59	56	74	70	89	84
										90-100	85

Case 2 - Visual System

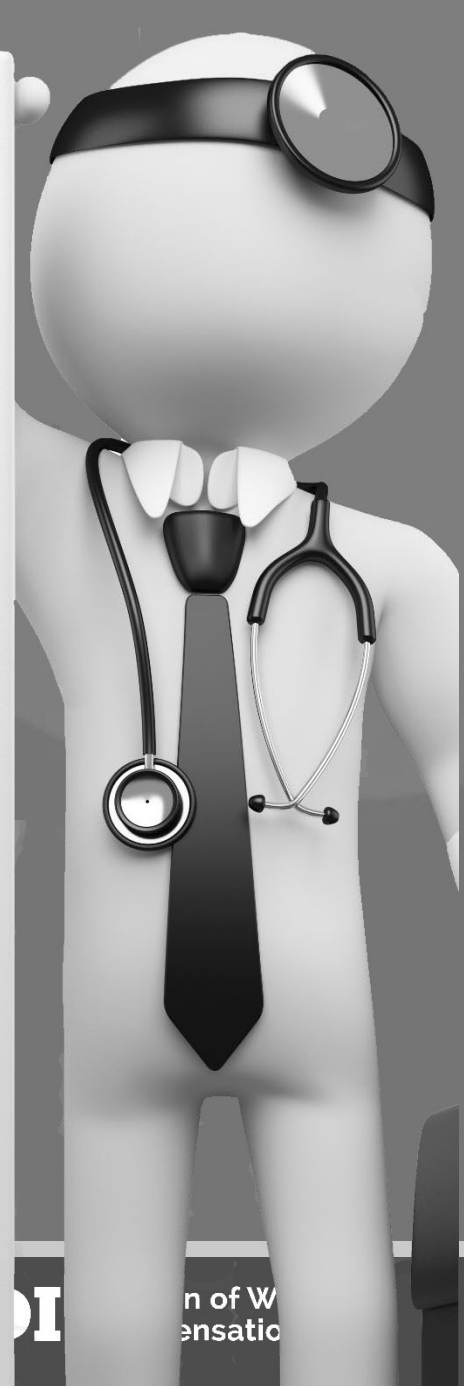
REMEMBER: There are some additional conditions that may accrue impairment (page 209)

"Permanent deformities of the orbit, such as scars or cosmetic defects that do not alter ocular function ...up to 10 % WP."

COMBINE with the visual System . Use section 9.2.

"Ocular or adnexal or disturbance or deformity that is not reflected in diminished VA, decreased VF or ocular motility with diplopia"

COMBINE an additional 5 – 10 % of the INVOLVED eye (prior to converting VS to WP)



Questions about Case 2?

Case 3 - *Hernia*

History of Injury

- IE sustained ventral and left inguinal hernias while working
- Underwent ventral hernia repair and left inguinal hernia repair, both with mesh
- At MMI, **no palpable defect** in either surgical site
- With increased pressure maneuvers including Valsalva, coughing, and lifting head up while supine, slight protrusions in inguinal canal and abdominal hernia repair which were reducible
- Returned to work in warehouse lifting more than 50 pounds occasionally

Case 3 - *Hernia*

Question for DD:

On MMI date, what is whole person IR?

Case 3 - *Hernia*

To assess impairment for hernia-related injury under Table 7 "Classes of Hernia-related Impairment", page 10/247 of Guides 4th Edition, there must be a palpable defect in the supporting structures of the abdominal wall. APD 072253-s.

Case 3 - *Hernia*

Table 7. Classes of Hernia-related Impairment.

Class 1: **0%-9% impairment of the whole person**	**Class 2:** **10%-19% impairment of the whole person**	**Class 3:** **20%-30% impairment of the whole person**
Palpable defect in supporting structures of abdominal wall;	Palpable defect in supporting structures of abdominal wall;	Palpable defect in supporting structures of abdominal wall;
and	**and**	**and**
Slight protrusion at site of defect with increased abdominal pressure; readily reducible;	Frequent or persistent protrusion at site of defect with increased abdominal pressure; manually reducible;	Persistent, irreducible, or irreparable protrusion at site of defect;
or	**or**	**and**
Occasional mild discomfort at site of defect, but not precluding normal activity.	Frequent discomfort, precluding heavy lifting, but not hampering normal activity.	Limitation in normal activity.

Case 3 - *Hernia*

When there is no palpable defect,
Best Practice is to

- provide a percentage impairment by indicating 0% on the DWC-069 and in your narrative, with explanation.

Per **APD 211351** filed 10-07-21, there should be internal consistency of impairment ratings between the

- DWC-069 and
- The Narrative Report

Case 3 – Hernia
Table 7 vs. Text, Page 247

- **Table 7**
  - Class 1 = 0% - 9%
  - Class 2 = 10% -19%
  - Class 3 = 20% - 30%

vs.

- **Text**
  - Class 1; 0% to 10%
  - Class 2; 10% to 20%
  - Class 3; 20% to 30%

Case 3 – Hernia
Table 7 vs. Text, Page 247

For Either Table 7 or Text

- Select single IR percentage within range that best fits clinical condition of IE

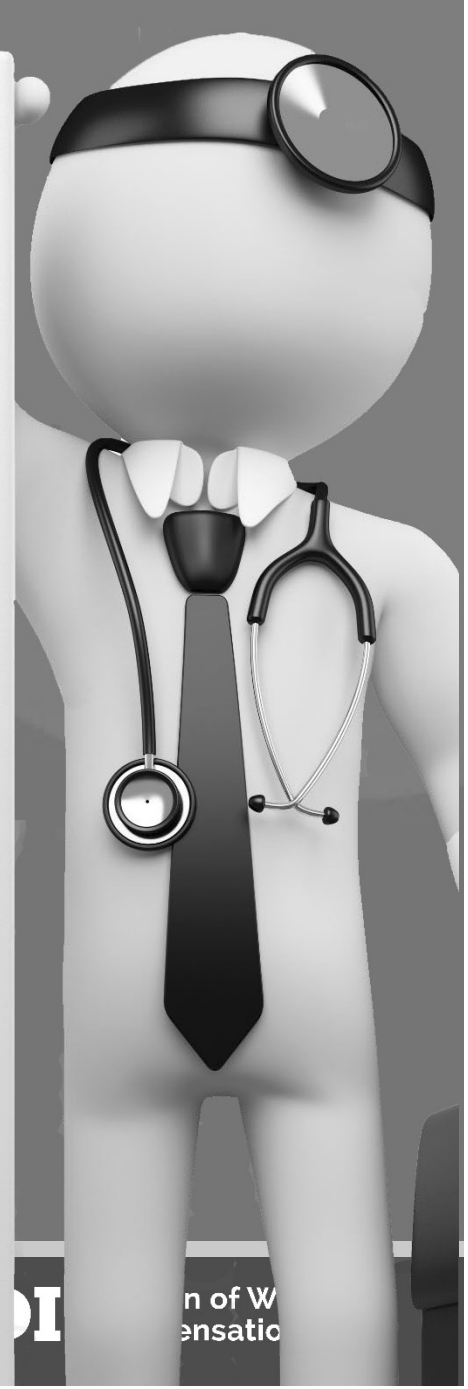
Case 3 - Hernia

REMEMBER: There are some additional conditions that may accrue impairment with hernias

Table 24 on 152 - Ilioinguinal or Iliohypogastric Nerves.

[See Figure 59 on page 93 for these cutaneous nerve distributions.]

- Take the MAX VALUE and multiply by the Grade from Table 20 page 151.
- **COMBINE with the IR for the hernia since it is a different organ system.**
- **Numbness or pain over or around the scar DOES NOT accrue impairment. Must have altered sensation in the nerve distribution distal to the surgical scar. [See Figure 59 on page 93.]. THIS ALSO APPLIES TO CH 13!**



Questions about Case 3?

Case 4 - *Skin*

History of Injury

- Injured employee sustained 3rd degree burn to right arm and forearm which required skin grafting
- Some activities of daily living affected, including intolerance of sunlight exposure.
- Had to apply moisturizing cream daily to prevent skin from cracking

Case 4 - *Skin*

At MMI

- Grafting area atrophic, elevated and indurated
- Wrist ROM full
- Active elbow ROM
  - Extension minus 10º
  - Flexion 130º
  - Supination 70º
  - Pronation 70º
- Some decreased sensation over scar, but normal sensation proximal and distal to scar
- 5/5 strength of upper extremities bilaterally

Case 4 - *Skin*

Question for DD:

On MMI date, what is whole person IR?

Table 2, Page 280

Table 2. Impairment Classes and Percents for Skin Disorders*

Class 1: **0%-9% impairment**	**Class 2:** **10%-24% impairment**	**Class 3:** **25%-54% impairment**	**Class 4:** **55%-84% impairment**	**Class 5:** **85%-95% impairment**
Signs and symptoms of skin disorder are present or only intermittently present;	Signs and symptoms of skin disorder are present or intermittently present;	Signs and symptoms of skin disorder are present or intermittently present;	Signs and symptoms of skin disorder are *constantly* present;	Signs and symptoms of skin disorder are *constantly* present;
and	**and**	**and**	**and**	**and**
There is no limitation or limitation in the performance of *few* activities of daily living, although exposure to certain chemical or physical agents might increase limitation temporarily;	There is limitation in the performance of *some* of the activities of daily living;	There is limitation in the performance of *many* of the activities of daily living;	There is limitation in the performance of *many* of the activities of daily living that may include intermittent confinement at home or other domicile;	There is limitation in the performance of *most* of the activities of daily living, including occasional to constant confinement at home or other domicile;
and	**and**	**and**	**and**	**and**
No treatment or intermittent treatment is required.	Intermittent to constant treatment may be required.	Intermittent to constant treatment may be required.	Intermittent to constant treatment may be required.	Inter[illegible]t to constant tre[illegible]nt may be required.

READ FOOTNOTES!

*The signs and symptoms of disorders in classes 1 and 2 may be intermittent and not present at the time of examination. The impact of the skin disorder on daily activities should be the primary consideration in determining the class of impairment. The frequency and intensity of signs and symptoms and the frequency and complexity of medical treatment should guide the selection of an appropriate impairment percentage and estimate within any class (see chapter introduction).

