DESIGNATED DOCTOR 101 WORKSHOP

TDI Division of Workers' Compensation

Disclaimer

The material presented in this workshop is made available by the Texas Department of Insurance - Division of Workers' Compensation (TDI-DWC) for educational purposes only. The material is not intended to represent the only method or procedure appropriate for the medical situations discussed. Rather, it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations.

AGENDA - Morning

- Designated Doctor Role and Responsibilities
- Maximum Medical Improvement Concepts (MMI)
- Impairment Rating Concepts (IR)
- Spine IR
- Upper Extremity IR
- Lower Extremity IR
- Extent of Injury (EOI)
- Return to Work (RTW)

AGENDA - Afternoon

Steps for Success When Examining the Injured Employee

- Understand different strategies for explaining the purpose of the exam to the injured employee (IE); strategies to help obtain a complete medical history and maximal effort from the IE.

Lecture / Discussion on Forensic Evaluation

- Discuss the concept of the FORENSIC evaluation.
- Consider the concept of clinical correlation of physical exam findings with symptoms, medical history, clinical studies (i.e., diagnostic imaging / EDX).

Practical / Hands on Break-out Sessions

OBJECTIVES

Designated Doctor Role and Responsibilities

- Understand the requirements for designated doctors regarding examinations, medical decision making (including the use of TDI-DWC adopted guides), referrals and testing, reporting, and administrative issues.
- Understand how to review what information is important from DWC Form-032 - Request for Designated Doctor Examination.
- Understand the importance of a thorough review and documentation of the medical records in preparation for the exam and generation of a legally sufficient report.
- The concept of and use of the combined values chart in the AMA *Guides*.

Maximum Medical Improvement (MMI)
&
Impairment Rating (IR)

MMI

- Understand how to determine whether an injured employee has reached MMI, including use of ODG, TDI-DWC's adopted treatment guidelines.
- Demonstrate the different scenarios (using graphic representation)

IR

- Review the processes for determining IR considering the Texas statute, TDI-DWC rules and the *AMA Guides to Evaluation of Permanent Impairment*, 4th Edition.

Musculoskeletal IR

Upper Extremity IR

- Review UE Guides Section 3.1 and DD 101 “pearls”.
- Understand how to assign IR for the upper extremity, including the use of Figure 1.

Lower Extremity IR

- Review LE Guides Section 3.2 and DD 101 “pearls”.
- Understand the 13 methods for determining lower extremity IR, and which of the 13 methods can be combined.

Spine IR

- Review Spine Guides Section 3.3 and DD 101 “pearls”.
- Understand the structural inclusions and differentiators in applying the DRE (Diagnosis Related Estimates) model.

EXTENT OF INJURY

Understand the legal concept of EOI and how to address it based on the information listed on the DWC Form 032.

RETURN TO WORK

Understand how to address RTW as requested on the DWC Form 023, including use of the MDGuidelines, TDI-DWC's adopted guides for disability.

Designated Doctor Role

Designated Doctor Role

- Objective, neutral medical expert appointed by DWC to answer specific questions about the medical condition of the injured employee
- Requires special training and testing
- DD exam may be requested by the insurance carrier, the injured employee, the Injured employee's representative, or DWC
- May not initiate or provide treatment

Designated Doctor's Role

Texas Labor Code (TLC) §408.0041 states the specific issues to be addressed by designated doctors as questions concerning:

- Attainment of Maximum Medical Improvement (MMI)
- Impairment caused by the compensable injury (IR)
- The extent of the employee's compensable Injury (EOI)
- Whether disability is a direct result of the compensable injury
- Ability to return to work (RTW)
- Issues similar to those described above

WHAT IS THE STARTING POINT FOR THE DD EXAM?

DWC-32 INFORMS YOU AS TO:

- Dispute you are being asked to resolve
- Other specific information related to that area of dispute.
  - Statutory date (IR)
  - Additional Claimed injuries (EOI)
  - Date period in question (RTW)

DWC Form-032

REQUEST For DESIGNATED DOCTOR EXAMINATION

DWC032

TDI Division of Workers' Compensation

PO Box 12050 | Austin, TX 78711 | 800-252-7031 | tdi.texas.gov/wc

Complete, if known:
DWC claim #
Insurance carrier claim #

Request for designated doctor examination

Este formulario está disponible en español en el sitio web de la División en
www.tdi.texas.gov/forms/dwc/dwc045brcs.pdf
Para obtener asistencia en español, llame a la División al 800-252-7031.

Part 1. Injured employee information

1. Employee's name (first, middle, last)	**2. Social Security number**
3. Employee's address (street or PO box, city, state, ZIP code)	**4. Employee's county**
5. Employee's primary phone number	**6. Employee's alternate phone number**
7. Employee's date of birth (mm/dd/yyyy)	**8. Date of injury** (mm/dd/yyyy)
9. Representative's name (first, middle, last)	**10. Representative's phone number**
11. Representative's email address	**12. Representative's fax number**
13. Employer's name	**14. Employer's phone number**
15. Employer's address (street or PO box, city, state, ZIP code)	

Part 2. Insurance carrier information

16. Insurance carrier's name	
17. Insurance carrier's address (street or PO box, city, state, ZIP code)	
18. Adjuster's name (first, middle, last)	**19. Adjuster's email**
20. Adjuster's phone number	**21. Adjuster's fax number**
22. Does the claim have medical benefits provided through a certified workers' compensation health care network? ☐ Yes ☐ No If yes, provide the name of the network.	
23. Does the claim have medical benefits provided through a political subdivision according to Labor Code Section 504.053(b)(2), directly contracting with health care providers or contracting through a health benefits pool? ☐ Yes ☐ No If yes, provide the name of the health care plan.	

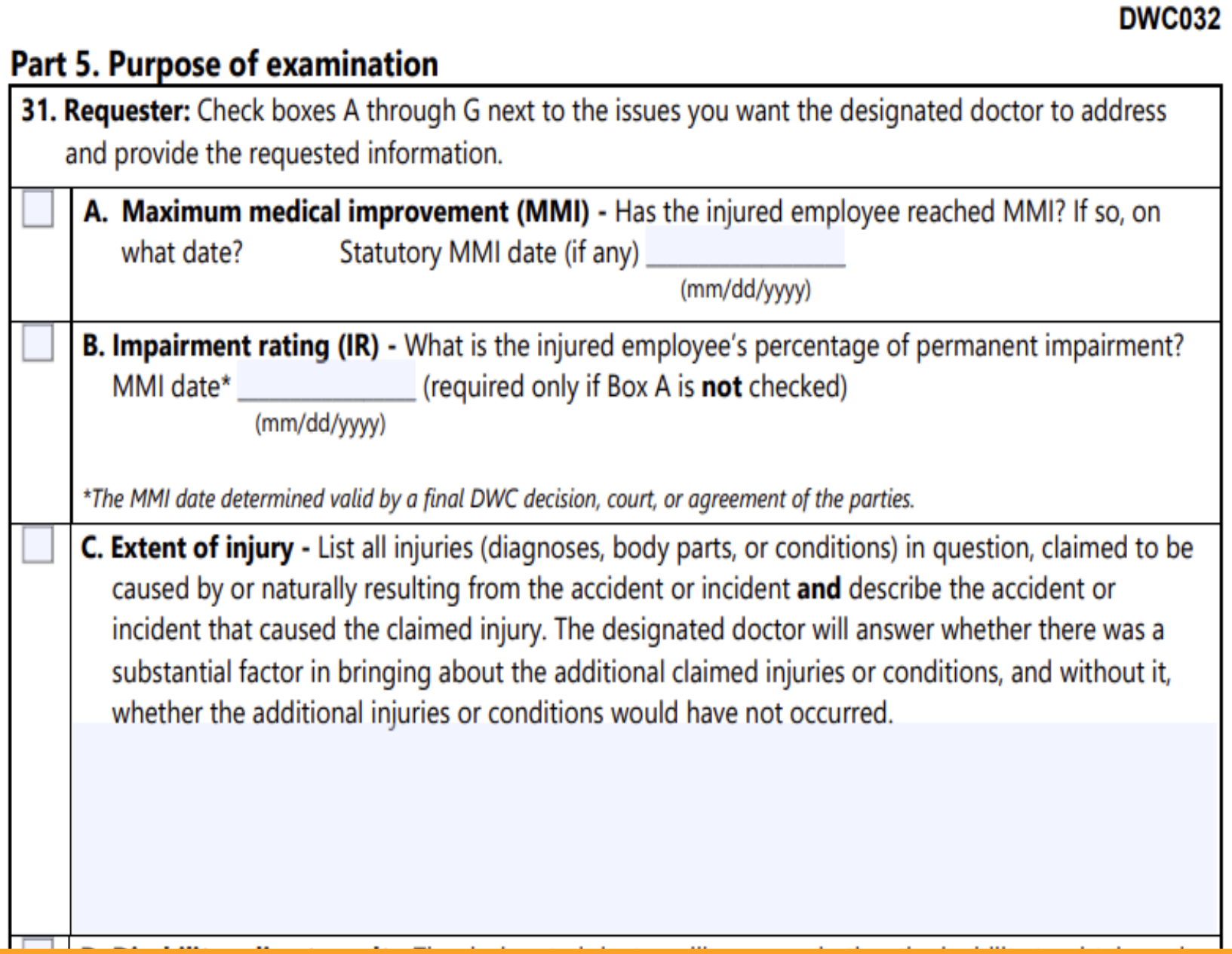
Designated Doctor's Role

DWC 32

What is your exam assignment?

Most common questions asked are

- MMI,
- IR, and
- EOI…



DWC032

Part 5. Purpose of examination

31. Requester: Check boxes A through G next to the issues you want the designated doctor to address and provide the requested information.

☐ **A. Maximum medical improvement (MMI) -** Has the injured employee reached MMI? If so, on what date? Statutory MMI date (if any) _____ (mm/dd/yyyy)

☐ **B. Impairment rating (IR) -** What is the injured employee's percentage of permanent impairment? MMI date* _____ (mm/dd/yyyy) (required only if Box A is **not** checked)

**The MMI date determined valid by a final DWC decision, court, or agreement of the parties.*

☐ **C. Extent of injury -** List all injuries (diagnoses, body parts, or conditions) in question, claimed to be caused by or naturally resulting from the accident or incident **and** describe the accident or incident that caused the claimed injury. The designated doctor will answer whether there was a substantial factor in bringing about the additional claimed injuries or conditions, and without it, whether the additional injuries or conditions would have not occurred.

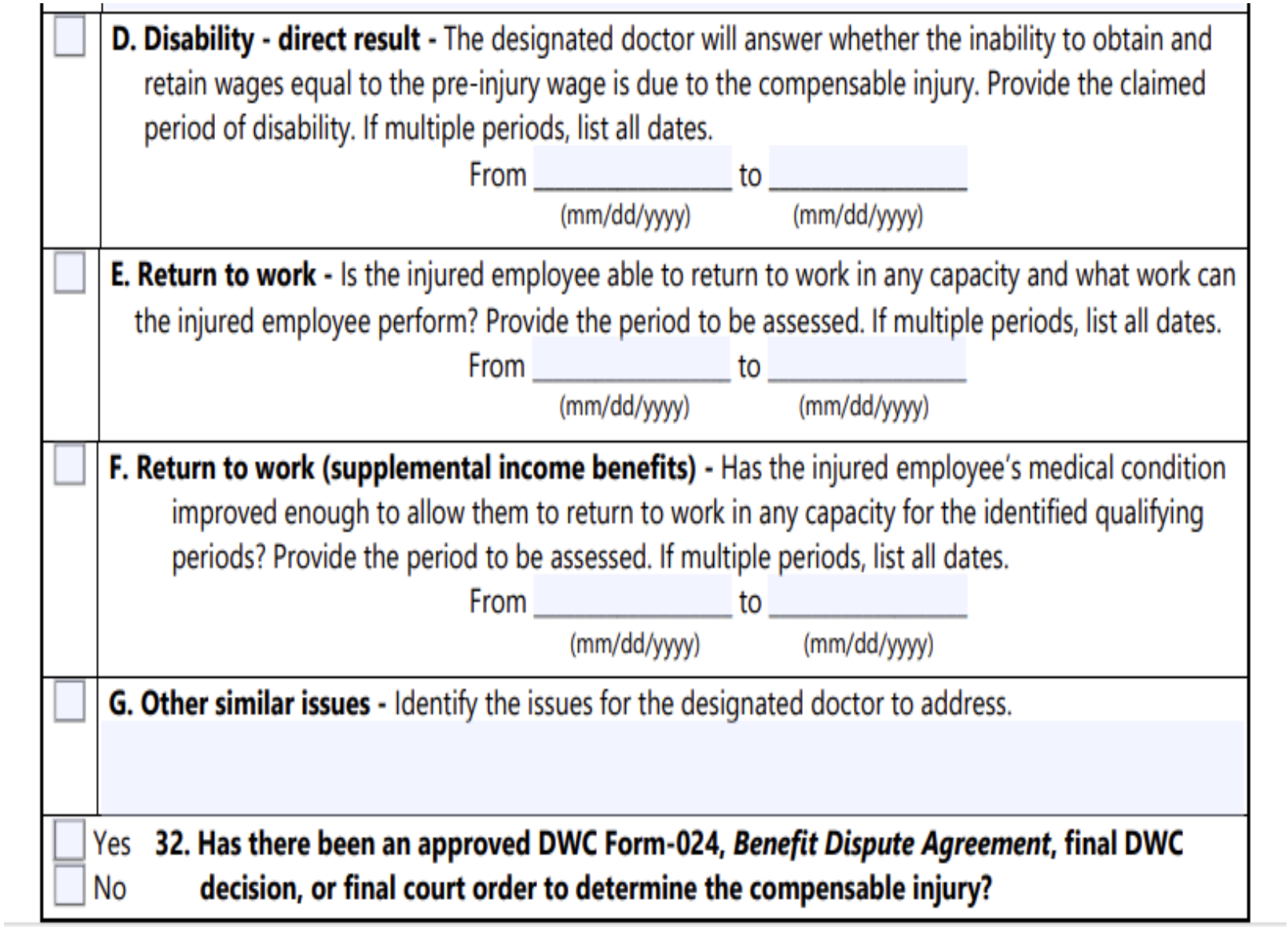
Designated Doctor's Role

DWC 32

What is your exam assignment?

Other questions are

- Disability – direct result,
- Return to Work and RTW SIBS, and
- Other Similar Issues.



☐ **D. Disability - direct result -** The designated doctor will answer whether the inability to obtain and retain wages equal to the pre-injury wage is due to the compensable injury. Provide the claimed period of disability. If multiple periods, list all dates.

From _____ to _____
(mm/dd/yyyy) (mm/dd/yyyy)

☐ **E. Return to work -** Is the injured employee able to return to work in any capacity and what work can the injured employee perform? Provide the period to be assessed. If multiple periods, list all dates.

From _____ to _____
(mm/dd/yyyy) (mm/dd/yyyy)

☐ **F. Return to work (supplemental income benefits) -** Has the injured employee's medical condition improved enough to allow them to return to work in any capacity for the identified qualifying periods? Provide the period to be assessed. If multiple periods, list all dates.

From _____ to _____
(mm/dd/yyyy) (mm/dd/yyyy)

☐ **G. Other similar issues -** Identify the issues for the designated doctor to address.

☐ Yes ☐ No **32. Has there been an approved DWC Form-024, *Benefit Dispute Agreement*, final DWC decision, or final court order to determine the compensable injury?**

Designated Doctor's Role

TO ANSWER MANY OF THE QUESTIONS...

THE DESIGNATED DOCTOR MUST

DEFINE THE COMPENSABLE INJURY

Designated Doctor's Role

As the DD, you are tasked by rule with **defining the compensable injury**. You will need to do this to be able to answer the questions you are asked to address.

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 record and the certifying examination.

The only exception is when the compensable injury has already been legally determined (by formal agreement of the parties, or by the Judge during the dispute resolution process)

Designated Doctor's Role

- A Presiding Officer’s Directive (POD) is sometimes used to assign an exam when the compensable injury has been legally determined.
  - In that case, the POD will provide that information
  - You will learn more about PODs in the DD Certification Course

  If you were assigned an exam via a DWC 32, you must determine the compensable injury per Rule 130.1(c)(3). [More on this later.]

Designated Doctor's Role

Body areas and diagnoses to be examined.

The **Qualification Table** for DDs can be found on the DD Program website at: **https://www.tdi.texas.gov/wc/dd/index.html**, in the Training Section, Supplemental information packet.

Part 4. Designated doctor selection information

30. Check all body areas and diagnoses that apply.	Examples (not a full list)
☐ **Spine and musculoskeletal structures of torso** **See below for spinal cord injuries, hernia*	cervical, thoracic or lumbar regions; herniated disc; rib cage, chest wall, abdominal wall, sprains, or strains
☐ **Upper extremities** **See below for a fracture with vascular injury or a rib fracture.*	shoulder, forearm, arm, elbow, wrist, hand, finger regions, rotator cuff tear, sprains, or strains
☐ **Lower extremities (excluding feet)** **See below for a fracture with vascular injury or a pelvis fracture.*	buttock, thigh, leg, knee regions, anterior cruciate ligament (ACL) tear, meniscus tear, sprains, or strains
☐ **Feet**	toes, heel
☐ **Teeth and jaw**	temporomandibular joint (TMJ)
☐ **Eyes**	eyelid, foreign body, corneal abrasion
☐ **Other body areas or systems**	ear, nose, and throat; head and face; skin; cuts to skin involving underlying structures; non-musculoskeletal structures of the torso; hernia; respiratory; endocrine; hematopoietic; urologic
☐ **Traumatic brain injury**	concussion, post-concussion syndrome
☐ **Spinal cord injury**	spinal fracture with documented neurological injury deficit, more than one spinal fracture, cauda equina syndrome
☐ **Severe burns (including chemical burns)**	2nd, 3rd, or 4th degree; deep partial or full thickness burns
☐ **Joint dislocation, fractures with vascular injury, pelvis fractures, or multiple rib fractures**	not applicable
☐ **Infectious diseases (complicated)**	infection requiring hospitalization or prolonged intravenous antibiotics, including blood borne pathogens
☐ **Complex regional pain syndrome**	not applicable
☐ **Chemical exposure**	not applicable
☐ **Heart or cardiovascular condition**	not applicable
☐ **Mental and behavioral disorders**	post-traumatic stress disorder (PTSD)

Designated Doctor's Responsibilities

- **Highly regulated.**
- **Timeliness:**
  - ✓Appointment offers,
  - ✓Conducting the exam,
  - ✓Filing of reports,
  - ✓Referrals (when needed),
  - ✓Letters of clarification, etc.
- **Please refer to the PRE-RECORDED administrative lecture, "DWC Overview" for further details.**
  - **This is mandatory for completion of the Certification Course**

Designated Doctor's Responsibilities

- **The DD MUST:**
  - **Sufficiently explain** how the DD determined the answer to each question in dispute within a reasonable degree of medical probability;
  - **Demonstrate, as appropriate, application or consideration of the:**
    - ✓ American Medical Association Guides to the Evaluation of Permanent Impairment,
    - ✓ Division-adopted treatment guidelines (Official Disability Guidelines)
    - ✓ Division-adopted return-to-work guidelines (MDGuidelines), and
    - ✓ Other evidence-based medicine, if available

Importance of the Designated Doctor's Opinion

- The report of the designated doctor is given presumptive weight in dispute resolution unless the preponderance of the evidence is to the contrary

- The DD's opinion has significant impact on DWC dispute resolution

- Insurance carrier shall be required to pay income and medical benefits based on the designated doctor 's opinion during a pending dispute

28 TAC 127.10(h)

Any Questions on Designated Doctor's Roles & Responsibilities?

MAXIMUM MEDICAL IMPROVEMENT (MMI)

Question for designated doctor:

Has MMI been reached? **If so, on what date?**

MAXIMUM MEDICAL IMPROVEMENT (MMI)

CLINICAL MMI

- The earliest date after which, based on reasonable medical probability, further material recovery from or lasting improvement to an injury can no longer reasonably be anticipated.
- **Clinical MMI** may not be later than the **statutory MMI** date

STATUTORY MMI

- The expiration of 104 weeks from the date on which income benefits began to accrue
- The date determined if the Commissioner orders an extension of statutory MMI for approved spinal surgery

MAXIMUM MEDICAL IMPROVEMENT (MMI)

- Based on the records reviewed and the exam findings, you will have defined the COMPENSABLE INJURY for certification of MMI and IR and explain this in your report.
- Do NOT rely on the following for your determination of the compensable injury:
  - ICD-10 codes or other diagnoses used by the treating doctor
  - A PLN-11 submitted by the carrier
  - A Carrier or other attorney analysis

MAXIMUM MEDICAL IMPROVEMENT (MMI)

How do you determine the COMPENSABLE INJURY ?

- Perform a thorough review of the records with attention to the:
  - Mechanism of injury proximate to the DOI
  - Subjective complaints and objective findings proximate to the DOI
  - Are there any imaging or other diagnostic studies that demonstrate acute / subacute findings?
- Perform your Certifying Exam (more on this in the afternoon)
- Consider what the evidence based medicine for injuries similar to this would inform you as to determining the compensable injury

MAXIMUM MEDICAL IMPROVEMENT (MMI)

- Consider the *Official Disability Guidelines* (ODG), including Appendix D, to determine if, based on reasonable medical probability, additional treatment for the **compensable injury** can be anticipated to result in further material recovery or lasting improvement
- If not at MMI, why not?
  - What is needed to reach MMI as per the ODG and / or other evidence based medicine?

Refer to the Pre-recorded MMI presentation to learn how to apply the defined compensable injury to the ODG and demonstrate exceptions with APPENDIX D

MAXIMUM MEDICAL IMPROVEMENT (MMI)

ADDITIONAL TESTING

- The DD ***must*** perform additional testing and make necessary referrals (when not qualified) ***when necessary*** to resolve issue in question
- Testing and referrals by DD not subject to preauthorization or denial retrospectively based on medical necessity, extent or compensability

  28 TAC §127.10(c)

MAXIMUM MEDICAL IMPROVEMENT (MMI)

ADDITIONAL TESTING

If additional testing or referrals are necessary, include in your report:

- **WHY** the referral was necessary to resolve the issue in question
- **WHAT** were the results – don't just attach a copy of the report. Indicate what you felt to be relevant,
- HOW did the results affect your medical decision process

MAXIMUM MEDICAL IMPROVEMENT (MMI) ADDITIONAL TESTING

DO NOT order additional testing IF:
You do not have a presumptive diagnosis you are looking for;
Testing is too delayed from the DOI to provide meaningful information;
Testing is being done only because your scheduling company tells you to do it.

"First we're going to run some tests to help pay off the machine."

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MAXIMUM MEDICAL IMPROVEMENT (MMI)

- Once you have all data necessary - Answer the question from the DWC Form-032

Has MMI been reached; if so, on what date?

- If at MMI, **WHY** is the IE at MMI?
- If at MMI, **WHAT** is the date and **WHY** that date?
- Provide a "Yes" or "no" and a sufficient explanation **why or why not**
- A conclusion without explanation is not legally sufficient!

MAXIMUM MEDICAL IMPROVEMENT (MMI)

We will briefly present 4 different patterns of MMI

- This is detailed at length in the Pre-Recorded MMI lecture.
- *The MMI lecture is one of 4 that are mandatory as part of the Certification process to be a Designated Doctor*

MAXIMUM MEDICAL IMPROVEMENT (MMI)

The FIRST Scenario is NOT AT MMI

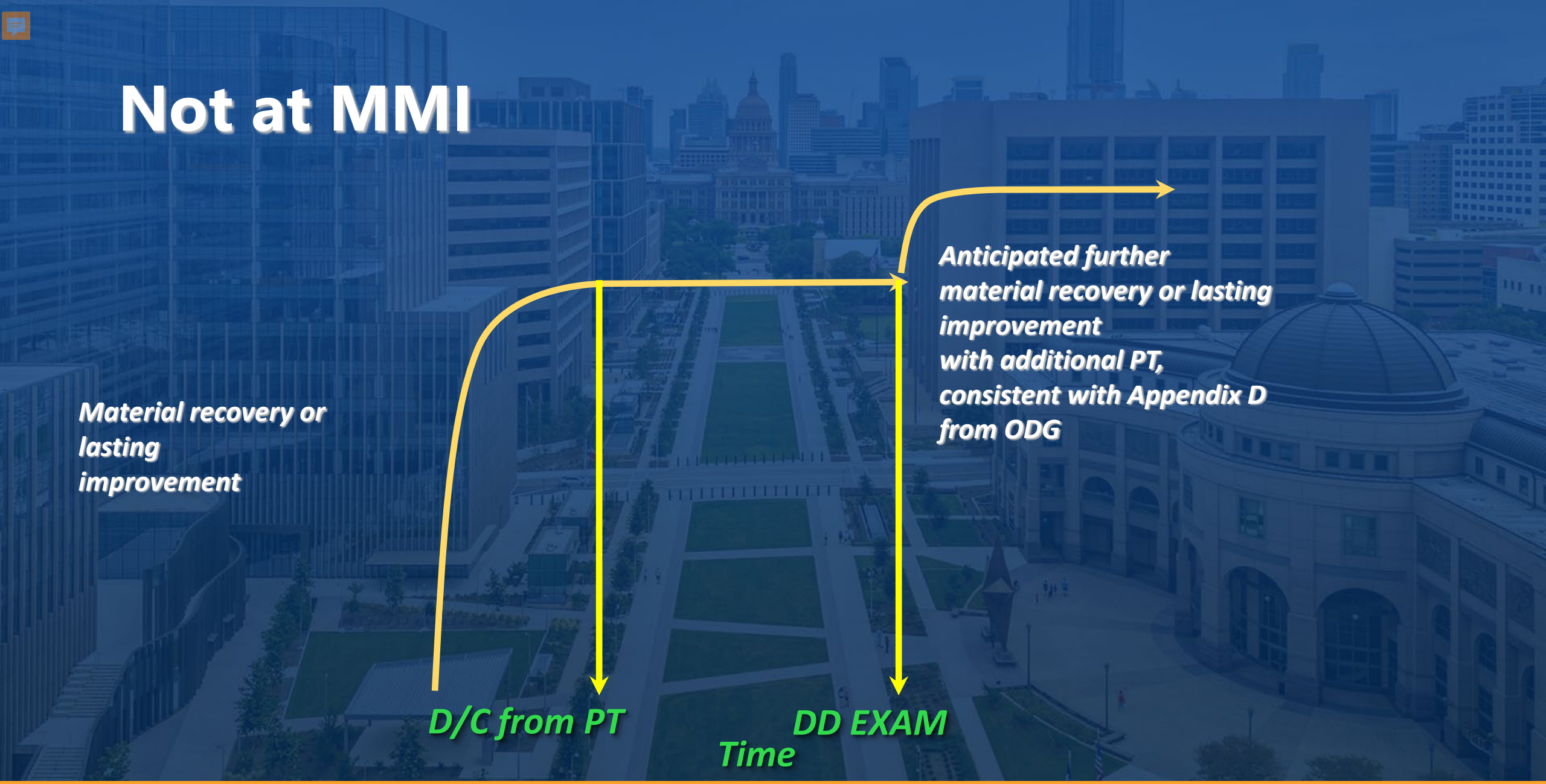
This is when "further material recovery or improvement" is still anticipated.

- The graph on the following slide illustrates that there was a “relative” plateau of the injured employee’s condition, but based on case specific details, further recovery or improvement still anticipated.

  ✓This situation may be when treatment was denied based on the Carrier's impression of the Compensable Injury. Once YOU define the Compensable injury, there is clearly additional ODG treatment that would be anticipated to result in further material recovery.

  ✓In other situations, there may have been slow progress, but based on other claim related information, those factors would give reasonable medical probability that with additional formal treatment, there would be further material recovery. [Appendix D]

Not at MMI


Material recovery or lasting improvement
Anticipated further material recovery or lasting improvement with additional PT, consistent with Appendix D from ODG
D/C from PT
DD EXAM
Time

MAXIMUM MEDICAL IMPROVEMENT (MMI)

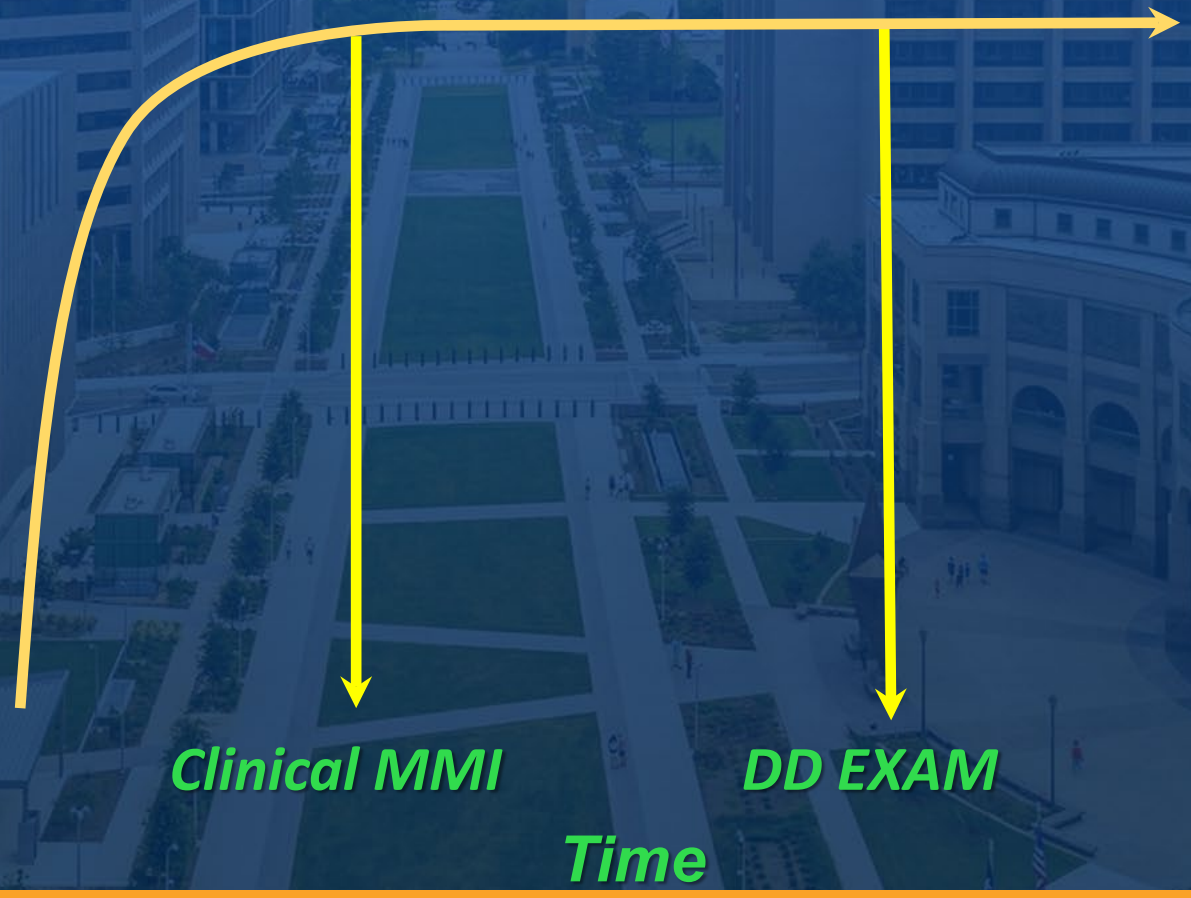
The 2nd Scenario is MMI BEFORE the date of the DD exam

The graph on the following slide illustrates that the injured employee reaching MMI prior to the designated doctor exam because there was no change in the condition and there was no anticipation that there would be further material recovery.
Their condition had:

- completely resolved
- resolved as fully as the defined compensable injury was likely to

- IF there was no intervening change in condition or a reasonable expectation of improvement from your determined date of MMI to your designated doctor exam, allows you to use physical exam findings from your designated doctor exam for determining impairment as of the MMI date you determined.