Skin – AMA Guides, Chapter 13

- Table 2, page 280 [FOOTNOTE]
  - The signs and symptoms of disorders in classes 1 and 2 may be intermittent and not present at the time of examination.
  - The impact of the skin disorder on ADLs should be the primary consideration in determining the class of impairment.
  - The frequency and intensity of signs and symptoms and the frequency and complexity of medical treatment should guide the selection of an appropriate impairment percentage and estimate within any class

Case 4 - Skin

- Class 2, Table 2, Page 280
  - 10%-24% (10%-25% in text)
  - Signs/symptoms are present or intermittently present
- *AND*
  - *Some* limitation of ADLs
- *AND*
  - Intermittent to constant treatment may be required

Skin – AMA Guides, Chapter 13

BE AWARE OF Discrepancies between Table 2 and text in Section 13.7, pages 281-289

- Most surgical scars not rated separately
- If burn scar or graft results in limited ROM, that impairment should be rated according to Chapter 3 (different organ system)
- IR accrues from both burn scar and limited ROM; combine whole person impairments

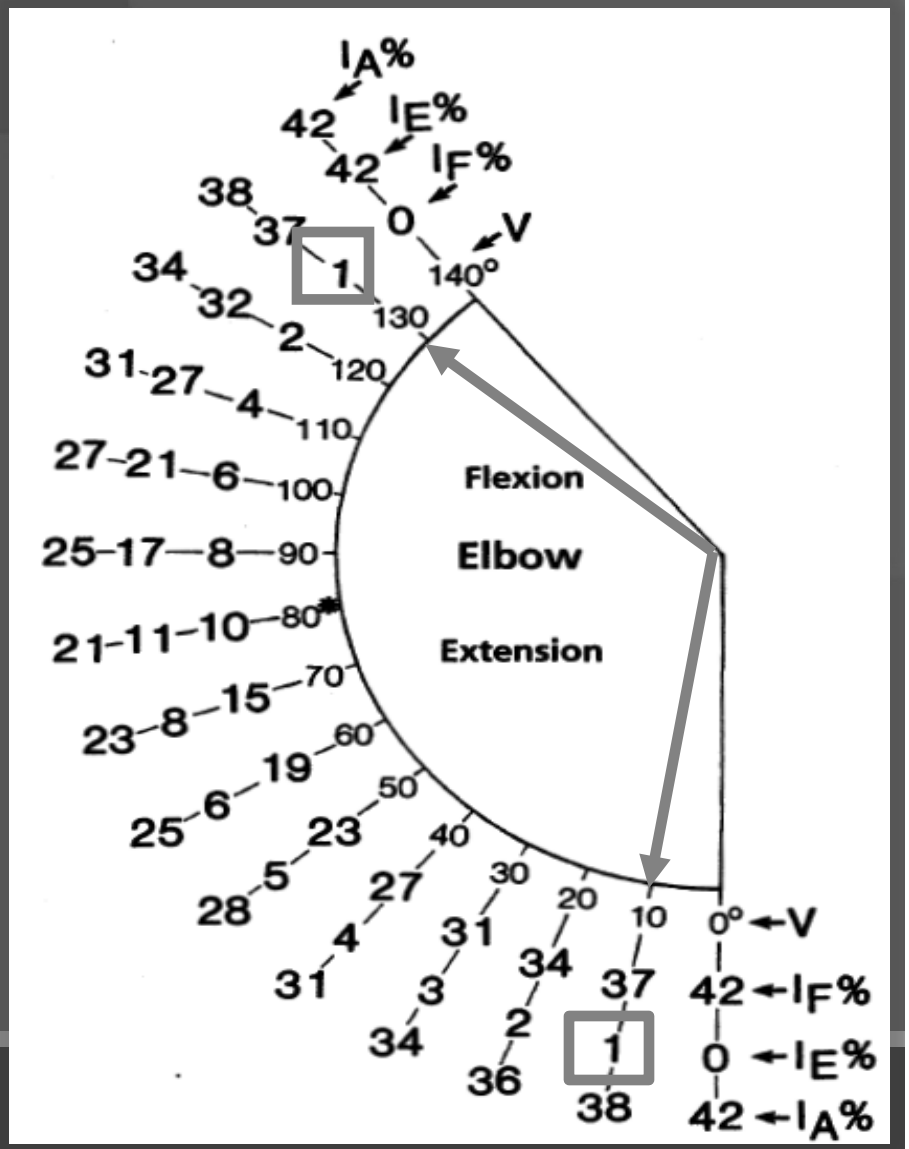
Case 4 - *Skin*

Active elbow ROM

Extension
minus 10° = 1% UE

Flexion
130° = 1% UE

ARE THESE ROMS CONSISTENT with the location of the burn scar?

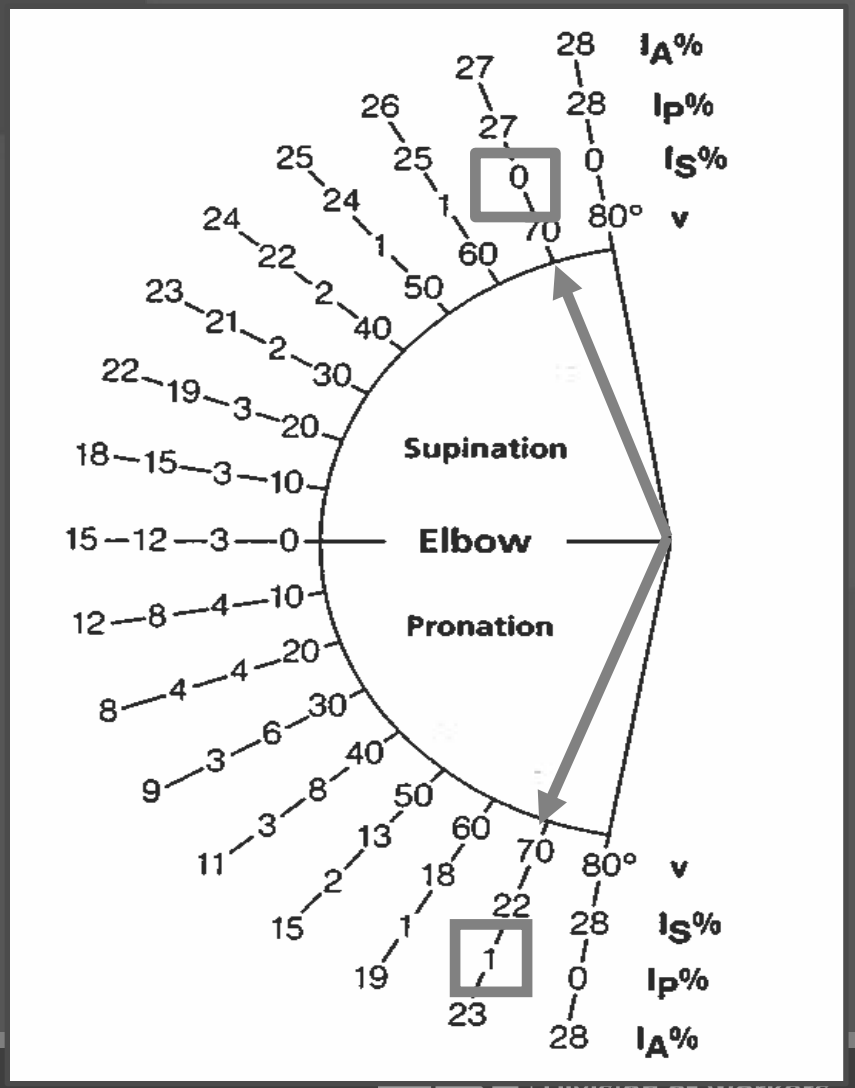


Case 4
Skin

Active elbow ROM

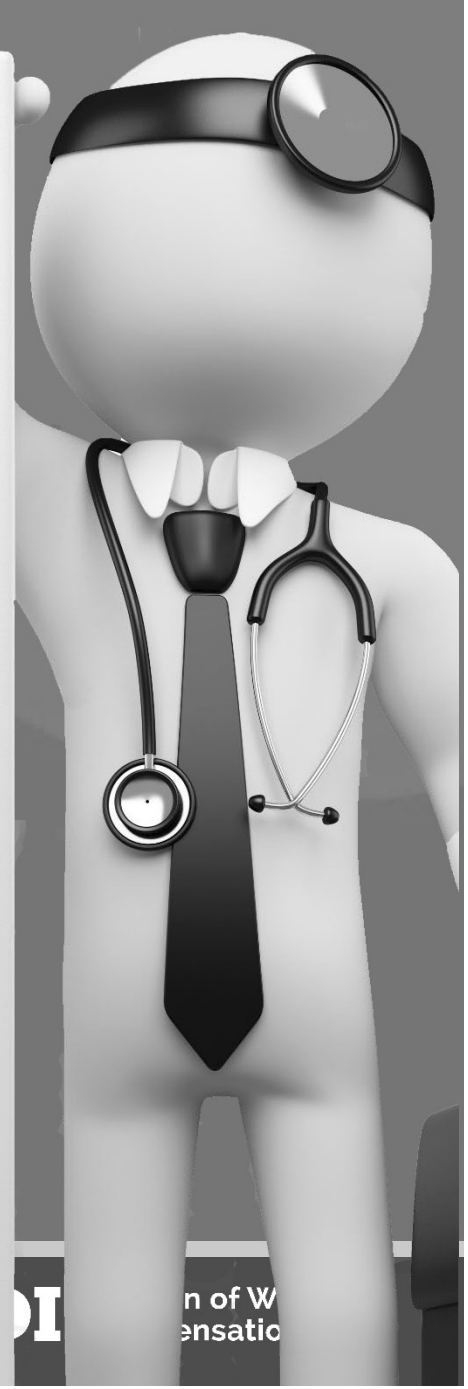
Supination 70° = 0% UE
Pronation 70° = 1% UE

ARE THESE
ROMS CONSISTENT
with the location of the
burn scar?



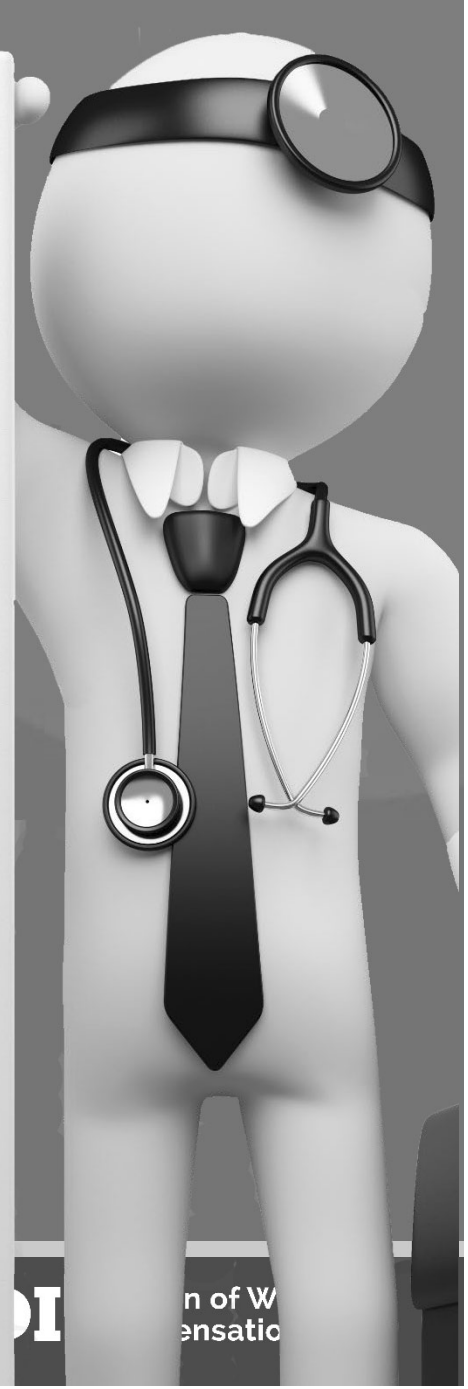
Case 4 - Skin

- Elbow ROM *(Figures 32 and 35, pages 40-41)*
  - Extension minus 10º = 1% UE
  - Flexion 130º = 1% UE
  - Supination 70º = 0% UE
  - Pronation 70º = 1% UE
- **Total Elbow ROM = 3% UE = 2% WP**



Case 4 - Skin

- **Combine skin WP IR with elbow ROM WP IR**
  - 10% - 24% (or 25%) cw 2% =
  - **12% WP - 26% WP**
  - **(or 12% - 27% WP)**
- Select single IR percentage within range that best fits clinical condition of IE at MMI



CASE 4 - Skin
CHAPTER 13

SUMMARY

- Look at examples for GUIDANCE regarding Class and Grade.
- MUST use the ADL Table.
- If more than one extremity with disease / burn, DO NOT give a Class IR for each extremity and combine.
- The SKIN is a SYSTEM and should be rated at the WP value!