MMI Before the DD Exam



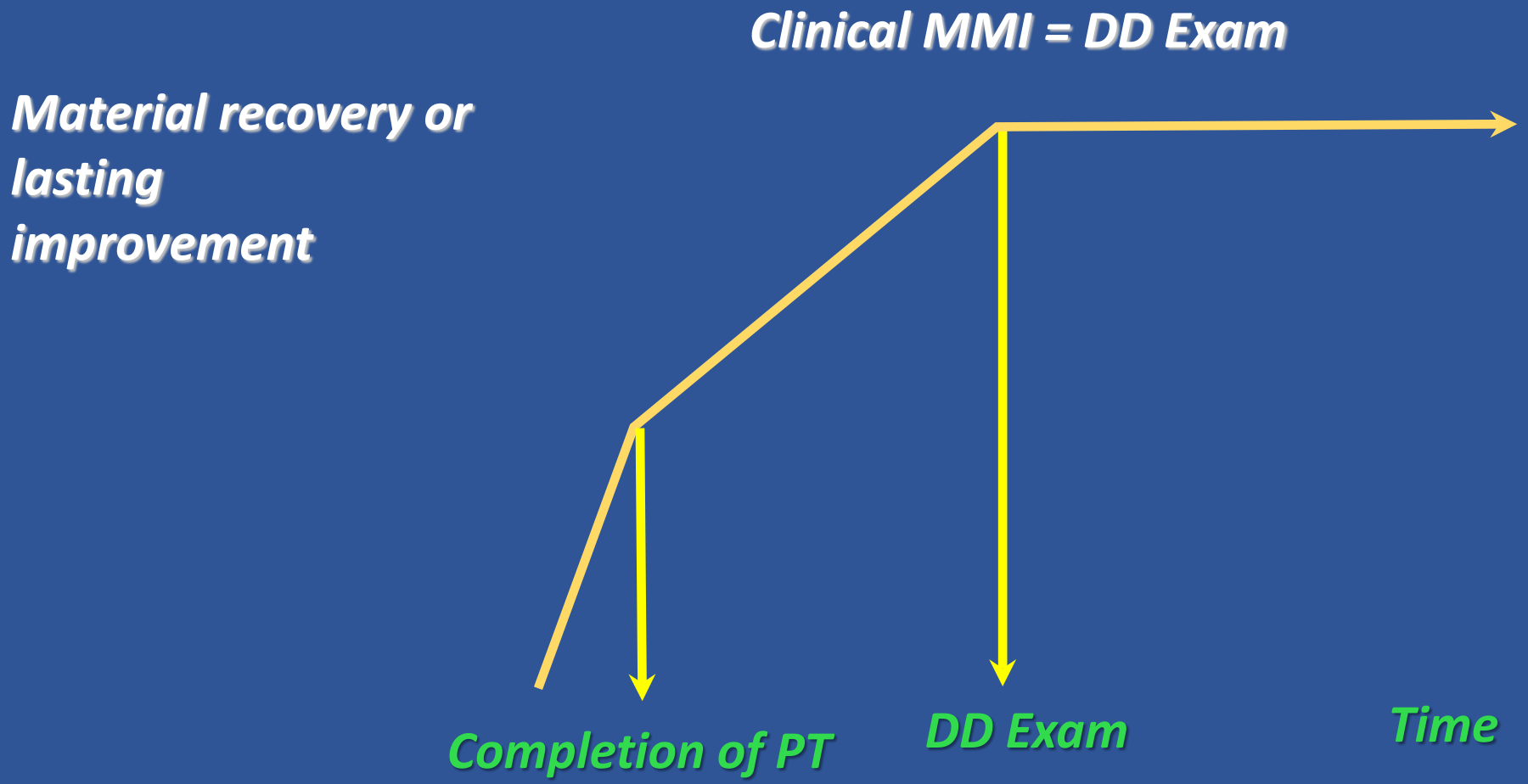
MAXIMUM MEDICAL IMPROVEMENT (MMI)

The 3rd Scenario is MMI ON the date of the DD exam

This graph on the following slide represents when the earliest date there was no probability of further material recovery was the date of the DD exam.

- There will be occasions were even after completion of formal treatment, such as PT, continuation of a home exercise program, and gradual return to their usual activities of daily living or job duties, the injured employee could be reasonably anticipated to have further material recovery or lasting improvement .
- This might be a situation where your designated doctor exam demonstrated that indeed, improvement did occur.
- This might also be a situation where recovery after a nerve injury takes time, without formal treatment.
- If there were no other data points that gave enough objective, functional information to conclude that MMI was at an earlier date, the date of the DD exam may be chosen, and your exam findings are used.

MMI on Date of DD Exam



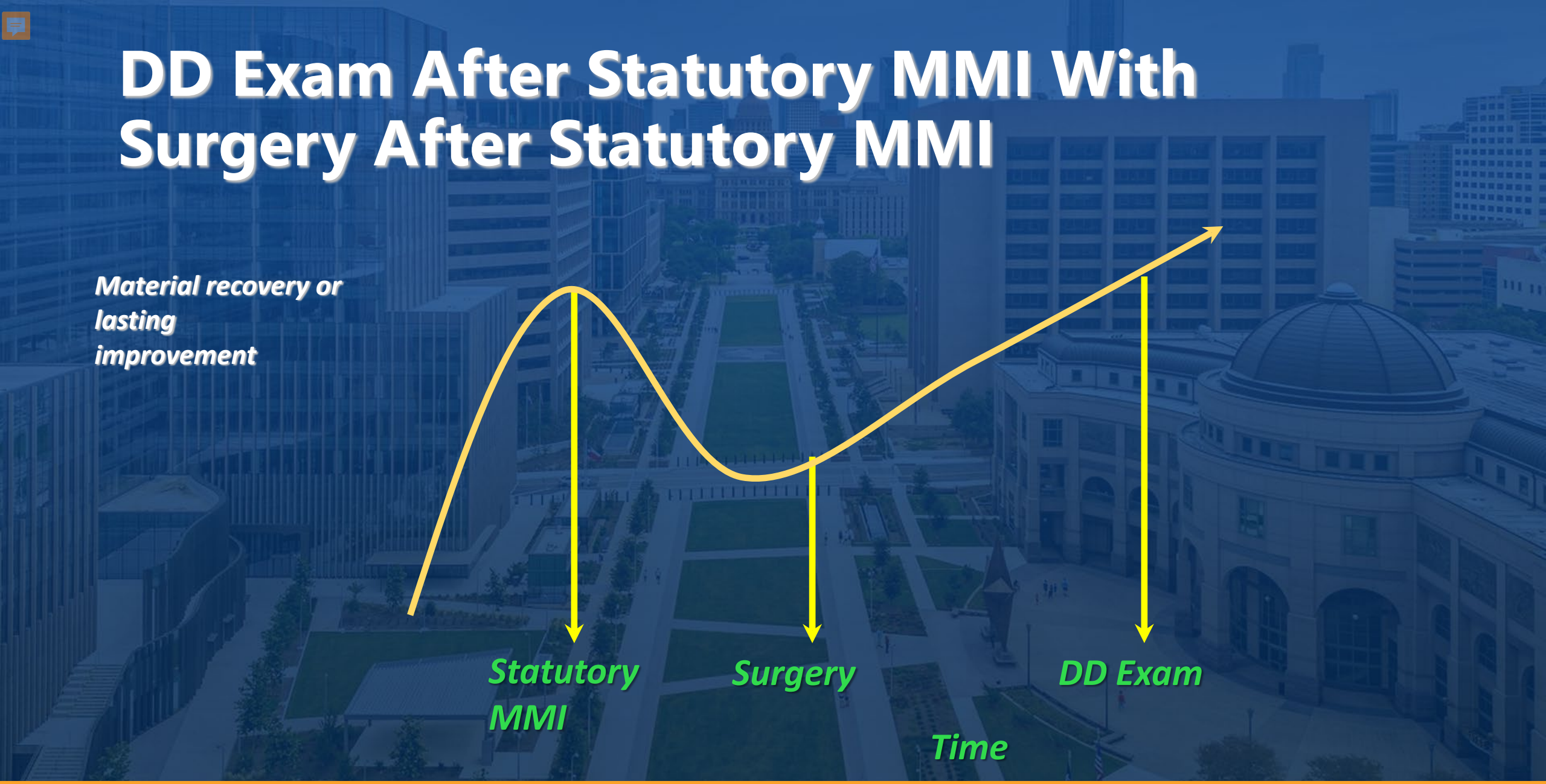
MAXIMUM MEDICAL IMPROVEMENT (MMI)

The 4th Scenario is MMI on the Statutory date of MMI

This is a graphic representation where there was still ODG treatment that was reasonable to result in further material recovery that took place AFTER STAT MMI.

- In this case, there was surgery AFTER Stat and the DD evaluated the claimant AFTER that surgery.
- Their condition was altered by the surgery (or other Post-Stat treatment), so the DD exam findings AFTER that treatment may not be used.
- Only their condition at or about statutory MMI may be considered and preferably prior to statutory MMI.

DD Exam After Statutory MMI With Surgery After Statutory MMI



Any Questions on Maximum Medical Improvement Concepts?

IMPAIRMENT RATING (IR)

Question for Designated Doctor

On the certified MMI date, what is the impairment rating?

Question for Designated Doctor:

**On the certified MMI date,
what is the impairment rating?**

- Perform a thorough, relevant physical examination of all compensable body areas/systems
- Correlate with the findings in the prior medical records
- Make referrals, if necessary, to answer question
- Use 4th Edition of AMA *Guides* to rate

SHOW YOUR WORK!

IMPAIRMENT RATING

- 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 record and the certifying examination [Rule 130.1]
- Assign one whole body impairment rating for the current compensable injury
  - Use the rating criteria contained in the appropriate edition of the AMA *Guides to the Evaluation of Permanent Impairment*

IMPAIRMENT RATING

Complete and sign the DWC-69

- **Show your work! S**o that "*… any knowledgeable person can compare the clinical findings with the guides criteria and determine whether or not the impairment estimates reflect those criteria.*"
  AMA *Guides,* page 8

- Document the findings and explain the impairment rating in your narrative report, plus
  - Relevant worksheets
  - Testing reports *

*Do NOT attach test results **without** explanation

Overview of the AMA *Guides*

- AMA *Guides*, 4th edition published June 1993
- Effective in the Texas workers' compensation system October 15, 2001

- 15 Chapters
- Chapters 1 and 2 Impairment Evaluation; Records & Reports
- BE FAMILIAR with advice regarding VALIDITY and COREALATION *

Overview of the AMA *Guides*

- Chapter 3 – The Musculoskeletal System (Hand and Upper Extremity, Lower Extremity, Spine)
- Approximately 90% of designated doctor examinations involve these 3 body areas

DESIGNATED DOCTOR IMPAIRMENT CONCEPTS

WHAT IS IMPAIRMENT?

As per page 1, Chapter 1 of the AMA Guides, 4th Edition

- An impairment is a deviation from normal in a body part or organ system and its functioning.
- Mirrors the WHO definition of "*any loss or abnormality of psychological, physiological, or anatomical structure or function.*"

DESIGNATED DOCTOR IMPAIRMENT CONCEPTS

WHAT IS NORMAL?

As per page 2 of the AMA Guides, 4th Edition

"Normal is not an absolute"

"An interpretation of normal that is too strict can result in an overestimation or underestimation of impairment.

- Certain values may be normal for a given person based on age, gender and other factors, and the contralateral extremity.

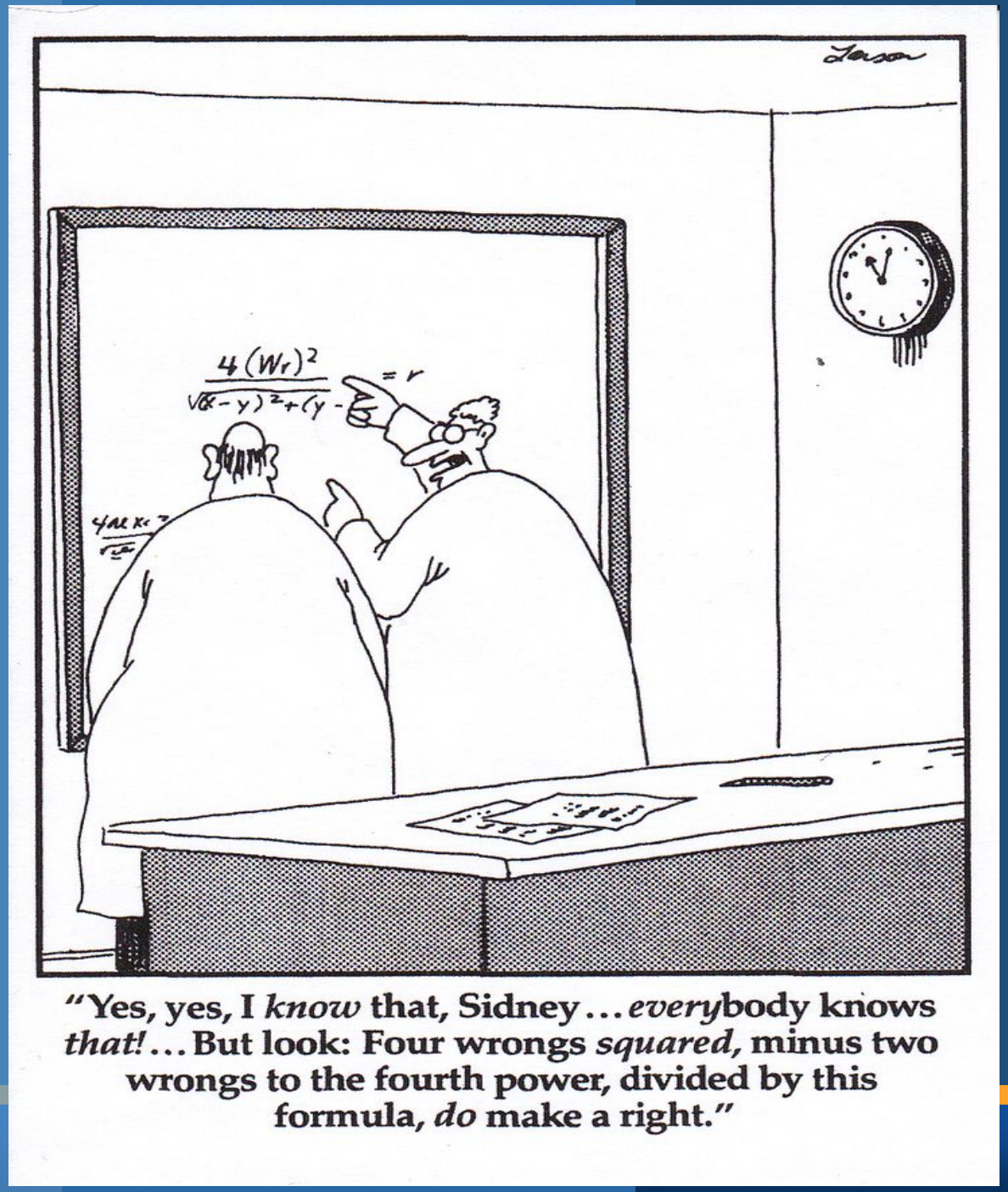
Measurements

CONSISTENCY OF MEASURMENTS
(all measurements, not just ROM)

- Between examiners (Chapter 2, pages 7, 8, and 9)
- By the same examiner generally within +/- 10%, (Chapter 2, page 9)
- With the evidence in the medical records

MEASUREMENTS

- ***"must be plausible and relate to the impairment being evaluated,"*** (Chapter 2, page 8).
- DO THE MEASUREMENTS MAKE SENSE?



"Yes, yes, I *know* that, Sidney . . . *everybody* knows *that!* . . . But look: Four wrongs *squared*, minus two wrongs to the fourth power, divided by this formula, *do* make a right."

MEASUREMENTS
[Chapter 2, page 8]

- "If in spite of an observation or test result the medical evidence appears not to be of sufficient weight to verify that an impairment of a certain magnitude exists, the physician should modify the impairment estimate accordingly...?

MEASUREMENTS

- Active, not passive ROM, should be rated.
- HOWEVER, the guides indicate that comparing active with passive may provide useful information
- (Chapter 3 - Page 14.)

- Rounding and interpolating are permitted **unless the book gives other directions.**
- DO NOT round WP impairment rating in DWC system
- (Not as instructed in the AMA *Guides* on page 9 in Chapter 2)

CONCEPT OF COMBINED VALUES

Use of the

COMBINED VALUES chart.

[Pages 322 - 324]

Using the Combined Values Chart

Combined Values Chart

	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	50
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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																				
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	44	45																		
27	28	28	29	30	31	31	32	33	34	34	35	36	36	37	38	39	39	40	41	42	42	43	44	45	45	46	47																	
28	29	29	30	31	32	32	33	34	34	35	36	37	37	38	39	40	40	41	42	42	43	44	45	45	46	47	47	48																
29	30	30	31	32	33	33	34	35	35	36	37	38	38	39	40	40	41	42	42	43	44	45	45	46	47	47	48	49	50															
30	31	31	32	33	34	34	35	36	36	37	38	38	39	40	41	41	42	43	43	44	45	45	46	47	48	48	49	50	50	51														
31	32	32	33	34	34	35	36	37	37	38	39	39	40	41	41	42	43	43	44	45	45	46	47	48	48	49	50	50	51	52	52													
32	33	33	34	35	35	36	37	37	38	39	39	40	41	42	42	43	44	44	45	46	46	47	48	48	49	50	50	51	52	52	53	54												
33	34	34	35	36	36	37	38	38	39	40	40	41	42	42	43	44	44	45	46	46	47	48	48	49	50	50	51	52	52	53	54	54	55											
34	35	35	36	37	37	38	39	39	40	41	41	42	43	43	44	45	45	46	47	47	48	49	49	50	51	51	52	53	54	54	55	56	56											
35	36	36	37	38	38	39	40	40	41	42	42	43	43	44	45	45	46	47	47	48	49	49	50	51	51	52	53	53	54	55	55	56	56	57	58									
36	37	37	38	39	39	40	40	41	42	42	43	44	44	45	46	46	47	48	48	49	49	50	51	51	52	53	53	54	55	55	56	56	57	58	58	59								
37	38	38	39	40	40	41	41	42	43	43	44	45	45	46	46	47	48	48	49	50	50	51	51	52	53	53	54	55	55	56	57	57	58	58	59	60	60							
38	39	39	40	40	41	42	42	43	44	44	45	45	46	47	47	48	49	49	50	50	51	52	52	53	54	54	55	55	56	57	57	58	58	59	60	60	61	62						
39	40	40	41	41	42	43	43	44	44	45	46	46	47	48	48	49	49	50	51	51	52	52	53	54	54	55	55	56	57	57	58	59	59	60	60	61	62	62	63					
40	41	41	42	42	43	44	44	45	45	46	47	47	48	48	49	50	50	51	51	52	53	53	54	54	55	56	56	57	57	58	59	59	60	60	61	62	62	63	63	64				
41	42	42	43	43	44	45	45	46	46	47	47	48	49	49	50	50	51	52	52	53	53	54	55	55	56	56	57	58	58	59	59	60	61	62	62	63	63	64	65	65				
42	43	43	44	44	45	45	46	47	47	48	48	49	50	50	51	51	52	52	53	54	54	55	55	56	57	57	58	58	59	60	60	61	61	62	62	63	63	64	65	65	66	66		
43	44	44	45	45	46	46	47	48	48	49	49	50	50	51	52	52	53	53	54	54	55	56	56	57	57	58	58	59	60	60	61	61	62	62	63	64	64	65	65	66	66	67	68	
44	45	45	46	46	47	47	48	48	49	50	50	51	51	52	52	53	54	54	55	55	56	56	57	57	58	59	59	60	60	61	61	62	62	63	64	64	65	65	66	66	67	68	68	69
45	46	46	47	47	48	48	49	49	50	51	51	52	52	53	53	54	54	55	55	56	57	57	58	58	59	59	60	60	61	62	62	63	63	64	64	65	65	66	66	67	68	68	69	69
46	47	47	48	48	49	49	50	50	51	51	52	52	53	54	54	55	55	56	56	57	57	58	58	59	60	60	61	61	62	62	63	63	64	64	65	65	66	67	67	68	68	69	69	70
47	48	48	49	49	50	50	51	51	52	52	53	53	54	54	55	55	56	57	57	58	58	59	59	60	60	61	61	62	62	63	63	64	64	65	66	66	67	67	68	68	69	69	70	70
48	49	49	50	50	51	51	52	52	53	53	54	54	55	55	56	56	57	57	58	58	59	59	60	60	61	62	62	63	63	64	64	65	65	66	66	67	67	68	68	69	69	70	70	71
49	50	50	51	51	52	52	53	53	54	54	55	55	56	56	57	57	58	58	59	59	60	60	61	61	62	62	63	63	64	64	65	65	66	66	67	67	68	68	69	69	70	70	71	71
50	51	51	52	52	53	53	54	54	55	55	56	56	57	57	58	58	59	59	60	60	61	61	62	62	63	63	64	64	65	65	66	66	67	67	68	68	69	69	70	70	71	71	72	72

The values are derived from the formula A+B (1–A)=*combined* value of A and B, where A and B are the decimal equivalents of the impairment ratings. In the chart all values are expressed as percents. To *combine* any two impairment values, locate the larger of the values on the side of the chart and read along that row until you come to the column indicated by the smaller value at the bottom of the chart. At the intersection of the row and the column is the combined value.

For example, to combine 35% and 20% read down the side of the chart until you come to the larger value, 35%. Then read across the 35% row until you come to the column indicated by 20% at the bottom of the chart. At the intersection of the row and column is the number 48. Therefore, 35% *combined* with 20% is 48%. Due to the construction of this chart, the larger impairment value must be identified at the side of the chart.

If three or more impairment values are to be combined, select any two and find their combined value as above. Then use that value and the third value to locate the combined value of all. This process can be repeated indefinitely, the final value in each instance being the combination of all the previous values. In each step of this process the larger impairment value must be identified at the side of the chart.

Note: If impairments from two or more organ systems are to be *combined* to express a whole-person impairment, each must first be expressed as a whole-person impairment percent.

Combined Values

Each organ system/body area should be expressed as a whole person impairment, then

- Whole person impairments should be **combined** using the Combined Values Chart (pp. 322 – 324)
- "Combining" assures that the impairment can't exceed 100% It reduces the remaining portion of the whole person that is available for the second impairment (or 3rd, 4th, etc)

Combining 3 or More Impairment Values

- “If three or more impairment values are to be combined, select any two and find their combined value as above. Then use that value and the third value to locate the combined value of all. This process can be repeated indefinitely, the final value in each instance being the combination of all the previous values. In each step of this process, the larger impairment value must be identified at the **side** of the chart.” (page 322)

- **Best practice - combine the largest % with the second largest %, then combine with third largest %, etc.**

Combined Values

UPPER EXTREMITY

- Whole person maximum value of one arm is 60% WP
- Example: 60% WP IR leaves 40% of the remaining WP
  - 60% WP (of the remaining 40% WP) = 84% WP
  - Maximum IR for both upper extremities combined is 84%

Combined Values

LOWER EXTREMITY

- Whole person value of one leg is 40% WP
- Example: 40% WP IR leaves 60% of the remaining WP
  - 40% WP (of the remaining 60% WP) = 64% WP
  - Maximum value for both lower extremities combined is 64%

Combined Values

SPINE

- Example: 15% WP of the thoracolumbar spine [Thoracic] leaves 85% WP, c/w 10% WP of the lumbosacral spine [Lumbar] (of the remaining 85% WP) = 24% WP

DESIGNATED DOCTOR CONCEPTS - IMPAIRMENT

GENERAL COMMENTS

- Other important pages in the AMA Guides instruct you as to how to approach a specific claim.
- Please review
  - Section 2.2 on page 8 and 9
  - Section 2.9 on page 9 and page 14

When there is conflict between...

The Division of Workers' Compensation (DWC) Statutes/Rules/Appeals Panel Decisions (APDs)

and, the AMA *Guides*

Be aware of when DWC **Statutes/Rules/APDs take precedence**

Any Questions on basic Impairment Rating Concepts?

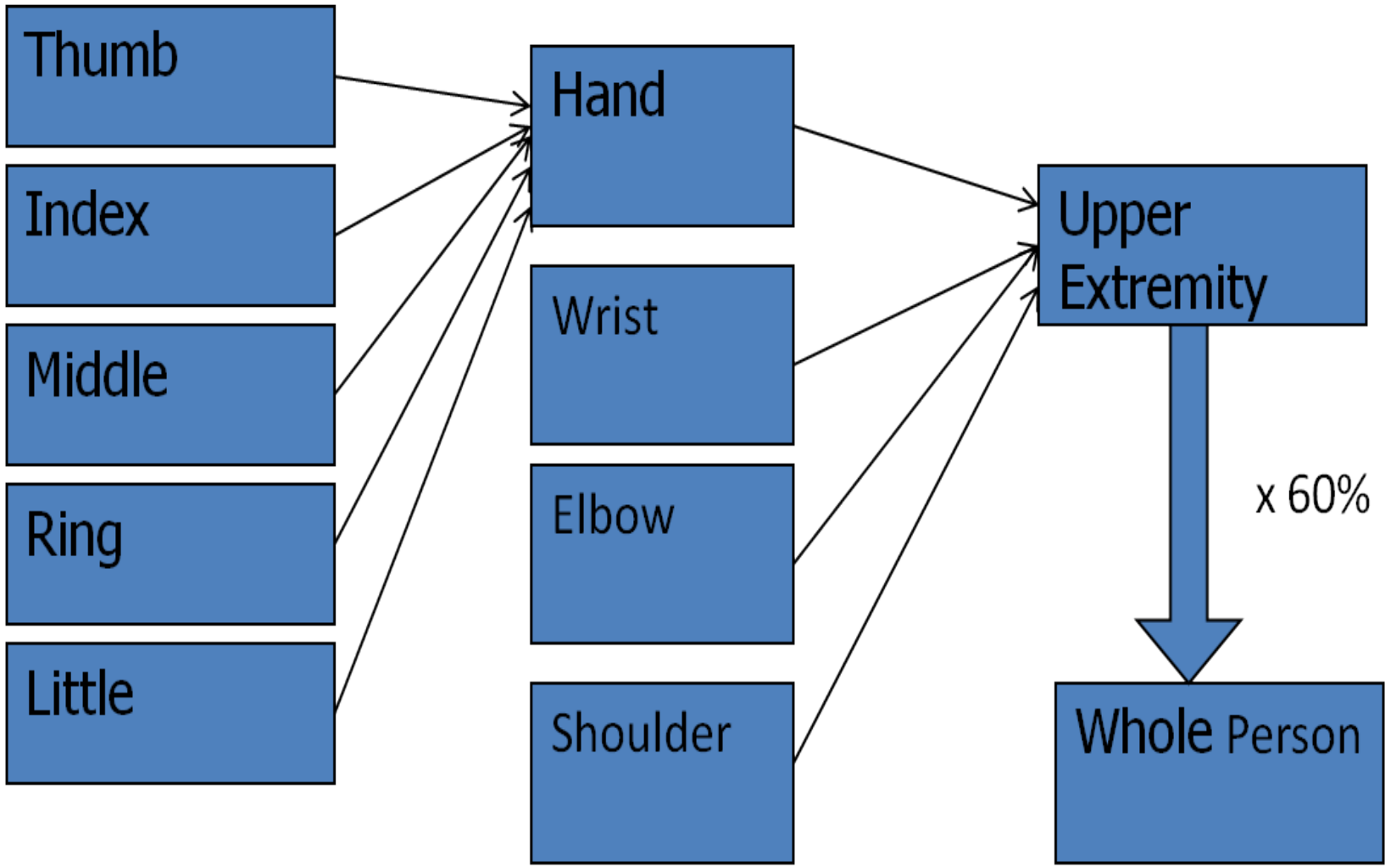
UPPER EXTREMITY IMPAIRMENT

Musculoskeletal IR

Upper Extremity IR

- Review UE Guides Section 3.1 and DD 101 “pearls”.
- Understand how to assign IR for the upper extremity, including the use of:
  - Figure 1 – Part1 (Digits and hand)
  - Figure 1 – Part 2 (Remaining UE)

Upper Extremity IR

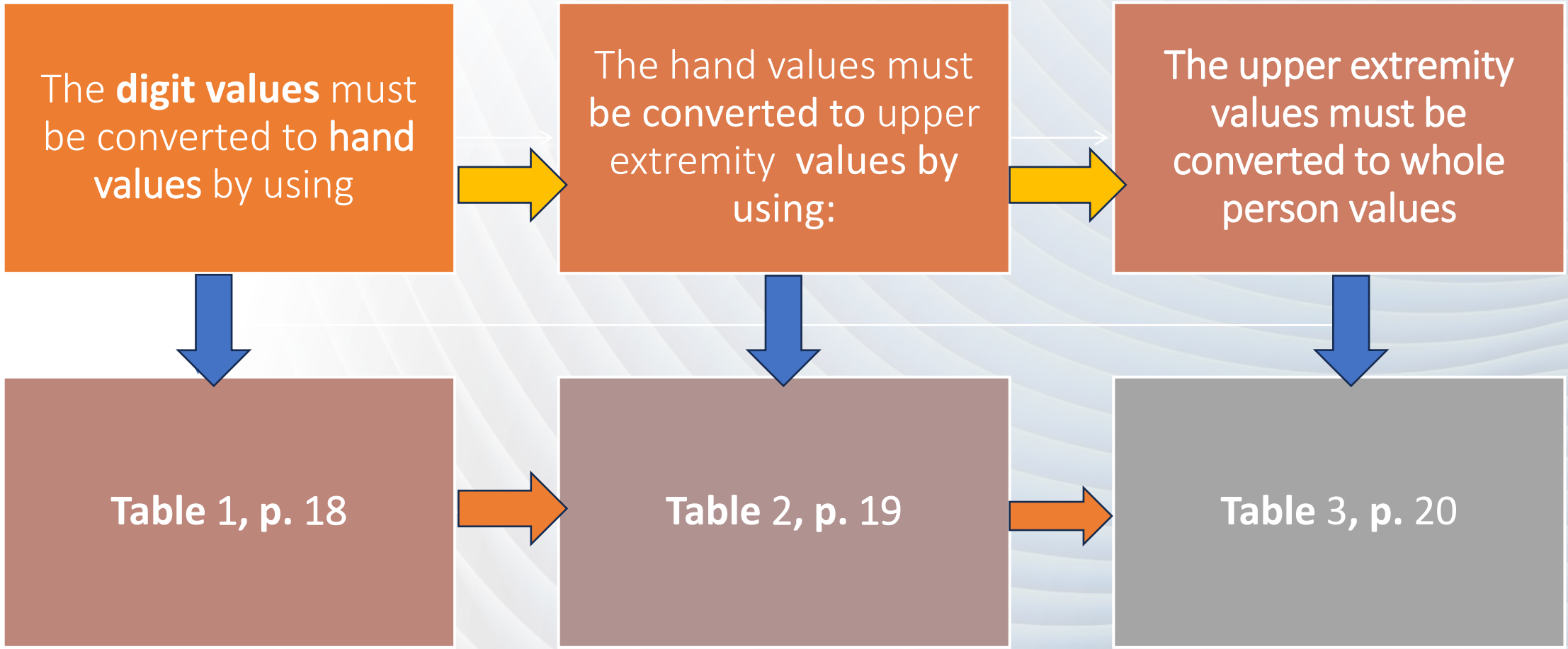


Upper Extremity IR

Relationship of Upper Extremity (UE) to Whole Person (WP):

- Upper Extremity = 60% of Whole Person
- Hand = 90% Upper Extremity
- Thumb = 40% Hand
- Index or Middle Finger = 20% Hand
- Ring or Little Finger = 10% Hand

Upper Extremity IR

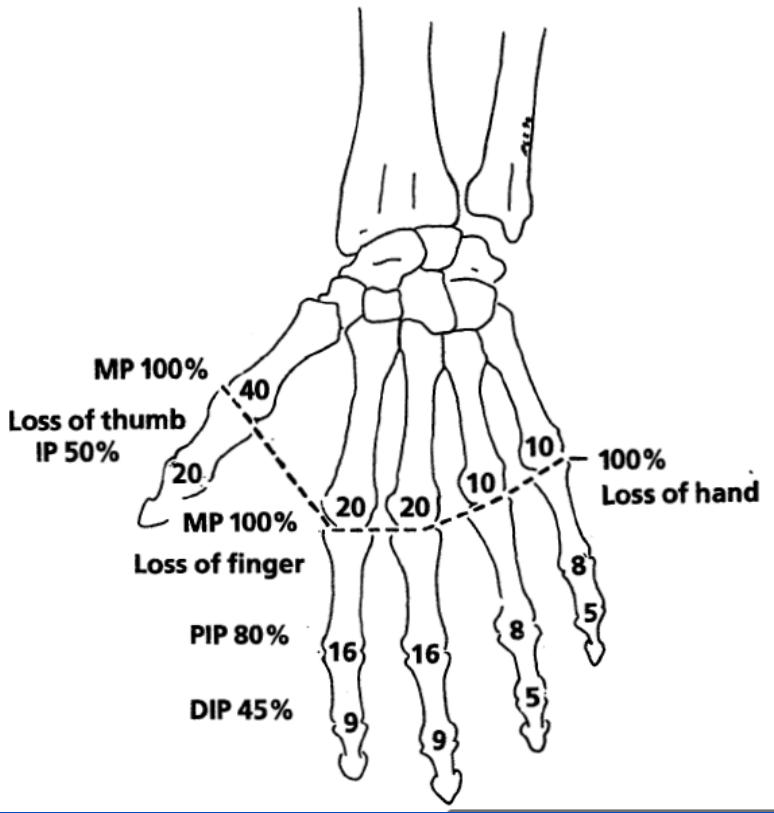


Upper Extremity IR

Table 1, p. 18

Relationship of Impairment of the Digits to the Impairment of the Hand.