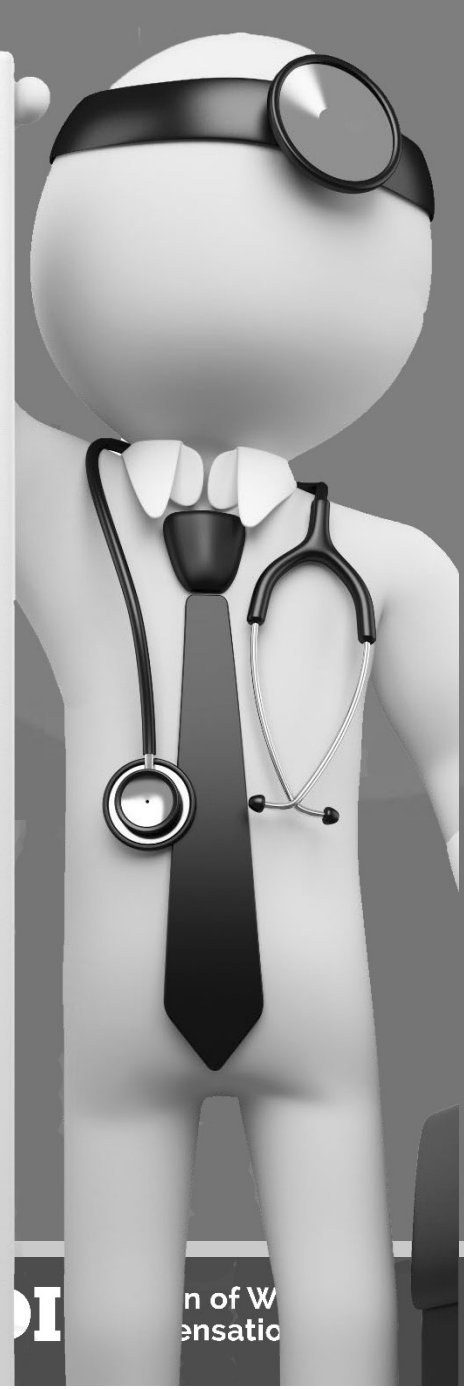
Case 4 - Skin

REMEMBER:

- **IF the burn was deep enough to damage a cutaneous or mixed nerve in the burn field** AND there were sensory / motor changes **distal** to the burn >>>
- Rate as per Tables 15 (UE) or Table 68 (LE)

  AND

- Multiply by the appropriate Grade from Table 11 / 12 OR 20 / 21.

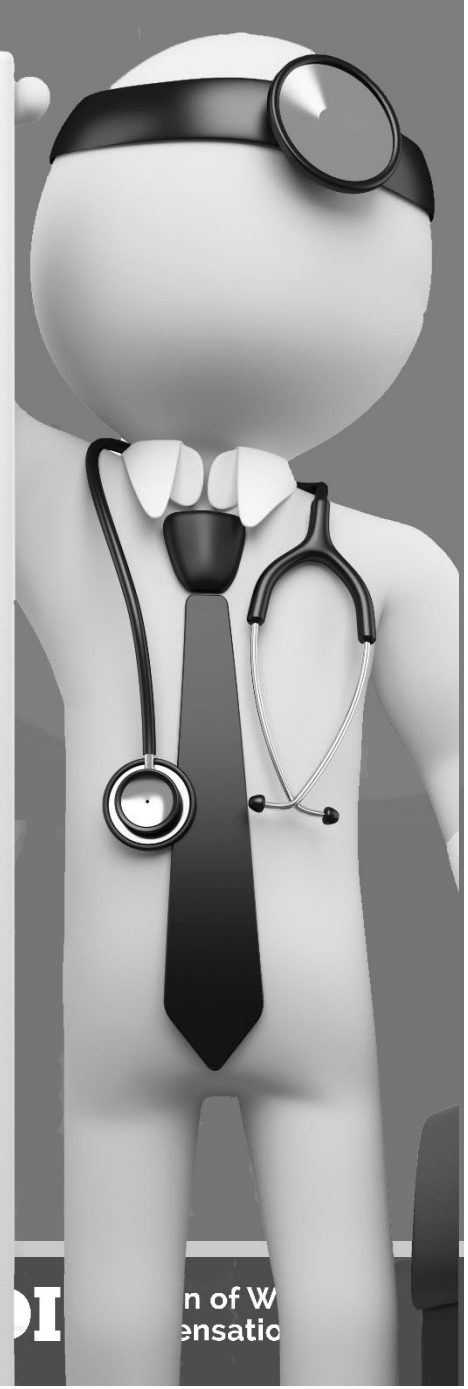


Case 4 - Skin

REMEMBER:

Don't forget to COMBINE burn / skin IR with:

- Permanent inhalational injuries using Respiratory System – Chapter 5
- Kidney injury due to rhabdomyolysis using the Urinary & Reproductive System – Chapter 11
- Facial Disfigurement and loss of facial structures. Section 9.2 &Table 4
- Heterotopic ossification – Musculoskeletal – Chapter 3



Questions about Case 4?

Case 5 - *PTSD*

History of Injury

- Convenience store clerk robbed and assaulted
- Subsequently diagnosed and treated for PTSD
- Treatment included focused cognitive behavioral therapy and Lexapro
- Psychological evaluation at MMI 12 months post injury reveals RTW in different job as retail stock clerk
- Complains of disrupted sleep due to nightmares about robbery

Case 5 - *PTSD*

History of Injury

- Reports feeling hopeless about future and disinterested in activities previously found enjoyable
- Wife reports he is "jumpy" and not spending as much time with friends, including pre-injury, bi-weekly poker game
- Mood highly irritable and fighting much more than normal with wife

Case 5 - *PTSD*

History of Injury

- Wife also reports he has begun to drink 4 - 8 alcoholic beverages most evenings
- Able to perform most basic ADLs independently, but requires reminders ~ 25 % of the time
- Has returned to work in a different capacity, but is reported to have difficulty getting to work on time (different than prior job performance)

Case 5 - *PTSD*

History of Injury

DD refers for Psychological Testing. WHY?

- Validate if PTSD is the correct diagnosis
  - Are there alternate explanations for the complaints?
- Assess if MMI has been reached IF PTSD is correct diagnosis
- Assign appropriate IR based on an OBJECTIVE assessment – claimant history alone is NOT reliable nor can be validated

Case 5 - *PTSD*

Psychological Testing:

- Was a valid representation of effort without overreporting or significant atypical symptoms.
- Results of testing consistent with
  - DSM-5 criteria for PTSD
  - Emotional disturbance that impairs some, but not all useful functioning in the 4 spheres of ADLs, social, concentration / pace and adaptation.

Case 5 - *PTSD*

Discussed previously, but bears repeating

MAKE SURE THIS INFORMATION IS IN YOUR REPORT:

- *WHY testing was ordered*
- *WHAT were the results of testing*
- *HOW the results impacted your decision*

Case 5
PTSD

Question for DD:

On MMI date, what is whole person IR?

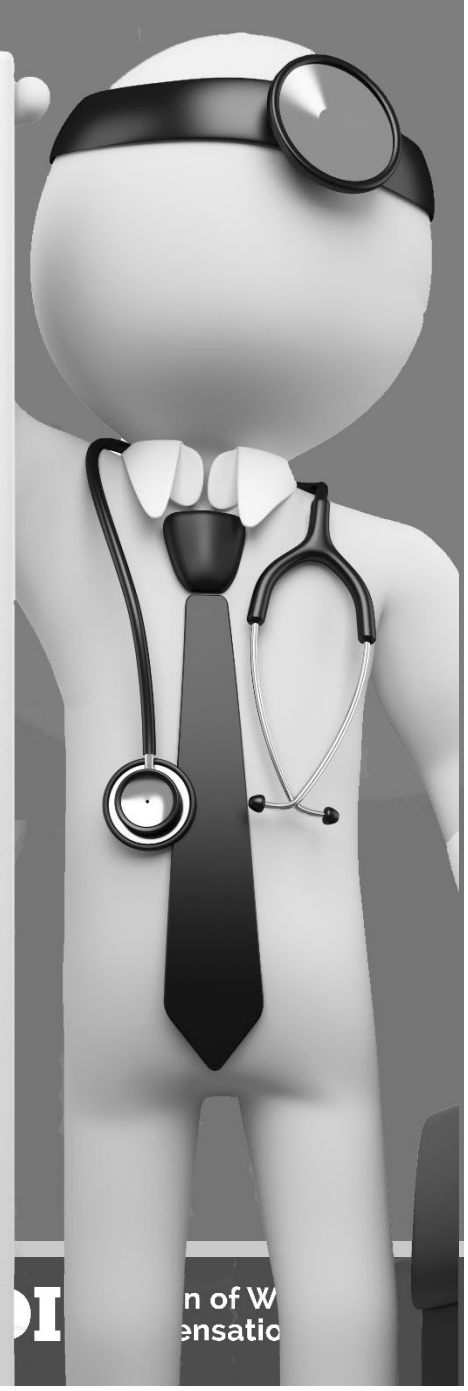
How to Determine Mental and Behavioral Impairment

Apply exam findings and psychological testing findings to **four areas of functioning:**

- Activities of daily living
- Social functioning
- Concentration / persistence / pace
- Deterioration or decompensation in work or work-like settings

How to Determine Mental and Behavioral Impairment

- May assign rating globally, **or** assign to each area of functioning and **average**
  - 10% + 10% + 40% + 20% = 80/4 = 20%
  - **Explain method used – "Show work"**
- Determine appropriate class from "the Table" Chapter 14, page 301
- Consult Chapter 4, Table 3, page 142
- Determine appropriate percent impairment value from Chapter 4, Table 3, page 142
- Combine with other body systems using Combined Values Chart, pages 322-324



Case 5
PTSD

Class 3 - **"Impairment levels are compatible with *some*, but not all, useful functioning"**

- Chapter 14, "The Table", page 301

Case 5 - *PTSD*

- Correlates with "Moderate limitation of *some* but not all social and interpersonal daily living functions"
  - Chapter 4, Emotional or Behavioral Impairments, Table 3, page 142
- 15% WP – 29% WP
  - Select single IR percentage within range that best fits clinical condition of IE

Classification of Impairments Due to Mental and Behavioral Disorders

"The Table" , Page 301

Table. Classification of Impairments Due to Mental and Behavioral Disorders.

Area or aspect of functioning	Class 1: No impairment	Class 2: Mild impairment	Class 3: Moderate impairment	Class 4: Marked impairment	Class 5: Extreme impairment
Activities of daily living Social functioning Concentration Adaptation	*No* impairment is noted	Impairment levels are compatible with *most* useful functioning	Impairment levels are compatible with *some*, but not all, useful functioning	Impairment levels *significantly impede* useful functioning	*Impairment levels preclude* useful functioning

Classification of Impairments Due to Mental and Behavioral Disorders

"The Table" , Page 301

Area of Function	CLASS 1 No Impairment	CLASS 2 Mild	CLASS 3 Moderate	CLASS 4 Marked	CLASS 5 Extreme
ADL					
Social	No impairment	Most useful function	Some, but not all useful function	Significant loss of useful function	Precludes useful function
Concentration , Pace					
Adaptation					

Chapter 4, Table 3, Page 142

Table 3. Emotional or Behavioral Impairments.