Figure 3. Impairments of the Digits (percents outside digits) and of Hand (percents inside digits) for Amputations at Various Levels.*



% Impairment of Thumb	=	Hand	% Impairment of Index or middle finger	=	Hand	% Impairment of Ring or little finger	=	Hand
0- 1	=	0	0- 2	=	0	0- 4	=	0
2- 3	=	1	3- 7	=	1	5- 14	=	1
4- 6	=	2	8- 12	=	2	15- 24	=	2
7- 8	=	3	13- 17	=	3	25- 34	=	3
9- 11	=	4	18- 22	=	4	35- 44	=	4
12- 13	=	5	23- 27	=	5	45- 54	=	5
14- 16	=	6	28- 32	=	6	55- 64	=	6
17- 18	=	7	33- 37	=	7	65- 74	=	7
19- 21	=	8	38- 42	=	8	75- 84	=	8
22- 23	=	9	43- 47	=	9	85- 94	=	9
24- 26	=	10	48- 52	=	10	95-100	=	10
27- 28	=	11	53- 57	=	11			
29- 31	=	12	58- 62	=	12			
32- 33	=	13	63- 67	=	13			
34- 36	=	14	68- 72	=	14			
37- 38	=	15	73- 77	=	15			
39- 41	=	16	78- 82	=	16			
42- 43	=	17	83- 87	=	17			
44- 46	=	18	88- 92	=	18			
47- 48	=	19	93- 97	=	19			
49- 51	=	20	98-100	=	20			
52- 53	=	21						
54- 56	=	22						
57- 58	=	23						
59- 61	=	24						
62- 63	=	25						
64- 66	=	26						
67- 68	=	27						
69- 71	=	28						
72- 73	=	29						
74- 76	=	30						
77- 78	=	31						
79- 81	=	32						
82- 83	=	33						
84- 86	=	34						
87- 88	=	35						
89- 91	=	36						
92- 93	=	37						
94- 96	=	38						
97- 98	=	39						
99-100	=	40						

*See Table 2 (p. 19) for converting hand impairment to upper extremity impairment.

Upper Extremity IR

Table 2, p. 19

Relationship of Impairment of the Hand to Impairment of the Upper Extremity

Table 2. Relationship of Impairment of the Hand to Impairment of the Upper Extremity.*

% Impairment of		% Impairment of		% Impairment of		% Impairment of		% Impairment of		% Impairment of	
Hand	Upper extremity	Hand	Upper extremity	Hand	Upper extremity	Hand	Upper extremity	Hand	Upper extremity	Hand	Upper extremity
0 =	0	18 =	16	35 =	32	53 =	48	70 =	63	88 =	79
1 =	1	19 =	17	36 =	32	54 =	49	71 =	64	89 =	80
2 =	2			37 =	33			72 =	65		
3 =	3	20 =	18	38 =	34	55 =	50	73 =	66	90 =	81
4 =	4	21 =	19	39 =	35	56 =	50	74 =	67	91 =	82
		22 =	20			57 =	51			92 =	83
5 =	5	23 =	21	40 =	36	58 =	52	75 =	68	93 =	84
6 =	5	24 =	22	41 =	37	59 =	53	76 =	68	94 =	85
7 =	6			42 =	38			77 =	69		
8 =	7	25 =	23	43 =	39	60 =	54	78 =	70	95 =	86
9 =	8	26 =	23	44 =	40	61 =	55	79 =	71	96 =	86
10 =	9	27 =	24	45 =	41	62 =	56	80 =	72	97 =	87
11 =	10	28 =	25	46 =	41	63 =	57	81 =	73	98 =	88
12 =	11	29 =	26	47 =	42	64 =	58	82 =	74	99 =	89
13 =	12			48 =	43			83 =	75		
14 =	13	30 =	27	49 =	44	65 =	59	84 =	76	100 =	90
		31 =	28			66 =	59				
15 =	14	32 =	29	50 =	45	67 =	60	85 =	77		
16 =	14	33 =	30	51 =	46	68 =	61	86 =	77		
17 =	15	34 =	31	52 =	47	69 =	62	87 =	78		

*Consult Table 3 (p. 20) to convert upper extremity impairment to whole-person impairment.

Upper Extremity IR

Table 3, p. 20

Relationship of Impairment of the Upper Extremity to the Whole Person

Table 3. Relationship of Impairment of the Upper Extremity to Impairment of the Whole Person.

% Impairment of Upper extremity		% Impairment of Whole person	% Impairment of Upper extremity		% Impairment of Whole person	% Impairment of Upper extremity		% Impairment of Whole person
0	=	0	35	=	21	70	=	42
1	=	1	36	=	22	71	=	43
2	=	1	37	=	22	72	=	43
3	=	2	38	=	23	73	=	44
4	=	2	39	=	23	74	=	44
5	=	3	40	=	24	75	=	45
6	=	4	41	=	25	76	=	46
7	=	4	42	=	25	77	=	46
8	=	5	43	=	26	78	=	47
9	=	5	44	=	26	79	=	47
10	=	6	45	=	27	80	=	48
11	=	7	46	=	28	81	=	49
12	=	7	47	=	28	82	=	49
13	=	8	48	=	29	83	=	50
14	=	8	49	=	29	84	=	50
15	=	9	50	=	30	85	=	51
16	=	10	51	=	31	86	=	52
17	=	10	52	=	31	87	=	52
18	=	11	53	=	32	88	=	53
19	=	11	54	=	32	89	=	53
20	=	12	55	=	33	90	=	54
21	=	13	56	=	34	91	=	55
22	=	13	57	=	34	92	=	55
23	=	14	58	=	35	93	=	56
24	=	14	59	=	35	94	=	56
25	=	15	60	=	36	95	=	57
26	=	16	61	=	37	96	=	58
27	=	16	62	=	37	97	=	58
28	=	17	63	=	38	98	=	59
29	=	17	64	=	38	99	=	59
30	=	18	65	=	39	100	=	60
31	=	19	66	=	40			
32	=	19	67	=	40			
33	=	20	68	=	41			
34	=	20	69	=	41			

Upper Extremity IR

Methods for Evaluating Impairment

DIGITS

- ROM
- Amputation
- Sensory loss of digits (2 –point discrimination)
- Other Digit Disorders (under 3.1m) - These DO combine with the other factorsof digit impairment
  - Rotational deformity
  - Lateral Deviation

Upper Extremity IR

Methods for Evaluating Impairment

UPPER EXTREMITY ABOVE the DIGITS

- ROM
- Peripheral nerve disorders
  - Cervical Spinal Nerve Roots (Table 13)
  - Brachial Plexus (Table 14)
  - Major Peripheral Nerves (Table 15)
- Vascular Disorders
- Amputation

- "Other Disorders" (Section 3.1m) - mostly when no other criteria above are appropriate – most of these DO NOT combine with other UE impairment

Upper Extremity IR

Remember this: **Use Figure 1!**

- AMA Guides
- Pages 16 and 17

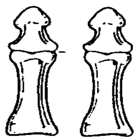
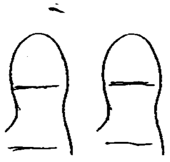
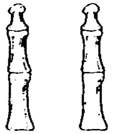
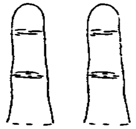
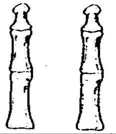
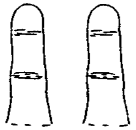
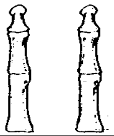
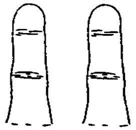
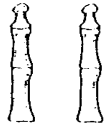
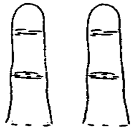
UPPER EXTREMITY IR

FIGURE 1 – Part 1

Figure 1. Upper Extremity Impairment Evaluation Record**—Part 1 (Hand) Side ☐ R ☐ L

Name________ Age____ Sex ☐ M ☐ F Dominant hand ☐ R ☐ L Date______

Occupation________ Diagnosis________

Abnormal motion							Amputation	Sensory loss	Other disorders	Hand impairment%
Record motion, ankylosis, and impairment %							Mark level & impairment %	Mark type, level, & impairment %	List type & impairment %	• Combine digit IMP% *Convert to hand IMP%
			Flexion	Extension	Ankylosis	IMP%				
Thumb	IP	Angle°					 R L	 R L		
		IMP%								
	MP	Angle°								
		IMP%								
				Motion	Ankylosis	IMP%				
	CMC	Radial abduction	Angle°							Abnormal motion [1]
			IMP%							Amputation [2]
		Adduction	CMS							Sensory loss [3]
			IMP%							Other disorders [4]
		Opposition	CMS							Digit impairment % • Combine 1, 2, 3, 4
			IMP%							
Add impairment % CMC + MP + IP =						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =	Hand impairment % *Convert above
			Flexion	Extension	Ankylosis	IMP%				
Index	DIP	Angle°								Abnormal motion [1]
		IMP%								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		IMP%								Other disorders [4]
	MP	Angle°								Digit impairment % • Combine 1, 2, 3, 4
		IMP%								
• Con[illegible] ment % MP + PIP + DIP =						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =	Hand impairment % *Convert above
Middle	DIP	Angle°								Abnormal motion [1]
		[illegible]								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		[illegible]%								Other disorders [4]
	MP	[illegible]le°								Digit impairment % • Combine 1, 2, 3, 4
		IMP%								
• Combine impairment % MP + PIP + DIP =						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =	Hand impairment % *Convert above
Ring	DIP	Angle°								Abnormal motion [1]
		IMP%								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		IMP%								Other disorders [4]
	MP	Angle°								Digit impairment % • Combine 1, 2, 3, 4
		IMP%								
• Combine impairment % MP + PIP + DIP =						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =	Hand impairment % *Convert above
Little	DIP	Angle°								Abnormal motion [1]
		IMP%								Amputation [2]
	PIP	Angle°								Sensory loss [3]
		IMP%								Other disorders [4]
	MP	Angle°								Digit impairment % • Combine 1, 2, 3, 4
		IMP%								
• Combine impairment % MP + PIP + DIP =						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =	Hand impairment % *Convert above

Total hand impairment (Add hand impairment % for thumb + index + middle + ring + little finger) = %

Upper extremity impairment (†Convert total hand impairment % to upper extremity impairment %) = %; enter on Part 2, Line II

If hand region impairment is only impairment, convert upper extremity impairment to whole-person impairment:‡ = %

• Combined Values Chart; (p. 322-324) *Use Table 1 (Digits to hand p. 18); †Use Table 2 (Hand to upper extremity p. 19) ‡Use Table 3 (p. 20)

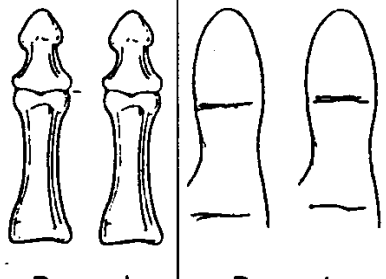
** Courtesy of G. de Groot Swanson, MD

Figure 1. Upper Extremity Impairment Evaluation Record**–Part 1 (Hand) Side ☐ R ☐ L

Name _____ Age _____ Sex ☐ M ☐ F Dominant hand ☐ R ☐ L Date _____

Occupation _____ Diagnosis _____

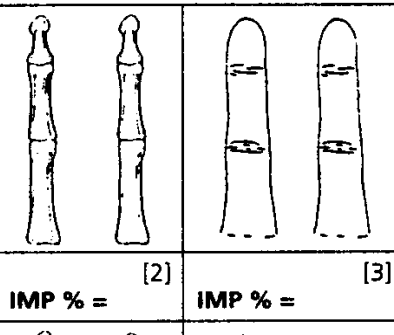
Abnormal motion						Amputation	Sensory loss	Other disorders	Hand impairment%
Record motion, ankylosis, and impairment %						Mark level & impairment %	Mark type, level, & impairment %	List type & impairment %	• Combine digit IMP% *Convert to hand IMP%
			Flexion	Extension	Ankylosis	IMP%			
Thumb	IP	Angle°							
		IMP%							
	MP	Angle°							
		IMP%							
				Motion	Ankylosis	IMP%			
	CMC	Radial abduction	Angle°						
			IMP%						
		Adduction	CMS						
			IMP%						
		Opposition	CMS						
			IMP%						
						[1]	[2] IMP % =	[3] IMP % =	[4] IMP % =



Add impairment % CMC + MP + IP =

Abnormal motion [1]
Amputation [2]
Sensory loss [3]
Other disorders [4]
Digit impairment % • Combine 1, 2, 3, 4
Hand impairment % *Convert above

			Flexion	Extension	Ankylosis	IMP%
Index	DIP	Angle°				
		IMP%				
	PIP	Angle°				
		IMP%				
	MP	Angle°				
		IMP%				
						[1]

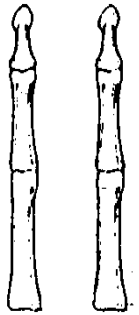
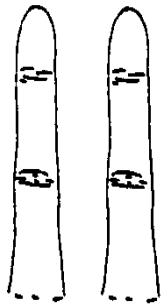
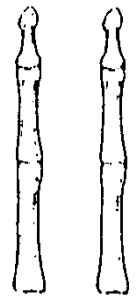
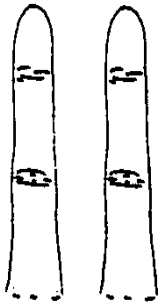


Combine impairment % MP + PIP + DIP =

Abnormal motion [1]
Amputation [2]
Sensory loss [3]
Other disorders [4]
Digit impairment % • Combine 1, 2, 3, 4
Hand impairment % *Convert above

IMP % = [2] IMP % = [3] IMP % = [4]

Angle° Abnormal motion [1]

• Combine impairment % MP + PIP + DIP =						IMP % =	IMP % =	IMP % =	*Convert above	
Ring	DIP	Angle°								Abnormal motion [1]	
		IMP%								Amputation [2]	
	PIP	Angle°								Sensory loss [3]	
		IMP%								Other disorders [4]	
	MP	Angle°								Digit impairment % • Combine 1, 2, 3, 4	
		IMP%									
					[1]		[2]	[3]	[4]	**Hand impairment % *Convert above**	
• Combine impairment % MP + PIP + DIP =						IMP % =	IMP % =	IMP % =			
Little	DIP	Angle°								Abnormal motion [1]	
		IMP%								Amputation [2]	
	PIP	Angle°								Sensory loss [3]	
		IMP%								Other disorders [4]	
	MP	Angle°								Digit impairment % • Combine 1, 2, 3, 4	
		IMP%									
					[1]		[2]	[3]	[4]	**Hand impairment % *Convert above**	
• Combine impairment % MP + PIP + DIP =						IMP % =	IMP % =	IMP % =			

Total hand impairment (Add hand impairment % for thumb + index + middle + ring + little finger) = %
Upper extremity impairment (†Convert total hand impairment % to upper extremity impairment %) = %; enter on Part 2 , Line II
If hand region impairment is only impairment, convert upper extremity impairment to whole-person impairment:‡ = %

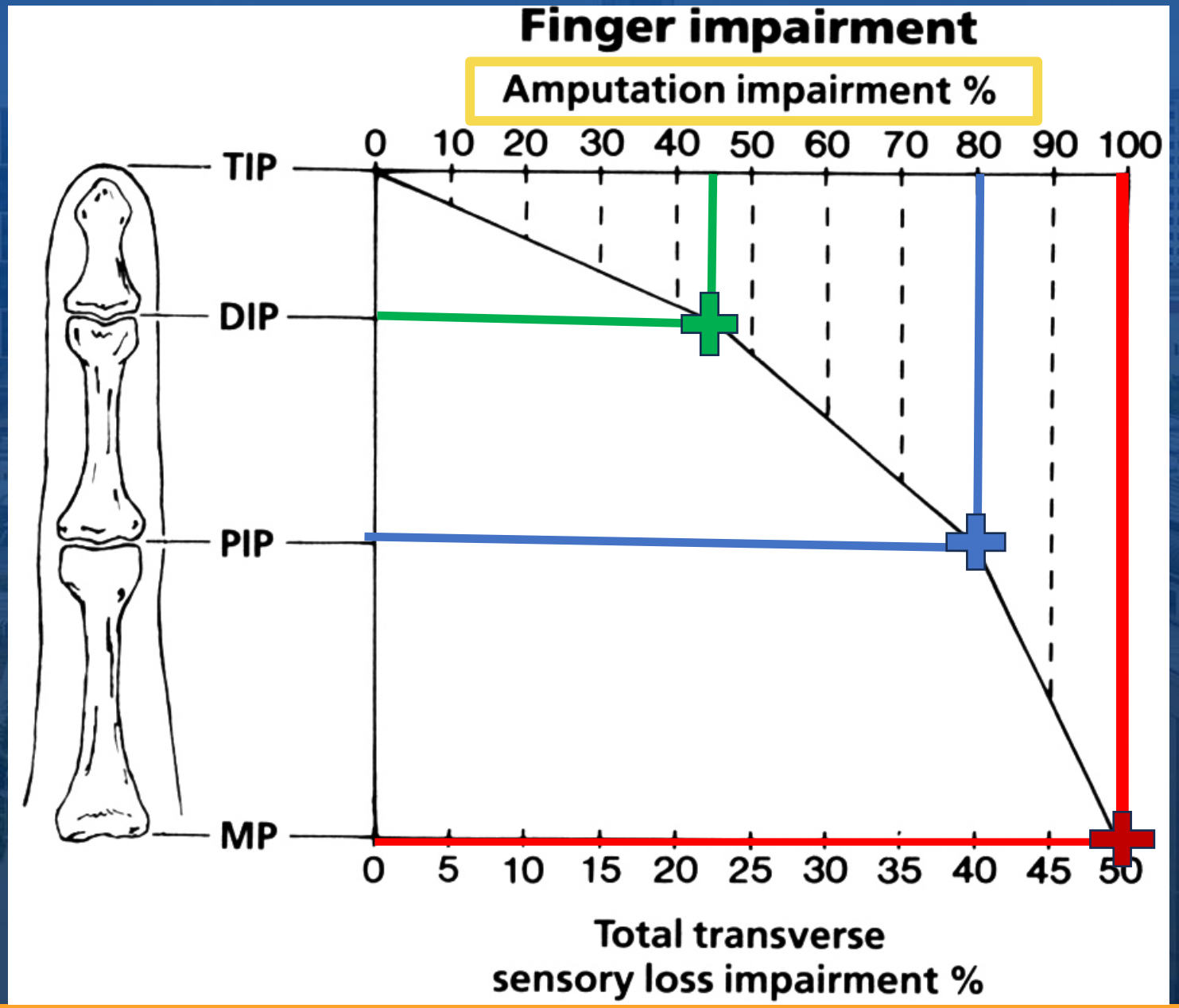
• Combined Values Chart; (p. 322-324) *Use Table 1 (Digits to hand p. 18); †Use Table 2 (Hand to upper extremity p. 19) ‡Use Table 3 (p. 20)

* Courtesy of G. de Groot Swanson, MD

Amputation
Figure 17, pg. 30

CALCULATE AMPUTATION

- DIP Joint
  - = 45 % of length of digit
  - = 45 % of the digit IR
- PIP Joint
  - = 80 % of length of digit
  - = 80 % of the digit IR
- MP joint
  - = 100% length of digit
  - = 100 % of the digit IR



Sensory Loss of Digits

Determine **TYPE** of Loss (CHAPTER 3 - page 21)

- TRANSVERSE

  [Figures 7 and 17]

- LONGITUDINAL
- [Tables 8 and 9]]

- Use when BOTH the Radial and Ulnar digital nerve have loss at the SAME level

  ****

- Use when there is:
  - Only ONE of the digital nerves with loss
  - When BOTH Radial and Ulnar Digital nerves have losses, BUT at different levels

Sensory Loss of Digits

Determine **QUALITY** of Loss (CHAPTER 3 - page 21)

Determine by two-point discrimination exam

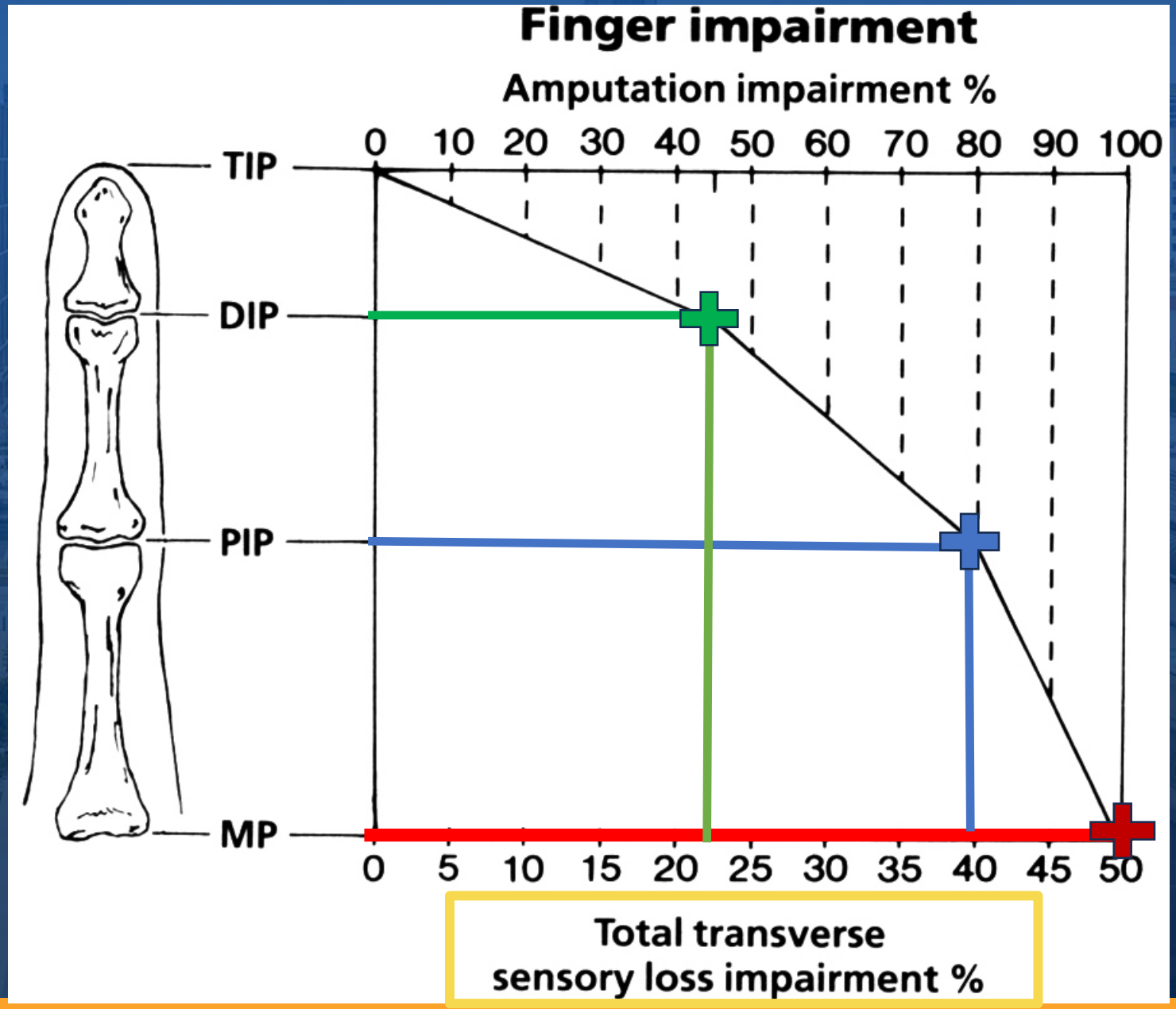
- > 15 mm = TOTAL sensory loss
- 15 mm - 7 mm = PARTIAL sensory loss
- ≤ 6 mm = NORMAL

- 100% sensory impairment
- 50% sensory impairment
- 0% sensory impairment

Amputation Figure 17, pg. 30

CALCULATE TOTAL TRANSVERSE SENSORY LOSS

- DIP Joint
  - = 45 % of length of digit
  - = 22.5 % Sensory Loss*
- PIP Joint
  - = 80 % of length of digit
  - = 40 % Sensory Loss*
- MP joint
  - = 100% length of digit
  - = 50 % Sensory Loss*



Transverse Sensory Loss

IF the TRANSVERSE SENSORY LOSS is TOTAL

- Then use the value on the bottom of Figure 17 (or Figure 7 for the thumb)

IF the TRANSVERSE SENSORY LOSS is PARTIAL

- Then use the value on the bottom of Figure 17 (or Figure 7 for the thumb) AND divide by TWO.
- The value is ½ the value at the bottom of Figure 17 / Figure 7

How do we determine if the sensory loss is

Total? Partial? Normal?

Longitudinal Sensory loss
Thumb & Little finger

Table 8. Longitudinal Sensory Loss Impairment for the *Thumb* and *Little Finger* Based on Percent of Digit Length Involved (values are expressed as percent of digit impairment).

	Longitudinal sensory loss %			
	Ulnar digital nerve		Radial digital nerve	
Percent of digit length	Total loss	Partial loss	Total loss	Partial loss
100	30	15	20	10
90	27	14	18	9
80	24	12	16	8
70	21	11	14	7
60	18	9	12	6
50	15	8	10	5
40	12	6	8	4
30	9	5	6	3
20	6	3	4	2
10	3	2	2	1

Longitudinal Sensory Loss
Index, Middle, & Ring fingers

Table 9. Longitudinal Sensory Loss Impairment of *Index*, *Middle*, and *Ring Fingers* Based on the Percent of Digit Length Involved (values are expressed as percent of finger impairment).

Percent of digit length	Longitudinal sensory loss (%)			
	Ulnar digital nerve		Radial digital nerve	
	Total loss	Partial loss	Total loss	Partial loss
100	20	10	30	15
90	18	9	27	14
80	16	8	24	12
70	14	7	21	11
60	12	6	18	9
50	10	5	15	8
40	8	4	12	6
30	6	3	9	5
20	4	2	6	3
10	2	1	3	2

Upper Extremity Digit Impairment - OTHER

This is from Section 3.1m, page 58 of the AMA Guides, 4th Edition.

- There are TWO situations in which you may consider Section 3.1m for the digits and they will COMBINE with the other digit impairments
- These are for
  - Lateral DEVIATION, pg. 59 –
    - ✓ Evaluated when the digits are fully extended
  - ROTATIONAL DEFORMITY, pg. 59
    - ✓ Evaluated with the fingers flexed

Upper Extremity – Digit Impairment - OTHER

Table 21. Impairment from Digit Ulnar or Radial Deviation.*

Deviation	% Digit impairment †
Mild: less than 10°	10
Moderate: 10° through 30°	20
Severe: Greater than 30°	30

*Modified from Swanson, AB, Mays, JD, Yamauchi, Y[35], p. 1011, Fig. 9.

†Multiply by the relative value of the digit (Table 18, p. 58) to determine the digit impairment.

Table 22. Impairment from Digit Rotational Deformity.*

Digit rotational deformity	% Digit impairment †
Mild: less than 15°	20
Moderate: 15° through 30°	40
Severe: greater than 30°	60

*Adapted from Swanson, AB[35], p. 1011, Fig. 9.

†Multiply the percent of impairment by the relative value of the digit (Table 18, p. 58) to determine the digit rotation deformity impairment percent.

The degree of deviation or rotation is multiplied by the RELATIVE VALUE of the digit from Table 18 on page 58 to determine the digit impairment

Upper Extremity
The Four Exceptions to Combining

Thumb Range of Motion

- **1**. Add impairment percentages for ROM within a thumb joint
- **2.** Add impairment percentages for ROM from joint to joint in the thumb.

Longitudinal Sensory Loss

- **3**. Add impairment percentages for longitudinal loss of sensation is present on more than one side of a digit

Digit values converting to Hand

- **4**. Add each of the digit impairment percentages at the hand value to determine the total hand percentage

Questions about DIGIT Impairments and Figure 1 – Part 1?

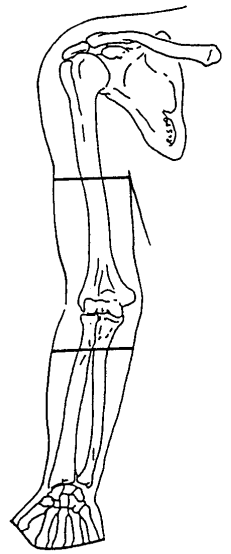
UPPER EXTREMITY

FIGURE 1 – Part 2

Figure 1. Upper Extremity Impairment Evaluation Record–**Part 2 (Wrist, elbow, and shoulder)** Side ☐ R ☐ L

Name _____ Age _____ Sex ☐ M ☐ F Dominant hand ☐ R ☐ L Date _____

Occupation _____ Diagnosis _____

	Abnormal motion				Other disorders	Regional impairment %	Amputation
	Record motion, ankylosis and impairment %				List type & impairment %	• Combine [1] + [2]	Mark level & impairment %
Wrist		Flexion	Extension	Ankylosis	IMP%		
	Angle°						
	IMP%						
		RD	UD	Ankylosis	IMP%		
	Angle°						
	IMP%						
	Add IMP% F/E + RD/UD =				[1] **IMP% =**	[2]	
Elbow		Flexion	Extension	Ankylosis	IMP%		
	Angle°						
	IMP%						
		Pro	Sup	Ankylosis	IMP%		
	Angle°						
	IMP%						
	Add IMP% F/E + PRO/SUP =				[1] **IMP% =**	[2]	
Shoulder		Flexion	Extension	Ankylosis	IMP%		
	Angle°						
	IMP%						
		Add	Abd	Ankylosis	IMP%		
	Angle°						
	IMP%						
		Int Rot	Ext Rot	Ankylosis	IMP%		
	Angle°						
	IMP%						
	Add IMP% F/E + Add/Abd + IR/ER =				[1] **IMP% =**	[2]	**IMP %**

I. Amputation impairment (other than digitis)	=
II. Regional impairment of upper extremity • (Combine hand ____% + wrist ____% + elbow ____% + shoulder ____%)	=
III. Peripheral nerve system impairment	=
IV. Peripheral vascular system impairment	=
V. Other disorders (not included in regional impairment)	=

Total upper extremity impairment (• Combine I + II + III + IV + V)	=
Impairment of the whole person (Use Table 3 p. 20)	=

If both limbs are involved, calculate the whole-person impairment for each on a separate chart and *combine* the percents (Combined Values Chart).