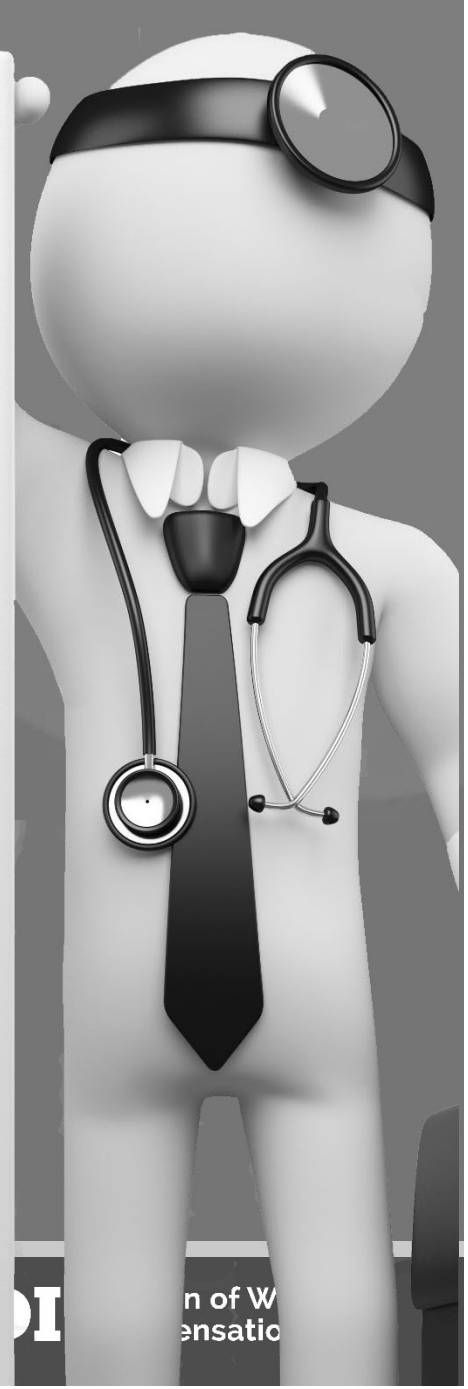
Impairment description	% Impairment of the whole person
Mild limitation of daily social and interpersonal functioning	0 - 14
Moderate limitation of *some* but not all social and interpersonal daily living functions	15 - 29
Severe limitation impeding useful action in *almost all* social and interpersonal daily functions	30 - 49
Severe limitation of all daily functions requiring total dependence on another person	50 - 70

Chapter 14, Table 14 and Chapter 4, Table 3

Chapter 14 Table on Page 301	Chapter 4 Table 3, Page 142
Class 1: None	None
Class 2: **Mild** – Most useful function	**Mild:** 0 – 14%
Class 3: **Moderate** – Some but not all useful function	**Moderate:** 15 – 29%
Class 4: **Marked** – Significantly impedes useful function	**Severe**: 30 – 49% Impedes almost all daily function
Class 5: **Extreme** – Precludes useful function	**Severe**: 50 – 70% Total dependence

Summary Mental and Behavioral Impairment

- Determined that the Class from “the Table” Chapter 14, page 301 was Class 3: **Moderate** – Some but not all useful function
- Consult Chapter 4, Table 3, page 142, **Moderate:** 15 – 29%
- Select the IR percentage within the range that best fits clinical condition of the IE.



Questions about Case 5?

Case 6 - Multiple

History of Injury

- 36 year old ICU nurse.
- Contracted Covid-19 in her work duties.
- Healthy non-smoker, normal BMI and no significant PMH such as DM, HTN, other cardiovascular disease

Case 6 - Multiple

History of Injury

- Initial URI symptoms, then anosmia, ageusia
- Had high fever, respiratory distress with declining 02 saturations
- Admitted to ICU for cardiopulmonary support
- At ~ day 7, developed ascending sensorimotor findings in the upper and lower extremities
- Received immunoglobulins (IV IG)
- Remained intubated for 6 weeks for ventilatory support and weaned by 8 weeks

Case 6 - Multiple

History of Injury

- In addition to cardiopulmonary issues...
- Mild inflammatory demyelinating polyneuropathy
- Clinical exams were consistent with anosmia and ageusia
- Hearing was reported as decreased on the left and mild balance abnormalities.
- Weakness of left sided facial muscles.

Case 6 - Multiple

History of Injury: Hospital Work up

- MRI of the brain with contrast demonstrated contrast enhancement of the left Facial (VII) and Vestibulocochlear (VIII) Cranial nerves
- CSF with protein > 100 mg/dl without increase in cells
- EMG / NCS consistent with a demyelinating polyneuropathy affecting sensory motor fibers

Case 6 - Multiple

History of Injury

- Remained in primary hospital for 10 weeks
- BMI declined from 28 to 17
- Discharged from the hospital to inpatient rehabilitation unit for 3 weeks
- Out-patient PT / OT for 6 months
- Despite time and a home exercise program, at one year after completion of PT, she has continued with fatigue and shortness of breath (SOB)
- Fatigue and SOB has been stable
- Most of the distal sensory motor disturbances dissipated, without recurrence over the 18 months from DOI

Case 6 - Multiple

Designated Doctor Evaluation

Complaints:

Were consistent with the medical records

- Continued fatigue that makes it difficult to perform ADLs and work activities
- Gets short of breath easily with minimal exertion
- Impaired taste to the anterior 2/3 of the tongue.
- She cannot distinguish sweet, salty, bitter or sour.

Case 6 - Multiple

Designated Doctor - Complaints (continued):

- The anosmia and hypogeusia affected her oral intake.
- She was below ideal body weight for her height.
- She has continued unilateral facial weakness affecting mainly the mid to upper face.
- Since she wears a mask at work, this makes visual communication cues difficult
- No specific complaints related to distal sensory loss or weakness in the extremities

Case 6 - Multiple

Designated Doctor

Medical history:

- Negative for ever smoking cigarettes
- Negative 2nd hand smoke exposure
- No H/O Asthma
- Negative for any other significant childhood / adult pulmonary infection or disease.
- No significant cardiovascular disease

Case 6 - Multiple

Designated Doctor

Medical history (continued):

- No other risk factors for hearing loss (age, cerumen impaction, medications, toxins).
- No family history of inherited neuropathies, amyloidosis, etc.

Occupational History:

- No exposure to asbestos (or potential for silicosis)
- No prior occupation with significant noise exposure

Case 6 - Multiple

Designated Doctor Exam:

- BMI = 18 (for the last year)
- O2 saturation 89 % to 94 % on room air at points during the exam
- SOB with moving on and off the exam table.
- Lungs clear to auscultation and percussion
- Heart with regular rhythm and rate
- Gait steady though slow, without AD.
- No unusual verbal or non-verbal pain behaviors and no evidence of symptom magnification.

Case 6 - Multiple

Designated Doctor - Neurologic exam

- Gait without ataxia or spasticity
- No increased or decreased tone, focal or general atrophy of any limb.
- Hoffman's, Babinski negative, no clonus.
- Romberg negative and other cerebellar tests WNL

Case 6 - Multiple

Designated Doctor - Neurologic exam

- CN III, IV, VI (visual), V and IX, X, XI, XII intact
- No ability to sense coffee.
- Did not respond to applying bitter (salt), sour (lime) to the anterior tongue.
- Weakness of the left frontalis, orbicularis oculi, and zygomaticus muscles (upper branches of the Facial nerve).
- Hearing loss on the left to confrontation.

Case 6 - Multiple

Designated Doctor - Neurologic exam

- Residual patchy areas of slight decreased sensation in portions of distal peripheral nerve distributions (LE > UE).
  - ✓ Non-specific to any specific peripheral nerve distribution.
  - ✓ No H/O recurrent episodes of sensorimotor dysfunction – NO CIDP.
- Strength 5 – to 5 / 5 in the upper and lower extremities without focal nerve distribution

Case 6 - Multiple

Designated Doctor Exam:

- **The concern for the DD was determining objective changes in function for IR.**
- **Ordered Testing:**
  - Pulmonary Function Tests (PFTs)
  - Audiometry Testing
- **Did not order current EMG / NCS**

Case 6 - Multiple

Audiogram:

Tested without hearing aids as per AMA Guides

Right Ear:

500 Hz = 10 db, 1000 db = 20 db, 2000, = 30 db and 3000 = 40 db. **DSHL = 100**

Left Ear:

500 Hz = 40 db, 1000 db = 50 db, 2000, = 75 db and 3000 = 105 db. **DSHL = 270**

Case 6 - Multiple

Pulmonary Function Tests (PFTs)

- **Respiratory Impairment - Referred for PFTs**
  - FEV1 was 80TH %
  - FVC was 75TH %
  - FEV1 / FVC was 76th %
  - DCO was 61st %
- **Functionally, the changes in DCO are most impactful with significant Covid-19 infections.**

Case 6 - Multiple

Pulmonary Function Tests (PFTs)

- When requested, ensure that AMA 4th recommendations (pages 159-160) are followed:
  - 3 acceptable spirometer tracings of FVC, FEV1 and FVC / FEV1.
  - Results of 2 best FVC should be within 5 % of one another.
  - The tracing with the HIGHEST FVC and the HIGHEST FEV1 should be used to calculate the ratio.

Case 6 - Multiple

Pulmonary Function Tests (PFTs)

- **When requested, ensure that AMA 4th recommendation (page 160) is considered:**
- ***"The physician should consider the possible contribution of extra-pulmonary factors to respiratory system impairment".*** **(Ch 5, page 162)**
  - **Decreased FVC with obesity**
  - **Decreased DCO with anemia**

Case 6 - Multiple

Pulmonary Function Tests (PFTs)

- While Table 5 indicates in addition to PFTs, there is an OR to assess VO2 Max:
  - VO2 Max is NOT available for the majority of PFT labs
  - VO2 max measures exercise capacity (tolerance)
  - Useful for assessing whether a person's complaint of dyspnea (see Table 1 – Chapter 5) is a result of respiratory or other conditions.

Case 6 - Multiple

Pulmonary Function Tests (PFTs)

- **Interpreting VO2 Max is problematic**
- **Many factors** NOT related to a compensable respiratory condition **affect results:**
  - Obesity
  - Non-compensable cardiac status
  - Orthopedic conditions
  - Conditioning due to multi-factorial issues
  - Effort / Motivation

Case 6 - Multiple

At MMI, what would you as the DD rate?

Case 6 - Multiple

A. Central Nervous System - Cranial Nerves OTHER than hearing

B. EENT - Hearing Loss

C. Respiratory System

D. Peripheral Nervous System via Chapter 3?

E. Other systems

F. A, B, C

Case 6 – Multiple

CRANIAL NERVES

CASE 6 - Multiple

Impairment Rating – Cranial & Peripheral

- **Any cranial nerve can be involved in COVID-19.**
- **Anosmia and ageusia, is common,** but cranial nerves III, VI and VII are the next most frequently affected.
- The involvement of cranial nerves in COVID-19 may or may not be associated with GBS.
- *Finsterer et al. Additional references provided after the cases at the end of the presentation*
-

Case 6 - Multiple

Impairment Rating – How to Rate the Cranial Nerves? Section 4.1f

- **CN I (Olfactory)**
  - Anosmia (only if it interferes with ADLs) = up to 5% WP according to page 144 in Chapter 4 *
- **CN VII** (Facial)
  - Table 10, page 146 addresses the different functions of the facial nerve
  - Loss of taste and facial muscle weakness vs paralysis

* Olfaction and Taste also referenced in Section 9.3c on pages 231 - 232

Case 6 - Multiple

Impairment Rating – How to Rate the Cranial Nerves? Section 4.1f

- ENT chapter also has information re: loss of **Olfaction and Taste** in Section 9.3c on pages 231-232.
- *"A single value of 3 % WP is suggested for use in cases involving complete bilateral loss of either sense due to peripheral lesions"*
- *"detection of any odor or taste...precludes a finding of permanent impairment.*

Case 6 – Multiple Cranial Nerve

CN I Olfactory – complete loss of smell

- Chapter 4 = up to 5 % WP
- Chapter 9 = Max of 3 % WP

CN VII – complete loss of taste

Chapter 4 = 1 – 4 % WP

Chapter 9 = Max of 3 % WP

Be aware of both Chapter 4 and Chapter 9 methods – explain and defend what you chose to use.

Case 6 - Multiple

Impairment Rating – How to Rate the Cranial Nerves? Section 4.1f

CN VIII (Auditory & Equilibrium)

- Auditory - Refer to ENT Chapter
  - Hearing Loss 9.1a
- Equilibrium
  - Significant OBJECTIVE equilibrium / balance with ADL limitations due to CN VIII may be rated
  - ✓ 4.2a Table 11 (p. 146) OR
  - ✓ 9.1c text on pages 228 – 229.

Case 6 - Multiple

Impairment Rating – How to Rate the Cranial Nerves? Section 4.1f. **NOT this case, BUT FYI**

- **CN III, IV, VI (Oculomotor, Trochlear, Abducens)**
  - ✓ See pages 144 – 146. [Example on page 146.]
  - ✓ May also refer to Visual System (Chapter 8) and address with diplopia of the Visual System

Case 6 - Multiple

Impairment Rating – How to Rate the Cranial Nerves? Section 4.1f. **NOT this case, BUT FYI**

- **CN V (Trigeminal)**
  - ✓ See page 145. [Table 9]
  - ✓ Sensory with 3 divisions.
  - ✓ ONLY *"uncontrollable facial pain"* is rated.
  - ✓ Loss of sensation is not rated.
  - ✓ Motor to muscles of mastication.
    - Not included in Chapter 4, Table 9
    - CAN consider Chapter 9, section 9.3b and Table 6.

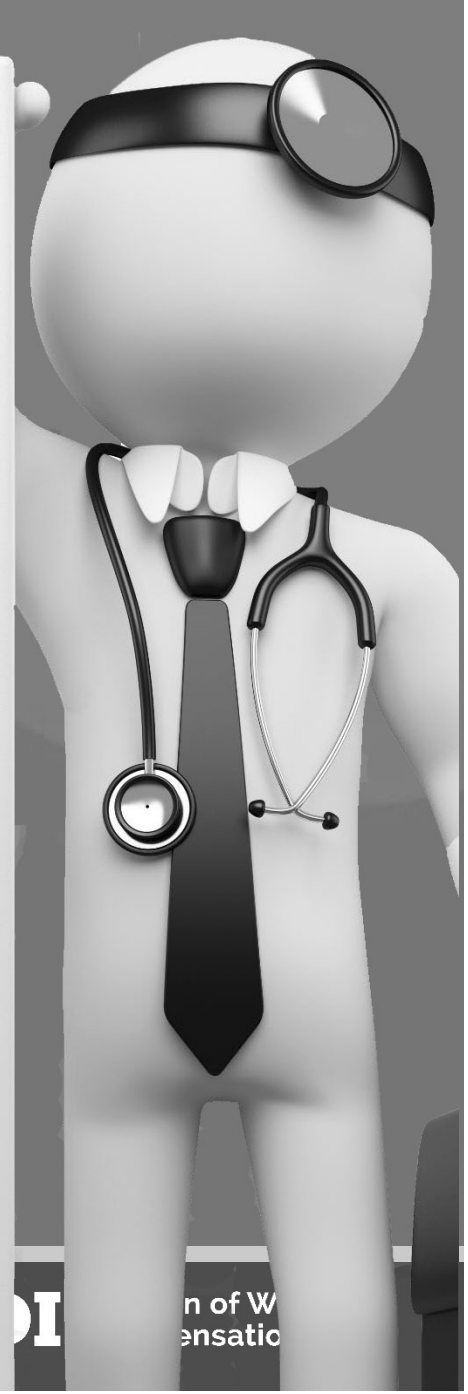
Case 6 – Multiple Cranial Nerves

SUMMARY

- CN I Olfactory = 3 - 5% WP
- CN VII Facial (Taste) = 1 - 4% WP
- CN VII Facial (Weakness)= 1 - 4 % WP

RANGE = 5 % to 13% WP

- CN VIII (Hearing) = SEE NEXT SECTION



Case 6 – Multiple

ENT / HEARING

Case 6 - Multiple

Impairment Rating:

Hearing Loss

- **<u>Right Ear:</u>**
- 500 Hz = 10 db, 1000 Hz = 20 db, 2000 Hz, = 30 db and 3000 Hz = 40 db. **DSHL = 100**
- **<u>Left Ear:</u>**
- 500 Hz = 40 db, 1000 Hz = 50 db, 2000, = 75 db, and 3000 Hz = 105 db. **DSHL = 270**

CASE 6 - Multiple
Chapter 9 – EENT System

Be familiar with how to use Tables 2, and 3

- Considering the
  - DSL of the unaffected Right Ear
  - DSL of the affected Left Ear
- **What is the IR?**

Chapter 9, Table 2, Pages 226-227

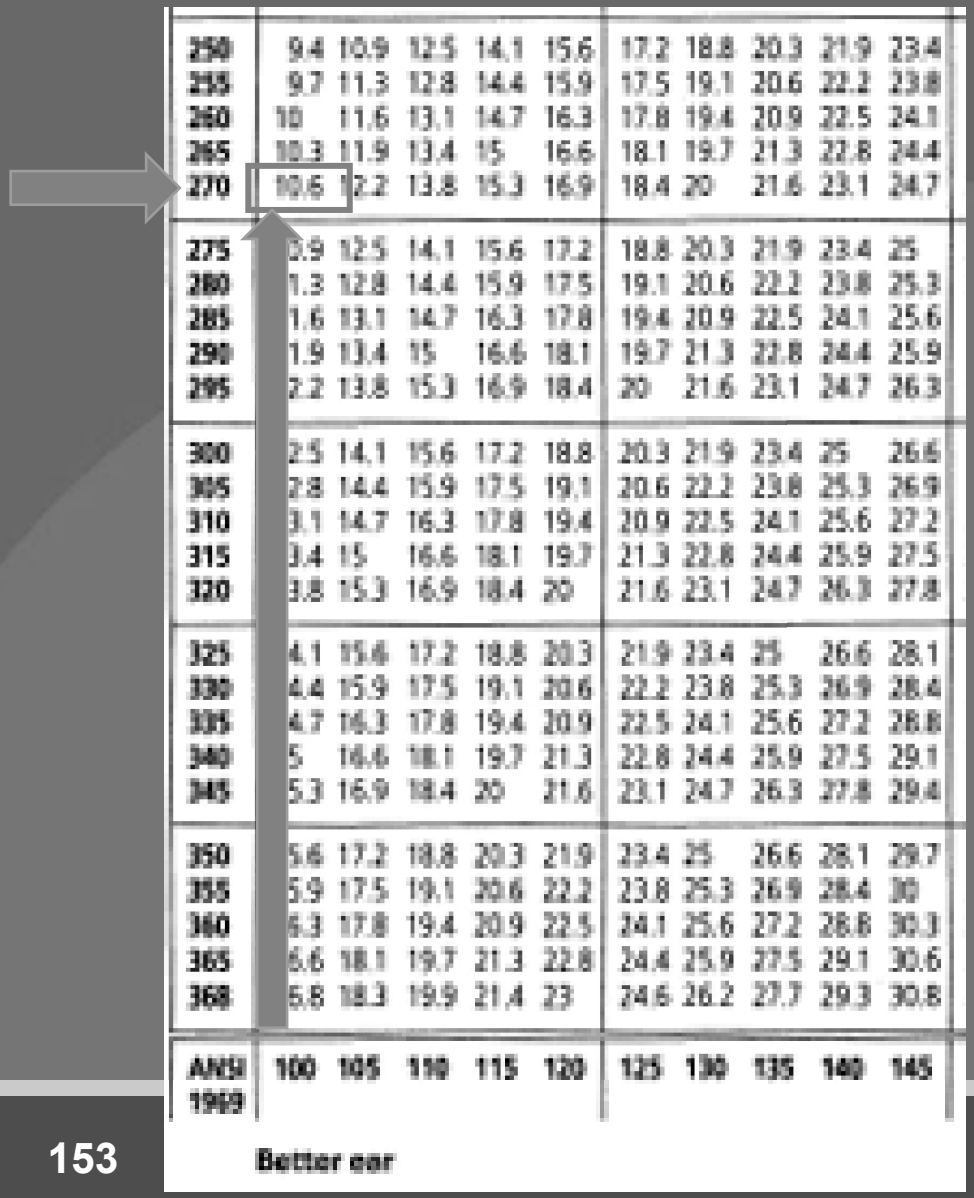
The sum for the worse ear is read at the side; the sum for the better ear is read at the bottom.