Upper Extremity

MOST OFTEN

- Upper Extremity Impairment will be addressed by active ROM
- They are recorded in the column to the LEFT of Figure 1 – Part 2.
- Ensure that the ROMs are plausible based on the other facts of the case.

UPPER EXTREMITY IR

FIGURE 1 – Part 2

Figure 1. Upper Extremity Impairment Evaluation Record–**Part 2 (Wrist, elbow, and shoulder)** Side ☐R ☐L

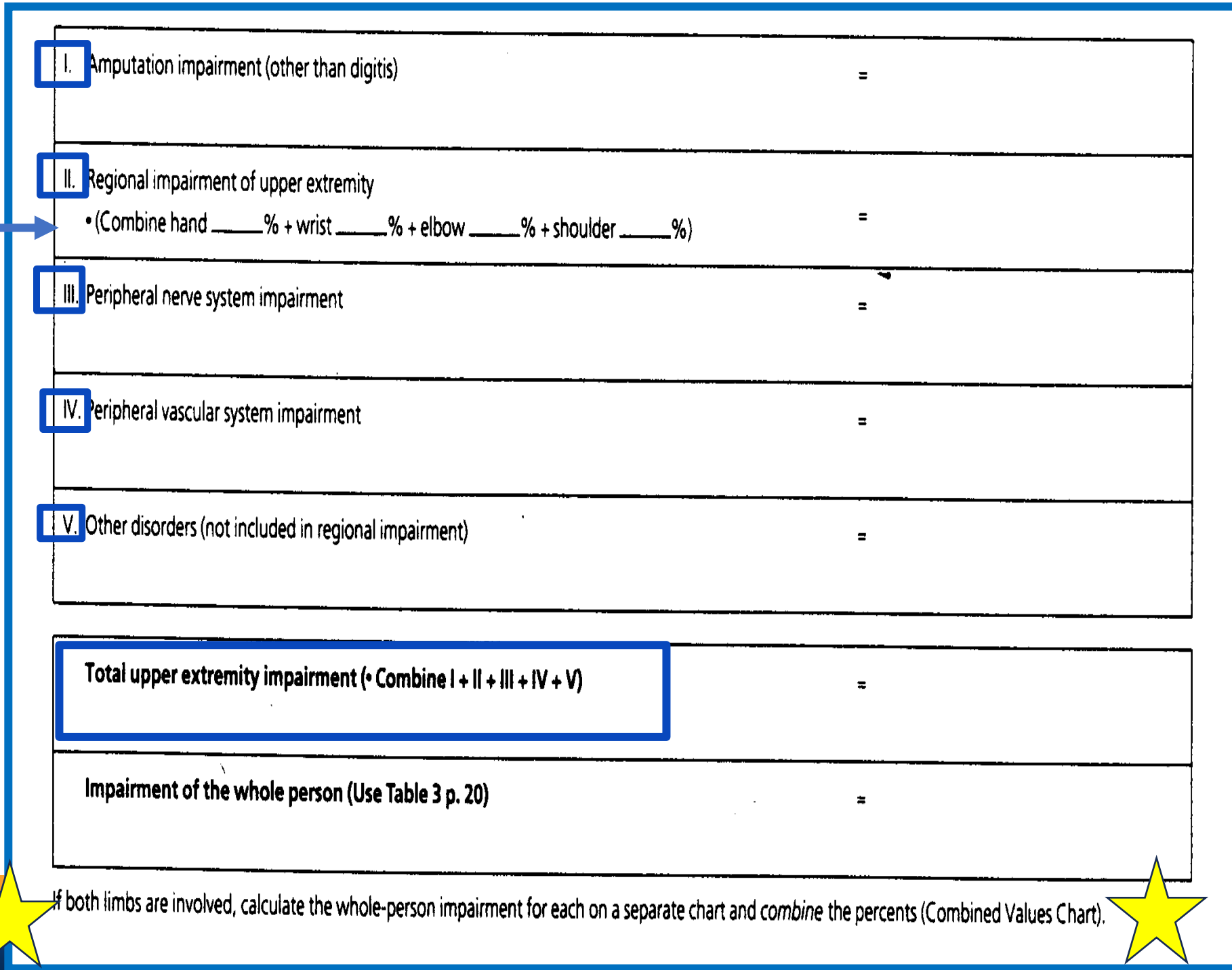
Name_____ Age_____ Sex ☐M ☐F Dominant hand ☐R ☐L Date_____

Occupation_____ Diagnosis_____

	Abnormal motion				**Other disorders**	**Regional impairment %**	**Amputation**
	Record motion, ankylosis and impairment %				List type & impairment %	• Combine [1] + [2]	Mark level & impairment %
Wrist	Flexion	Extension	Ankylosis	IMP%			
Angle°							
IMP%							
	RD	UD	Ankylosis	IMP%			
Angle°							
IMP%							
Add IMP% F/E + RD/UD =				[1]	**IMP% =**	[2]	
Elbow	Flexion	Extension	Ankylosis	IMP%			
Angle°							
IMP%							
	Pro	Sup	Ankylosis	IMP%			
Angle°							
IMP%							
Add IMP% F/E + PRO/SUP =				[1]	**IMP% =**	[2]	
	Flexion	Extension	Ankylosis	IMP%			
Angle°							
IMP%							

FIGURE 1 – Part 2

IF there is **DIGIT** impairment – after converting to HAND value – insert under Section II.



I. Amputation impairment (other than digitis)	=
II. Regional impairment of upper extremity • (Combine hand _____% + wrist _____% + elbow _____% + shoulder _____%)	=
III. Peripheral nerve system impairment	=
IV. Peripheral vascular system impairment	=
V. Other disorders (not included in regional impairment)	=
Total upper extremity impairment (• Combine I + II + III + IV + V)	=
Impairment of the whole person (Use Table 3 p. 20)	=

If both limbs are involved, calculate the whole-person impairment for each on a separate chart and *combine* the percents (Combined Values Chart).

Range of Motion

Measuring ROM - Correct & Methods

The AMA *Guides*:

Figure 6, pg. 23
Figure 8, pg. 25
Figure 11, pg. 27
Figure 14, pg. 28
Figure 15, pg. 29
Figure 16, pg. 29
Figure 18, pg. 32
Figure 20, pg. 33
Figure 22, pg. 34
Figure 24, pg. 36
Figure 27, pg. 37
Figure 30, pg. 39
Figure 33, pg. 40
Figure 36, pg. 42
Figure 39, pg. 43
Figure 42, pg. 49

These will be presented in hands on format in the afternoon skills workshop

Upper Extremity
Section 3.1m - Other Disorders

These are not commonly used but should be reviewed.

- These are recorded in the column to the RIGHT of the column that records ROM on Figure 1 – Part 2. Denoted as “Other Disorders”.
- In most cases, the chosen value from the Tables 19 – 30, are multiplied by the Relative Value of a specific joint as per Table 18

Upper Extremity
Section 3.1m - Other Disorders

"It is emphasized that impairments from the disorders considered in the section are usually estimated by using other criteria".

*"The criteria described in this section should be used **only** when the other criteria have not adequately encompassed the extent of the impairments."*

Section 3.1m, page 58 AMA Guides, 4th Edition

Upper Extremity Other Disorders
Section 3.1m

When to use Section 3.1m:

- Occasions that ROM losses do not adequately explain the functional loss to an upper extremity functional unit.
- Digit impairment assessments that allow combining rotational or lateral deviation deformities to ROM or other digit losses
- Resection or replacement arthroplasties
- Other miscellaneous considerations (a later case)

Any Questions on basic Upper Extremity IR?

LOWER EXTREMITY IMPAIRMENT

Subtitle

Lower Extremity IR

- Understand the 13 methods for determining lower extremity IR, and which of the 13 methods can be combined.

- Review LE Guides Section 3.2 and DD 101 “pearls”.

Determining an Impairment Rating for the Lower Extremity

- **An impairment for the lower extremity is derived from the following methods:**

  - **ANATOMIC**
  - **DIAGNOSTIC**
  - **FUNCTIONAL**

  (Page 75)

- Like the upper extremity, impairments of different regions (foot / ankle / knee / hip) are combined
- Each region can be addressed by the different methods
- Different systems are combined (MSK / vascular / nerve)

Determining an Impairment Rating for the Lower Extremity

- All tables show impairment percentages in lower extremity (LE) and whole person (WP)
- Impairment values are expressed and **combined at the WHOLE PERSON level**, for the same LE part (i.e. ankle) or for different parts of the LE (i.e. ankle and knee)
- This includes combining within a joint (APD 211091-s)

Determining an Impairment Rating for the Lower Extremity

- **The lower extremity is weighted at 40% whole person**
- The final impairment rating CANNOT exceed the amputation value (hip disarticulation – Table 39), as per APD 111720
- Lower extremity impairments that **exceed** 40% of the whole person are rated at the amputation value of 40% whole person
- The max value for BOTH lower extremities is 64%
  - 40% WP for one LE is COMBINED with 40% WP for the other LE% = 64% WP

Determining an Impairment Rating for the Lower Extremity

- Section 3.2, page 75
- *"If the patient has several impairments of the same lower part, such as the leg, or impairments of different anatomic parts, such as the ankle and a toe, the whole person estimates are* ***combined.*****"** (Combined Values Chart, p. 322)
- New APD 211091-s finds that this includes COMBINING ROM impairments within the same joint (lower extremity ONLY)

Determining an Impairment Rating for the Lower Extremity

- The impairment is calculated according to text and tables for each applicable parameter of the 13 possible methods
- Determine which parameters can be combined
- Select the largest and ***most clinically appropriate*** method for each region
- Per 4th Edition Guides, ***"The physician, in general, should decide which estimate best describes the situation and should use only one approach for each anatomical part."*** *(p. 84)*

13 Methods for Determining Lower Extremity Impairment Rating

1. Limb length discrepancy (Tl35, p. 75)
2. Muscle atrophy (T. 37, p. 77)
3. Muscle strength (T. 38 and 39, p. 77)
4. Range of motion (T. 40-45, p. 78)
5. Ankylosis (T. 46-61, pp. 79-82)
6. Arthritis aka “DJD” (T. 62, p. 83)
7. Amputation (T. 63, p. 83)
8. Diagnosis Based Estimates – fractures, deformities, dislocations, ligament instability, bursitis, surgical procedures (T. 64, 65, & 66, pp. 85-88)

13 Methods for Determining Lower Extremity Impairment Rating

9. Skin loss (T. 67, p. 88)
10. Peripheral nerve injuries (T. 68, p. 89)
11. Causalgia and RSD/CRPS (p. 89)
    (see p. 56 for UE RSD discussion)
13. Vascular disorders (T. 69, p. 89)

The last 4 of the 13 are non-musculoskeletal – OTHER body systems.

Therefore they can be combined with one another AND with the MSK methods

To Combine or Not to Combine…

- Range of motion impairments are not to be combined with impairments from atrophy (see comment, pg. 78)

- The examiner should choose the impairment that is most clinically relevant to the injury that is being rated.

- **Explain your rationale in your report.**

To Combine or Not to Combine…

- An impairment due to atrophy is not to be combined with a diagnosis-based estimate.

- Per the comment on page 84 related to Table 64: *"The expected muscle weakness or atrophy is included in the diagnosis-based estimates."*

- **Explain your rationale in your report.**

To Combine or Not to Combine…

- Range of motion impairments are not to be combined with a DBE.
- There is an exception in cases of malunion or nonunion of a femoral neck fracture (Table 64).
- In this exception:
  - The DBE impairment is assigned
  - The impairment from ROM loss is COMBINED with the DBE impairment (see page 85)

To Combine or Not to Combine…

- **Instances where impairments <u>can</u> and <u>should</u> be combined include:**
  - DBE for an intra-articular fracture in Table 64 IS combined with an impairment for cartilage interval loss from Table 62 (Page 83)
  - Impairment for malalignment of a fracture with shortening of the affected limb due to the fracture are combined (See example on page 84)
  - Impairments for two different body systems such as an acetabular fracture with a sciatic nerve injury are combined (Page 84).

To Combine or Not to Combine…

Instances where impairments can and should be combined include:

- Two different ligamentous injuries (collateral AND cruciate) are combined
- Ligamentous injury with meniscectomy are combined
- Fracture and ligamentous injury or meniscus injury (I.e. tibial plateau and meniscus) are combined
- **This methodology applies as long as ALL impairments are in Table 64 and within a specific joint.**

13 Methods for Determining Lower Extremity Impairment Rating

Let's look at
the specific subsections
of Chapter 3.2

Leg Length Discrepancy

Section 3.2a: Limb Length Discrepancy – Table 35, page 75

- This methodology is difficult to use in individuals with:
  - Pelvic angulation
  - Knee flexion contracture
  - Significant ankle edema
- Can assess with CT for leg length (CPT 77073).
  - Tape measure and/or iliac crest level is not recommended.
- **Discrepancy must be 2 cm or greater to rate > 0%**

Some Lower Extremity Tables for Different Impairment Methods

Limb Length, page 75

Table 35. Impairment from Limb Length Discrepancy.

Discrepancy (cm)	Whole-person (lower extremity) impairment (%)
0-1.9	0
2-2.9	2-3 (5-9)
3-3.9	4-5 (10-14)
4-4.9	6-7 (15-19)
5+	8 (20)

Gait Derangement

Section 3.2b: Gait Derangement – Table 36

- The text on page 75 states,
  - *"Whenever possible, the evaluator should use the **more specific methods** of those other parts in estimating impairment."*
  - This impairment, *"Does not apply to abnormalities based only on subjective factors, such as pain or sudden giving way"*

Gait Derangement

- **Section 3.2b: Gait Derangement – Table 36**
- The text on page 75 states**,**
  - *"Whenever possible, the evaluator should use the **more specific methods** of those other parts in estimating impairment."*
  - This impairment, *"Does not apply to abnormalities based only on subjective factors, such as pain or sudden giving way."*

Gait Derangement

- **Section 3.2b: Gait Derangement – Table 36**
- To be an impairment, the Guides state that it MUST be permanent.
- Section 3.2b does not apply to abnormalities based only on subjective factors, such as pain or sudden giving-way, as with, for example, a patient with low-back discomfort who chooses to use a cane to ease walking.
- This impairment is not combined with any other lower extremity impairment from 3.2a to 3.2i.

Lower Extremity Tables

Gait Derangement, page 76

Table 36. Lower Limb Impairment from Gait Derangement.

Severity	Patient's signs	Whole-person impairment (%)
Mild	a. Antalgic limp with shortened stance phase and documented moderate to advanced arthritic changes of hip, knee, or ankle	7
	b. Positive Trendelenberg sign and moderate to advanced osteoarthritis of hip	10
	c. Same as category a or b above, but patient requires part-time use of cane or crutch for distance walking but not usually at home or in workplace	15
	d. Requires routine use of short leg brace (ankle-foot orthosis [AFO])	15
Moderate	e. Requires routine use of cane, crutch, or long leg brace (knee-ankle-foot orthosis [KAFO])	20
	f. Requires routine use of cane or crutch *and* a short leg brace (AFO)	30
	g. Requires routine use of two canes *or* two crutches	40
Severe	h. Requires routine use of two canes *or* two crutches *and* a short leg brace (AFO)	50
	i. Requires routine use of two canes *or* two crutches *and* a long leg brace (KAFO)	60
	j. Requires routine use of two canes *or* two crutches *and* two lower-extremity braces (either AFOs or KAFOs)	70
	k. Wheelchair dependent	80

Issues With Using Gait Derangement

- **Section 3.2b: Gait Derangement - Table 36**
- For an impairment from Table 36 to be assigned, the first requirement under a MILD lower limb gait derangement (sections a – c) is that there is, "*documented moderate to advanced arthritic changes to the hip, knee, or ankle"*
- While not specifically stated under in the MODERATE and SEVERE categories, an appropriate assumption would be that the higher categories would require this component as well.
- The example on page 75 supports that there must at least be moderate osteoarthritis and specific gait changes as a result.