Table 2. Computation of Binaural Hearing Impairment*

Worse ear	Better ear: 100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230
100	0																										
105	0.3	1.9																									
110	0.6	2.2	3.8																								
115	0.9	2.5	4.1	5.l																							
120	1.3	2.8	4.4	5.[illegible]																							
125	1.6	3.1	4.7	6.3	7.8	9.4																					
130	1.9	3.4	5	6.6	8.1	9.7	11.3																				
135	2.2	3.8	5.3	6.9	8.4	10	11.6	13.1																			
140	2.5	4.1	5.6	7.2	8.8	10.3	11.9	13.4	15																		
145	2.8	4.4	5.9	7.5	9.1	10.6	12.2	13.8	15.3	16.9																	
150	3.1	4.7	6.3	7.8	9.4	10.9	12.5	14.1	15.6	17.2	18.8																
155	3.4	5	6.6	8.1	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6															
160	3.8	5.3	6.9	8.4	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5														
165	4.1	5.6	7.2	8.8	10.3	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4													
170	4.4	5.9	7.5	9.1	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3												
175	4.7	6.3	7.8	9.4	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6												
180	5	6.6	8.1	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4											
185	5.3	6.9	8.4	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3										
190	5.6	7.2	8.8	10.3	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2									
195	5.9	7.5	9.1	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1								
200	6.3	7.8	9.4	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	[illegible]											
205	6.6	8.1	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4					
210	6.9	8.4	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3				
215	7.2	8.8	10.3	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1			
220	7.5	9.1	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45		
225	7.8	9.4	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	
230	8.1	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8
235	8.4	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1
240	8.8	10.3	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	3.06	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4
245	9.1	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45	46.6	48.1	49.7
250	9.4	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	48.4	50
255	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8	50.3
260	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1	50.6
265	[illegible]	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4	50.9
270	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45	46.6	48.1	49.7	51.3
275	[illegible]	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	48.4	50	51.6
280	[illegible]	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8	50.3	51.9
285	[illegible]	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1	50.6	52.2
290	[illegible]	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4	50.9	52.5
295	[illegible]	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45	46.6	48.1	49.7	51.3	52.8
300	[illegible]	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	48.4	50	51.6	53.1
305	[illegible]	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8	50.3	51.9	53.4
310	[illegible]	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1	50.6	52.2	53.8
315	[illegible]	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4	50.9	52.5	54.1
320	[illegible]	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45	46.6	48.1	49.7	51.3	52.8	54.4
325	[illegible]	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	48.4	50	51.6	53.1	54.7
330	[illegible]	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8	50.3	51.9	53.4	55
335	[illegible]	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1	50.6	52.2	53.8	55.3
340	[illegible]	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4	50.9	52.5	54.1	55.6
345	[illegible]	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4	30.9	32.5	34.1	35.6	37.2	38.8	40.3	41.9	43.4	45	46.6	48.1	49.7	51.3	52.8	54.4	55.9
350	[illegible]	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7	31.3	32.8	34.4	35.9	37.5	39.1	40.6	42.2	43.8	45.3	46.9	48.4	50	51.6	53.1	54.7	56.3
355	[illegible]	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30	31.6	33.1	34.7	36.3	37.8	39.4	40.9	42.5	44.1	45.6	47.2	48.8	50.3	51.9	53.4	55	56.6
360	[illegible]	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3	31.9	33.4	35	36.6	38.1	39.7	41.3	42.8	44.4	45.9	47.5	49.1	50.6	52.2	53.8	55.3	56.9
365	[illegible]	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6	32.2	33.8	35.3	36.9	38.4	40	41.6	43.1	44.7	46.3	47.8	49.4	50.9	52.5	54.1	55.6	57.2
368	[illegible]	18.3	19.9	21.4	23	24.6	26.2	27.7	29.3	30.8	32.4	33.9	35.5	37.1	38.6	40.2	41.8	43.3	44.9	46.4	48	49.6	51.1	52.7	54.3	55.8	57.4
ANSI 1969	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230

Better ear

Chapter 9, Table 2, Pages 226-227



Worse ear	Better ear									
250	9.4	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4
255	9.7	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8
260	10	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1
265	10.3	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4
270	10.6	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7
275	10.9	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25
280	11.3	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3
285	11.6	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6
290	11.9	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9
295	12.2	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3
300	12.5	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6
305	12.8	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9
310	13.1	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2
315	13.4	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5
320	13.8	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8
325	14.1	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1
330	14.4	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4
335	14.7	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8
340	15	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1
345	15.3	16.9	18.4	20	21.6	23.1	24.7	26.3	27.8	29.4
350	15.6	17.2	18.8	20.3	21.9	23.4	25	26.6	28.1	29.7
355	15.9	17.5	19.1	20.6	22.2	23.8	25.3	26.9	28.4	30
360	16.3	17.8	19.4	20.9	22.5	24.1	25.6	27.2	28.8	30.3
365	16.6	18.1	19.7	21.3	22.8	24.4	25.9	27.5	29.1	30.6
368	16.8	18.3	19.9	21.4	23	24.6	26.2	27.7	29.3	30.8
ANSI 1969	100	105	110	115	120	125	130	135	140	145

At the intersection of the row for the worse ear and the column for the better ear is the hearing impairment (%).

Chapter 9, Table 3, Page 228

Table 3. Relationship of Binaural Hearing Impairment to Impairment of the Whole Person.

% Binaural hearing impairment	% Impairment of the whole person	% Binaural hearing impairment	% Impairment of the whole person
0 - 1.7	0	50.0 - 53.1	18
1.8 - 4.2	1	54.2 - 55.7	19
4.3 - 7.4	2	55.8 - 58.8	20
[illegible]	[illegible]	58.9 - 61.4	21
10.0 - 13.1	4	61.5 - 64.5	22
[illegible]	[illegible]	64.6 - 67.1	23
16.0 - 18.8	6	67.2 - 70.0	24
18.9 - 21.4	7	70.1 - 72.8	25
21.5 - 24.5	8	72.9 - 75.9	26
24.6 - 27.1	9	76.0 - 78.5	27
27.2 - 30.0	10	78.6 - 81.7	28
30.1 - 32.8	11	81.8 - 84.2	29
32.9 - 35.9	12	84.3 - 87.4	30
36.0 - 38.5	13	87.5 - 89.9	31
38.6 - 41.7	14	90.0 - 93.1	32
41.8 - 44.2	15	93.2 - 95.7	33
44.3 - 47.4	16	95.8 - 98.8	34
47.5 - 49.9	17	98.9 -100.0	35

- ***Case 6 – Multiple EENT***

- Table 1 for DSHL of 270 = 63.8 % monaural loss.
- BUT can SKIP to **Table 2**

  And CALCULATE

  Worst Ear 270 DSHL

  Best Ear 100 DSHL

  = 10.6 % binaural loss
- **Table 3** conversion of 10.6 **Binaural = 4 % WP**

Case 6 – Multiple

PULMONARY

Case 6 – Multiple

Pulmonary Function Tests (PFTs)

- Do not rate EACH of the components of the PFTs and then combine. Rate the worst of the system.
- Respiratory System
  - FEV1 was 80TH %
  - FVC was 75TH %
  - FEV1 / FVC was 76th %
  - **DCO was 61st %**
  - What is the IR?

Chapter 5, Table 8, Page 162
Classes of Respiratory Impairments

Table 8. Classes of Respiratory Impairment.*

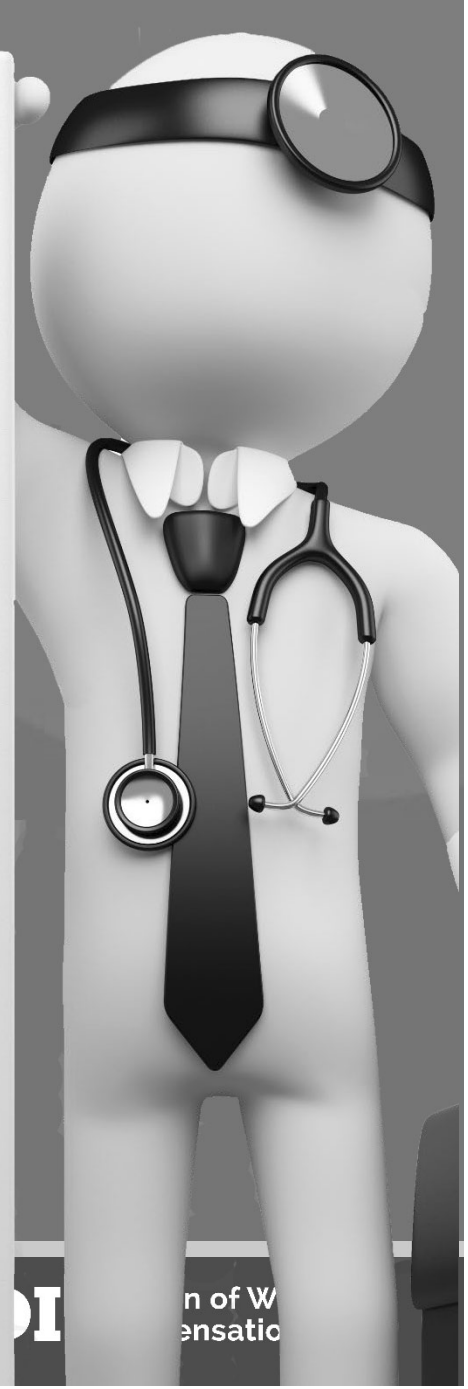
	Class 1: 0%, no impairment of the whole person	Class 2: 10-25%, mild impairment of the whole person	Class 3: 26-50%, moderate impairment of the whole person	Class 4: 51-100%, severe impairment of the whole person
FVC FEV_1 FEV_1/FVC (%) D_{CO}	FVC ≥ 80% of predicted; *and* FEV_1 ≥ 80% of predicted; *and* FEV_1/FVC ≥ 70%; *and* D_{CO} ≥ 70% of predicted.	FVC between 60% and 79% of predicted; *or* FEV_1 between 60% and 79% of predicted; *or* D_{CO} between 60% and 69% of predicted.	FVC between 51% and 59% of predicted; *or* FEV_1 between 41% and 59% of predicted; *or* D_{CO} between 41% and 59% of predicted.	FVC ≤ 50% of predicted; *or* FEV_1 ≤ 40% of predicted; *or* D_{CO} ≤ 40% of predicted.
	or	**or**	**or**	**or**
$\dot{V}O_2$ Max	> 25 mL/(kg • min); *or* > 7.1 METS	Between 20 and 25 mL/(kg • min); *or* 5.7-7.1 METS	Between 15 and 20 mL/(kg • min); *or* 4.3-5.7 METS	< 15 mL/(kg • min); *or* < 1.05 L/min; *or* < 4.3 METS

*FVC = forced vital capacity, FEV_1 = forced expiratory volume in the first second, D_{CO} = diffusing capacity of carbon monoxide. The D_{CO} is primarily of value for persons with restrictive lung disease. In classes 2 and 3, if the FVC, FEV_1 and FEV_1/FVC ratio are normal and the D_{CO} is between 41% and 79%, then an exercise test is required.

$\dot{V}O_2$ Max, or measured exercise capacity, is useful in assessing whether a person's complaint of dyspnea (see Table 1) is a result of respiratory or other conditions. A person's cardiac and conditioning status must be considered in performing the test and in interpreting the results.

Case 6 – Multiple Respiratory

FEV1 80TH %
= Class 1
FVC 75TH %
= Less Impaired End Class 2
FEV1 / FVC 76th %
= Less Impaired End Class 2
DCO 61st %
= More Impaired End Class 2
RATE the DCO >>>
More Impaired End of
10 - 25 % WP



Case 6 - Multiple

Impairment rating – Peripheral Nerves

- The claimant had a sensorimotor polyneuropathy, similar to Guillain-Barre Syndrome (GBS), that fortunately mostly resolved over time
- No evidence of CIDP
- Any residual clinical findings were vague and non-specific and not clinically limiting ***
- No residual functional impairment

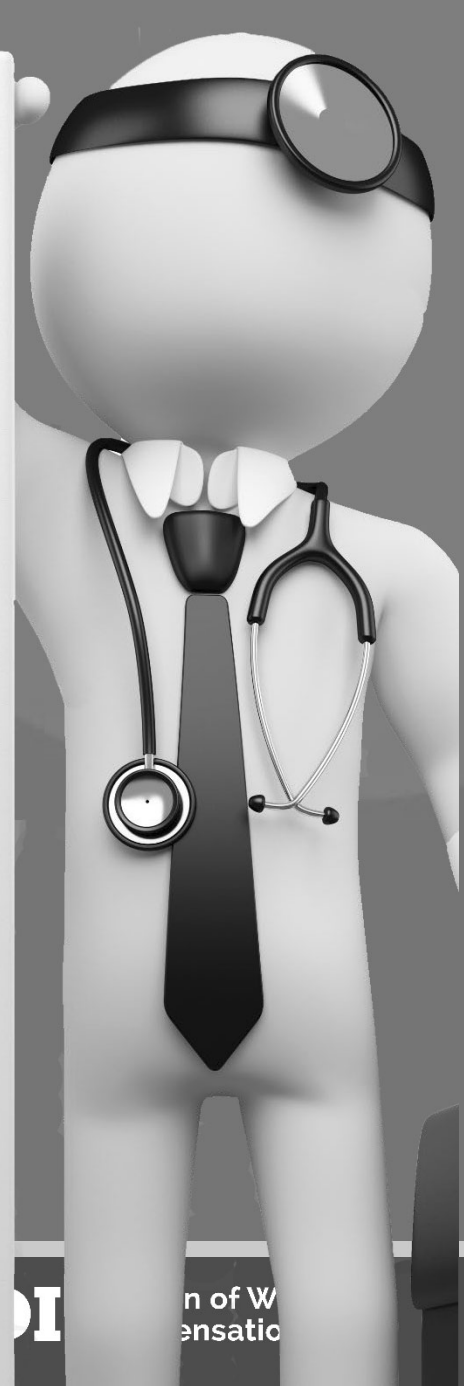
- ***Case 6 – Multiple SUMMARY***

- **Peripheral Nerve = 0 % WP**
- **Cranial Nerves**

  other than VIII. = 13 to 21% WP
- **Hearing loss / ENT = 4 % WP**
- **Respiratory = 10 - 25 % WP**

RANGE = 27 – 50 %

EXPLAIN and DEFEND your answer.



Case 6 - Multiple

Impairment Rating:

- Anything Else?

Case 6 - Multiple

Impairment Rating for "Long COVID"

- In those with actual Covid infections of a significant degree, there is a documented inflammatory / autoimmune mechanism of injury to the blood vessels of different tissues that can affect many different organ systems.
- **Consider the AMA Guide position to post-acute sequelae of SARS-CoV-2 infection (PASC) aka “Long Covid”.**

Case 6 - Multiple

Impairment Rating for "Long COVID"

- **The AMA Guides Newsletter cautioned "*Symptoms may include difficulty thinking or concentrating, fatigue, depression, anxiety, and other complaints".***
- ***"The results of studies are clouded by self-reports, lack of objective cognitive data, misattribution, and ill-defined psychological issues".***

Case 6 - Multiple

Impairment Rating for "Long COVID"

- The AMA Guides newsletter authors clarified *"While we do not dismiss the presence of long COVID or chronic COVID-19 symptoms lasting beyond a typically expected viral respiratory-transmitted syndrome, neither do we uncritically accept such a syndrome in all those who were diagnosed as having COVID-19, especially in those whose initial presentation was asymptomatic or mild".*

Case 6 - Multiple

Impairment Rating for "Long COVID"

- The AMA experts cautioned, ***"Evaluators must be astute and perform unbiased, thorough assessments and focus on objective findings while carefully assessing the potential for confounding or alternate conditions".***

Questions about Case 6?

NON-MUSCULOSKELETAL

It is important in many of the AMA Guides 4th chapters that you rely on OBJECTIVE evidence.

Many body systems or conditions such as TBI, mental and behavioral and Covid related especially are highly based on subjective symptoms.

DO your best to provide a forensic analysis of the condition claimed, using appropriate testing as necessary.

FINAL Questions?

References related to TBI

Menon DK, Schwab K, Wright DW, Maas AI; ***Demographics and Clinical Assessment Working Group of the International and Interagency Initiative toward Common Data Elements for Research on Traumatic Brain Injury and Psychological Health****. Position statement: definition of traumatic brain injury. Arch Phys Med Rehabil.* ***2010 Nov;91(11):1637-40.***

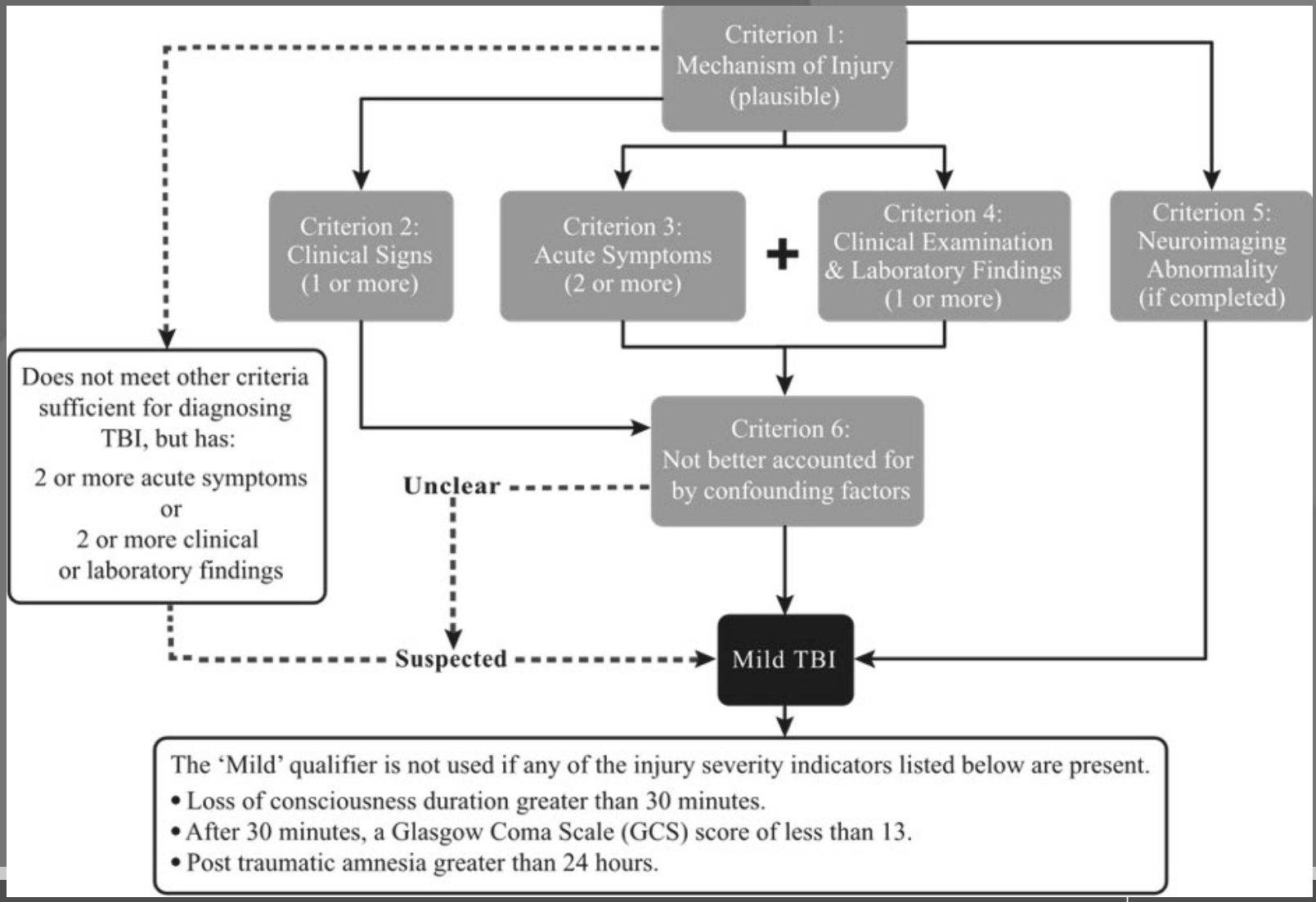
Reference related to MILD TBI

Silverberg ND, Iverson GL. ACRM Brain Injury Special Interest Group Mild TBI Task Force members: Zafonte R, Zasler ND, Zemek R, et al. **The American Congress of Rehabilitation Medicine Diagnostic Criteria for Mild Traumatic Brain Injury.** *Archives of Physical Medicine and Rehabilitation.* Volume 104 Issue 8 Pages 1343-1355 (August 2023) DOI: 10.1016/j.apmr.2023.03.036

THE FOLLOWING SLIDES ARE FROM THIS NEW REFERENCE

Traumatic Brain Injury

The American Congress of Rehabilitation Medicine Diagnostic Criteria for Mild Traumatic Brain Injury. 2023



Traumatic Brain Injury

- **2023: Mild traumatic brain injury (TBI) is diagnosed when, (Criterion 1) there is a biomechanically plausible mechanism of injury AND the criteria (i-iii) listed below are met:**

- **(Criterion 2) One or more clinical signs attributable to brain injury.**
- **(Criterion 3) At least 2 acute symptoms AND (Criterion 4) At least one clinical or laboratory finding attributable to brain injury.**
- **(Criterion 5) Neuroimaging evidence of TBI...**

Traumatic Brain Injury

2023: Neuroimaging Qualifier:

- If neuroimaging is abnormal (Criterion 5), the qualifier mild TBI *'with neuroimaging evidence of structural intracranial injury'* may be used.
- When neuroimaging is completed and found to be normal, the qualifier mild TBI '*without neuroimaging evidence of structural intracranial injury'* may be used.

CONCUSSION: The diagnostic label "concussion" may be used *interchangeably* with "mild TBI" when neuroimaging is normal or not clinically indicated.

Traumatic Brain Injury

Criterion 2: Clinical Signs (Initial)

The injury event causes an acute physiological disruption of brain function, as manifested by one or more of the clinical signs listed below.

i. Loss of consciousness immediately following injury
ii. Alteration of mental status immediately following the injury (or upon regaining consciousness),
iii. Complete or partial amnesia for events immediately following the injury (or after regaining consciousness).
iv. Other acute neurologic sign(s)

Traumatic Brain Injury

Criterion 3: Acute Symptoms

The physiological disruption of brain function is manifested by 2 or more new or worsened symptoms from the list below.

i. **Acute subjective alteration in mental status**: feeling confused, feeling disoriented, and/or feeling dazed.

ii. **Physical symptoms:** headache, nausea, dizziness, balance problems, vision problems, sensitivity to light, and/or sensitivity to noise.

iii. **Cognitive symptoms:** feeling slowed down, "mental fog," difficulty concentrating, and/or memory problems.

Traumatic Brain Injury

Criterion 3: Acute Symptoms

iv. Emotional symptoms: uncharacteristic emotional lability and/or irritability.

- The symptoms may be from one or more categories *(but experiencing 2 symptoms within a single category is sufficient).*
- Other symptoms may be present, but they should not be counted toward Criterion 3.
- **The onset of acute subjective alteration in mental status occurs immediately following the impact or after regaining consciousness.**

Traumatic Brain Injury

Criterion 3: Acute Symptoms

The onset of <u>other</u> symptoms (physical, cognitive, and emotional) may be delayed by a few hours, but they nearly always appear less than 72 hours from injury.

Notes: Criterion 3 can be met by (1) review of acute care documentation of the injured person's acute symptoms, (2) interviewing the injured person about the first few days following injury; (3) having the injured person complete a self-report rating scale documenting symptoms during the first few days following injury; or

Traumatic Brain Injury

Criterion 4: Clinical Exam and Laboratory Findings

The assessment findings listed below can also provide supportive evidence of brain injury.

- Cognitive impairment on acute clinical examination.
- Balance impairment on acute clinical examination.
- Oculomotor impairment or symptom provocation in response to vestibular-oculomotor challenge on acute clinical examination.
- Elevated blood biomarker(s) indicative of intracranial injury *(These would not be available in the typical WC mild TBI claim.)*

Traumatic Brain Injury

MILD Qualifier:

- **The 'mild' qualifier is NOT used if ANY of the injury severity indicators listed below are present.**
- **Instead, traumatic brain injury (TBI) is diagnosed (without the 'mild' qualifier).**
  i. Loss of consciousness duration greater than 30 minutes.
  ii. After 30 minutes, a Glasgow Coma Scale (GCS) of less than 13.
  iii. Post-traumatic amnesia greater than 24 hours.
- ***This is very similar to the Table on Slide 34***

Traumatic Brain Injury

Criterion 5: Neuroimaging

Trauma-related intracranial abnormalities on computed tomography or structural magnetic resonance imaging.

Notes:

- **Neuroimaging is not necessary to diagnose mild TBI.** [Especially if other criteria are met.]
- Imaging's primary clinical role is to rule out head and brain injuries that might require neurosurgical or other medical intervention in an acute care setting.

Traumatic Brain Injury

Criterion 6: Not better accounted for by confounding factors

Confounding factors, including pre-existing and co-occurring health conditions, have been considered and determined to not fully account for the clinical signs, acute symptoms, and clinical examination and laboratory findings that are necessary for the diagnosis.

Traumatic Brain Injury

- **PLEASE LOOK FOR THE UPCOMING ALL ENCOMPASING PDF on TBI for MORE EBM!**

Additional References related to COVID-19

- *Finsterer J, Scorza FA, Scorza CA, Fiorini AC.* ***Peripheral neuropathy in COVID-19 is due to immune-mechanisms, pre-existing risk factors, anti-viral drugs, or bedding in the Intensive Care Unit****. Arq Neuropsiquiatr. 2021 Oct;79(10):924-928. doi: 10.1590/0004-282X-ANP-2021-0030. PMID: 34287509.*

Additional References related to COVID-19

- Finsterer: Systematic review of articles from PubMed and Google Scholar was conducted.
- Altogether 36 articles regarding SARS-CoV-2 associated neuropathy of cranial nerves describing 56 patients were retrieved. Out of these 56 patients, cranial nerves were compromised **without** the involvement of peripheral nerves in 32 of the patients, while Guillain-Barre syndrome (GBS) with cranial nerve involvement was described in 24 patients. A single cranial nerve was involved either unilaterally or bilaterally in 36 patients, while in 19 patients multiple cranial nerves were involved. Bilateral involvement was more prevalent in the GBS group (n=11) as compared to the cohort with isolated cranial nerve involvement (n=5).

Additional References related to COVID-19

- *Maury A, Lyoubi A, Peiffer-Smadja N, de Broucker T, Meppiel E.* ***Neurological manifestations associated with SARS-CoV-2 and other coronaviruses: A narrative review for clinicians****. Rev Neurol (Paris). 2021 Jan-Feb;177(1-2):51-64. doi: 10.1016/j.neurol.2020.10.001. Epub 2020 Dec 16. PMID: 33446327; PMCID: PMC7832485.*

CASE 6 - Multiple

IR – COVID - Cranial & Peripheral Nerves

- *Kakumoto T, Kobayashi S, Yuuki H, Kainaga M, Shirota Y, Hamada M, Hashimoto Maeda M, Kubota A, Kawai M, Saito M, Ishiura H, Toda T.* ***Cranial Nerve Involvement and Dysautonomia in Post-COVID-19 Guillain-Barré Syndrome****. Intern Med. 2021 Nov 1;60(21):3477-3480. doi: 10.2169/internalmedicine.7355-21. Epub 2021 Aug 24. PMID: 34433712;*

- *Costello F, Dalakas MC.* ***Cranial Neuropathies and Covid-19 Neotropism and Autoimmunity.*** *Neurology Aug 2020, 95 (5) 195-196; DOI: 10.1212/WNL .0000000000009921*

CASE 6 - Multiple

Additional References related to COVID-19

THIS IS THE MOST DEFINTIVE POSITION STATEMENT RELATED TO LONG-COVID

AMA GUIDES NEWSLETTER
May of 2022. Long COVID-19 Neurological and Psychological Claims: Assessment Guidelines)

NON-MSK PEARLS by CHAPTER

Nervous System – Chapter 4 Impairment Categories

BE AWARE OF ALL THE SECTIONS AND TABLES

- 4.1 Central Nervous System
  - Cerebrum or Forebrain (p. 140) *
- 4.2 Brain Stem (p. 145) *
- 4.3 Spinal Cord (p. 147)
- 4.4 Muscular and Peripheral Nervous System (p. 149)
- 4.5 Pain (p. 152)
- ** These were discussed in the prior case*

4.3 The Spinal Cord

- 4.3a Station and Gait
- 4.3b Use of Upper Extremities
- 4.3c Respiration
- 4.3d Urinary Bladder Dysfunction
- 4.3e Anorectal Dysfunction
- 4.3f Sexual Function

Unlike the brain, may COMBINE ALL the multiple impairments that are applicable

4.4e Nerves of the Head and Neck, Trunk and Inguinal Region

- **The text on page 152 or Tables 23 and 24 list the maximum values for these nerves.**
- Maximum sensory and motor value for a thoracic nerve is 2% WP.
- Evaluate sensory and motor function, using severity ranges from Tables 20 and 21, p. 151.
- Multiply the MAX value by the sensory and motor (if applicable) grades chosen.
- Combine the final sensory and final motor.

NON-MSK PEARLS
CHAPTER 6 - Cardiovascular:

- Please read chapter for important points.
- Not common in work setting.
- Work related heart attacks. Unusual physical exertion related to employment.
- Potential to have a cardiovascular complication related to severe Covid infection.

NON-MSK PEARLS
CHAPTER 7 - Hematopoietic:

- Please review chapter for important points
- Work related due to:
  - ❖ Needle sticks: HCV, HIV.
  - ❖ Drug Reactions: Stevens-Johnson syndrome, kidney failure
  - ❖ Work related exposures (First Responders) resulting in Non-Hodgkin's lymphoma;

NON-MSK PEARLS
CHAPTER 8 - Visual System:

Visual Fields, Visual Acuity and diplopia are covered well in the current lecture.

- Know how to use Table 2
- Not all Ophthalmological reports are going to use the same format as Table 3, such as
  - 20/20 for Snellen DISTANCE and
  - 14/14 for Snellen NEAR
- May report as American point type, Jaegger, Metric etc. - know how to convert

NON-MSK PEARLS
CHAPTER 8 - Visual System:

- **Ocular / Adnexa:** An additional 5 – 10 % is COMBINED with the affected eye at the level of the Visual System, before combining Best Eye with Worst Eye.

  Media opacities ,Cornel or lens opacities

  Epiphoria - overflow of tears on the face

  Metamorphopsia – distortion of vision *

  Photophobia – Light sensitivity *

*** Subjective, so assign IR carefully.**

NON-MSK PEARLS
CHAPTER 10 – Digestive System:

- 10.2 Esophagus
- 10.3 Stomach and Duodenum (Table 2)
- 10.4 Small Intestine
- 10.5 Colon, Rectum, and Anus (Table 3 and Table 4)
- 10.6 Enterocutaneous Fistulas (Table 5)
- 10.7 Liver and Biliary Tract (Table 6)
- 10.8 Pancreas
- 10.9 Hernias of the Abdominal Wall (Table 9)

NON-MSK PEARLS
CHAPTER 10 – Digestive System:

TABLE 2 – Upper Digestive Tract

- 10.2 Esophagus
- 10.3 Stomach and Duodenum
- 10.4 Small Intestine
- Examples:
  - Medication related duodenal ulcers,
  - Trauma related injuries to the diaphragm resulting in a paraesophageal hernia
  - Other visceral injury to E, S, D, SI

NON-MSK PEARLS
CHAPTER 10 – Digestive System:

10.5 Colon, Rectum, and Anus

- (Table 3 - Colon, Rectum and Table 4 - Anus)
- Examples:
- Colon, rectal cancer presumption in First Responder
- Visceral injury due to trauma.

10.6 Don't Forget Table 5! Surgically created STOMAS

- Esophagostomy, Gastrostomy *, Jejunostomy, Ileostomy, Colostomy # (*Seen with SCI, # with colorectal trauma)

NON-MSK PEARLS
CHAPTER 10 – Digestive System:

10.7 Liver and Biliary Tract (Table 6)

- Examples:
  - Hepatitis B or C,
  - Visceral Trauma

10.8 Pancreas

- Examples:
  - Visceral Trauma
  - Medication induced pancreatitis (more common in those on multiple medications - such as HIV+ and cancer
  - Pancreatitis can COMBINE when applicable with pancreatitis induced DM >>> Endocrine Chapter

NON-MSK PEARLS
CHAPTER 11 – Urinary and Reproductive System:

- **11.1 Upper Urinary Tract (Table 1)**
- 11.2 Urinary Diversion (Table 2)
- 11.3 Bladder
- 10.4 Urethra
- 10.5 Male Reproductive
- 10.6 Female Reproductive

NON-MSK PEARLS
CHAPTER 11 – Urinary and Reproductive System

- **11.1 Upper Urinary Tract (Table 1)**
  - One kidney = 10 % WP >>> COMBINED with the function of the remaining kidney assessed by Table 1
  - Also rate any complication of decreased kidney function (osteoporosis, Cushingoid from steroids)
  - Examples:
    - Not as common now, but SCI can be associated with kidney impairments. COMBINE with Section 4.3
    - Kidney injury due to medications or rhabdomyolysis due to burn injury. COMBINE with any other relevant section
    - Renal cell carcinoma in First Responder

NON-MSK PEARLS
CHAPTER 11 – Urinary and Reproductive System:

Injuries to 11.2 to 10.6 may all be seen with polytrauma, likely associated with pelvic fractures or other abdominal trauma.

- 11.2 Urinary Diversion (Table 2)
- 11.3 Bladder
- 10.4 Urethra
- 10.5 Male Reproductive
  - Prostate, testicular cancer presumption in First Responder
    - ❖ Percentages increased by 50 % in men < 40 years of age
    - ❖ Percentages decreased by 50 % in men > 65 years of age
- 10.6 Female Reproductive

NON-MSK PEARLS
CHAPTER 12 - Endocrine System:

- 12.1 Pituitary – Hypothalamus
  - Some Moderate / Severe TBI (that disrupt pituitary / hypothalamus axis)
- 12.2 Thyroid
- 12.3 Parathyroid (Table 2)
  - First responder Adrenal
- 12.4 Adrenal Cortex (Table 3)
  - Chronic steroid use to treat a work related condition

NON-MSK PEARLS
CHAPTER 12 - Endocrine System:

- 12.5 Adrenal Medulla
- 12.6 Pancreas
- 12.7 Gonads
  - Testicular Cancer Presumption in Frist Responders
- 12.8 Mammary Glands
- 12.9 Metabolic Bone Disease
  - Osteoporosis secondary to chronic steroid use to treat a work related condition

Don’t forget!

- Please submit your evaluation for the Non-MSK MMI/IR presentation and the Overall Course evaluation.
- https://www.tdi.texas.gov/wc/dd/training.html
- Please submit your attestation form for the pre-recorded presentations.
- https://forms.office.com/g/FWFsTxiwtY

Thank you