Issues With Using Gait Derangement

- **Section 3.2b: Gait Derangement - Table 36**
- Remember that the final lower extremity impairment cannot exceed the impairment estimate from amputation of 100% of one extremity = 40 % WPI.
- Note that ALL values in the severe category on Table 36 exceed the amputation value of one LE of 40 %.
- Even if both lower extremities were amputated at the level of the hip, the combined WP value would be 64%.
- Therefore 80% for wheelchair dependent is NOT plausible or supported by the Guides in the written text.
- **See APD 111720**

Muscle Atrophy

Section 3.2c: Muscle Atrophy (unilateral) - Table 37

- If clinically applicable assigning an impairment rating for unilateral muscle atrophy may be appropriate.
- For a muscle atrophy impairment to be valid, *"Neither limb should have swelling or varicosities that would invalidate the measurements."* (Page 76)

Lower Extremity Tables

Leg Muscle Atrophy, page 77

Table 37. Impairments from Leg Muscle Atrophy.

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

Muscle Atrophy

- **Section 3.2c: Muscle Atrophy (Unilateral) - Table 37**

  SPECIFIC INSTRUCTIONS

- Per Table 37, the thigh is measured at 10 cm above the patella.
- Per Table 37, the calf is measured at the "*maximal circumference on the normal side" and "compared with the circumference at the SAME level on the affected side.*"

- **Document the location that the maximum circumference of the calf is obtained.**

Muscle Weakness

Section 3.2d: Manual muscle testing - Table 39

- *"Findings varying by more than one grade between observers, or such findings made by the same observer on separate occasions are not valid."* (Page 76)
- *"Patients whose performance is inhibited by pain or fear of pain are not good candidates for using MMT."* (Page 76)
- *AND....*

Range of Motion

Section 3.2e: Range of motion – Tables 40 to 45

Page 14 documents

- *"Evaluating the range of motion of an extremity or the spine is a valid method of estimating an impairment. To some extent, however, the ROM is subject to the patient's control".*
- *The results of such evaluations should be consistent and concordant with the presence or absence of pathologic signs and other evidence."*

Range of Motion

- **Section 3.2e: Range of Motion**

- This is supported by evidence elsewhere in the Guides.
- "*Active range of motion is determined with the patient's full effort and cooperation.*" (*Chapter 3, page* 14)
- "*Comparing the patient's active range of motion with the passive range of motion provides useful information.*" (*Chapter 3, page* 14)

- **Don’t take the measurements obtained during your exam at face value.**

Range of Motion

- **Section 3.2e: Range of motion – Tables 40 to 45**
- The ROM findings must make sense based on the injury.
- Variability of ROM on any given day would be expected, **BUT be suspicious of:**
  - Wide swings of ROM
  - Evidence of mismatch of ROM with functional activities observed in the exam room or documented in the records
  - Passive motion far greater than active motion without an associated nerve injury

Range of Motion

Appeals Panel Decision 132734, filed 01/09/14

- Section 3.2e does not require that a certifying doctor must **only use the most severe** impairment for range of motion within the same table. (Tables 40 through 43)
- There is no provision in the Act or Rules that adopts the AMA Guides Casebook to determine the existence and degree of an employee's impairment.
- *"There is no specific provision in the AMA Guides in the lower extremity section that restricts ROM deficits in multiple directions…"*

Range of Motion

- The use of one or more ROM within a joint is within the discretion of the certifying doctor, per APD 132734
- The impairment rating should be clinically appropriate (Pages 8,14 and 77)
- **SHOW YOUR WORK!**
  - Describe how you calculated the IR and why you chose the method you used

Remember to **combine** impairments - including within the same joint, per **APD 211091-s**, filed 9/10/21

Range of Motion

Measuring ROM - Correct & Alternate Methods

The AMA *Guides:*

- Figures 52 and 53 on page 90
- Figures 54, 55, 56 on page 91
- Figures 58 on page 92

These will be presented in hands on format in the afternoon skills workshop

ANKYLOSIS

Section 3.2f: Ankylosis – Tables 40 to 45

- This is NOT a common form of impairment
- However, it is important to know how to calculate.
- The hip and knee have the opportunity for joint replacement, so ankylosis will most often be at the ankle.

Ankylosis

- **Section 3.2f: Ankylosis – Tables 40 to 45**
- Each joint has a baseline position of optimum ankylosis. This is the **base impairment value**
- Deviations from the optimum are assigned additional impairment from Table 46 to 59
- **For the ankle:**
  - The first plane of motion with deviation from optimum is ADDED to the base value
  - Any additional deviation in a second plane of motion is COMBINED
  - See example on page 81 of the 4th Edition AMA Guides

Ankylosis

- **Section 3.2f: Ankylosis – Tables 40 to 45**

- Follow instructions on relevant Tables for the hip and knee.
- The text on page 80 for the knee states," *Impairments beyond those of the neutral position are ADDED according to tables 51 through 54*".
- No examples to follow for the hip or knee.
- EXPLAIN WHAT YOU DID, citing relevant material from the Guides.

Ankylosis

- **Section 3.2f: Ankylosis – Base for:**
- **Hip = 20% WPI**
  - **[25 – 40 degrees of flexion + neutral EX/IR/ER/ADD/ABD]**
- **Knee = 27% WPI**
  - **[10 – 15 degrees of flexion with good alignment]**
- **Ankle = 4% WPI**
  - **[Neutral without FLEX / EXT / VARUS / VALGUS]**
- **Foot = 4 % WPI (Hindfoot, Midfoot, Forefoot)**
  - **[Subtalar neutral is 0 degrees without VARUS / VALGUS]**

Ankylosis

- **Section 3.2f: Ankylosis – Tables 40 to 45**
- Follow instructions at the bottom of the relevant Tables for the hip and knee.

- The Tables 46 to 50 for the hip and Tables 51 – 54 for the knee have footnotes that state "*The appropriate ankylosis impairment is ADDED to the impairment percent for the ankylosis in the neutral position from the text*".

- The text on page 79 for the hip states, "*impairment estimates for extension, abduction and adduction are COMBINED*".

ARTHRITIS

Section 3.2g: Arthritis – Table 62

- Per the Guides,*“ ROM techniques are of limited value for estimating impairment due to arthritis.”*
- *“For most patients, X-ray grading is a more objective and valid method for assigning impairment estimates than physical findings, such as the ROM or joint crepitation.” (Page 82)*
- Table 62 is based on residual radiographic cartilage interval
- Text on page 82 describes radiographic techniques for the joints being rated

Lower Extremity Tables

Arthritis, page 83

Table 62. Arthritis Impairments Based on Roentgenographically Determined Cartilage Intervals.

Joint	Whole-person (lower extremity) [foot] impairment (%)			
	Cartilage interval			
	3 mm	2 mm	1 mm	0 mm
Sacroiliac (3 mm)*	—	1 (2)	3 (7)	3 (7)
Hip (4 mm)	3 (7)	8 (20)	10 (25)	20 (50)
Knee (4 mm)	3 (7)	8 (20)	10 (25)	20 (50)
Patellofemoral†	—	4 (10)	6 (15)	8 (20)
Ankle (4 mm)	2 (5) [7]	6 (15) [21]	8 (20) [28]	12 (30) [43]
Subtalar (3 mm)	—	2 (5) [7]	6 (15) [21]	10 (25) [35]
Talonavicular (2 - 3 mm)	—	—	4 (10) [14]	8 (20) [28]
Calcaneocuboid	—	—	4 (10) [14]	8 (20) [28]
First metatarsophalangeal	—	—	2 (5) [7]	5 (12) [17]
Other metatarsophalangeal	—	—	1 (2) [3]	3 (7) [10]

*Normal cartilage intervals are given in parentheses.

†In a patient with a history of direct trauma, a complaint of patellofemoral pain, and crepitation on physical examination, but without joint space narrowing on roentgenograms, a 2% whole-person or 5% lower-extremity impairment is given.

Arthritis

- **Section 3.2g: Arthritis – Table 62**
- Don't forget the footnote of Table 62
- *"In a patient with a history of direct trauma, a complaint of patellofemoral pain, and crepitation on physical examination, but without joint space narrowing on roentgenograms, a 2% whole person or 5% lower extremity impairment is given."*
- This impairment could be applicable for injuries such as falls onto the knee, dashboard impact injuries, or blunt force trauma (hit in the knee with a sledgehammer)

If clinically appropriate can be combined with DBE (ligamentous laxity, meniscus, fracture, etc.) with appropriate explanation that these are all STRUCTURAL injuries.

Amputation

Section 3.2h: Amputation: Table 63

- Table 63 is straightforward – rate the level of the amputation.

PEARL: ***This table can be referenced to give an idea of what a maximum impairment should be for injuries at different levels of the leg.***

Diagnosis-Based Estimates (DBE)

Section 3.2i: Diagnosis-Based Estimates - Table 64

- Diagnosis-based estimates are "stand alone" impairments *
- Diagnosis-based estimates are utilized for STRUCTURAL INJURIES; specific types of fractures, ligamentous injuries, joint replacements, deformities, and meniscus procedures
- ***BE AWARE of EXCEPTIONS***

DBE - JOINT REPLACEMENTS

- **TOTAL HIP AND TOTAL KNEE REPLACEMENTS**

are an ADVANCED CONCEPT

- **PLEASE refer to the**

DD CERTIFICATION COURSE

for the methodology of assigning impairment for these Lower Extremity IR issues

Skin Loss

Section 3.2j: Skin Loss: Table 67

- Full-thickness skin loss about certain areas in the lower extremity results in significant impairment even when the areas are successfully covered with skin graft
- Note that these are VERY specific to situations such as decubitus ulcers and osteomyelitis.
- Seems obvious, but don't use for burns! Burns of the lower extremity (or any area) should be rated as per Chapter 13

Skin Loss – Table 67 on page 88

Table 67. Impairments for Skin Loss.

Description	Whole-person (lower extremity) [foot] impairment (%)
Ischial covering that requires frequent unweighting and limits sitting time	5 (12)
Tibial tuberosity covering that limits kneeling	2 (5)
Heel covering that limits standing and walking time	10 (25) [35]
Plantar surface, metatarsal head covering that limits standing and walking time	
First metatarsal	5 (12) [17]
Fifth metatarsal	5 (12) [17]
Chronic osteomyelitis with active drainage	
Of femur	3 (7) [10]
Of tibia	3 (7) [10]
Of foot, requiring periodic redressing and limiting time using footwear	10 (25) [35]

Peripheral Nerve Injuries

Chapter 3 Method – Section 3.2k. pages 88 and 89 and Table 68.

- Three categories of nerve impairment in the LE
  Motor deficits. Sensory deficits Dysesthesia
- These should be **combined** (text page 88)
- All values listed in Table 68 are for COMPLETE motor or sensory loss for named peripheral nerves
- Also, see APD 101481

Peripheral Nerve Injuries (PNI)

THERE ARE SIGNIFICANT ISSUES with addressing LOWER EXTREMITY PNIs in the AMA Guides 4th Edition.

- **Not all nerve lesions are COMPLETE as per the text on page 88**
  - Not much Guidance as how to approach the incomplete lesions or lesions that have incompletely resolved
- Table 68 has significant problems:
  - Errors of Omission
  - Errors of Anatomy

Peripheral Nerve Injuries

Table 68. Impairments from Nerve Deficits.

	Whole-person (lower extremity) [foot] impairment (%)		
Nerve	**Motor**	**Sensory**	**Dysesthesia**
Femoral	15 (37)	1 (2)	3 (7)
Obturator	3 (7)	0	0
Superior gluteal	25 (62)	0	0
Inferior gluteal	15 (37)	0	0
Lateral femoral cutaneous	0	1 (2)	3 (7)
Sciatic	30 (75)	7 (17)	5 (12)
Common peroneal	15 (42)	2 (5)	2 (5)
Superficial peroneal	0	2 (5)	2 (5)
Sural	0	1 (2)	2 (5)
Medial plantar	2 (5) [7]	2 (5) [7]	2 (5) [7]
Lateral plantar	2 (5) [7]	2 (5) [7]	2 (5) [7]

Peripheral Nerve Injuries

- PERIPHERAL NERVE INJURIES ARE AN ADVANCED CONCEPT.
- THIS WILL BE PRESENTED IN DEPTH IN THE DD CERTIFICATION COURSE

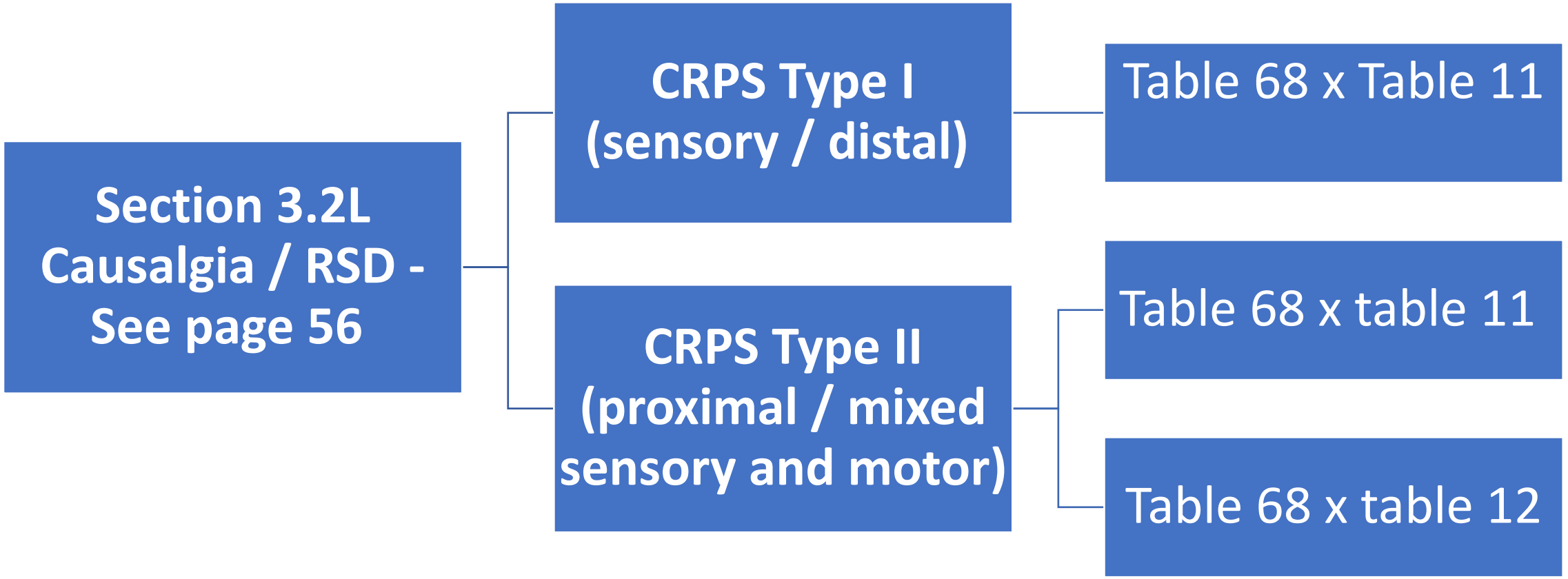
Causalgia / RSD

Section 3.2 I – Text on page 89 (also see page 56 for the UE)

- This is an uncommon diagnosis that you evaluate
- Not in Qualification Table for DCs
- Appropriate Diagnosis is detailed in the ODG.
  - Ensure you follow this diagnostic criteria
  - Alternate diagnoses /conditions are more likely and will obviate the diagnosis of CRPS

Also an advanced concept

Causalgia/RSD



Vascular Disorders

- **3.2M Vascular Disorder – Table 69**
  - Not a common impairment in the lower extremity.
  - More applicable to arterial disease than due to venous stasis, such as due to work related DVT.
  - Since there is a range, explain why you picked the IR % you did based on clinical evidence in the records.
  - As per other non-MSK, use the ADL Table on page 317 to establish the value

Any Questions on Lower Extremity IR?

SPINE IMPAIRMENT

Musculoskeletal IR

Spine IR

- Review Spine Guides Section 3.3 and DD 101 “pearls”.

- Understand the structural inclusions and differentiators in applying the DRE (Diagnosis Related Estimates) model.

Considerations to keep in mind

- Most Spine Impairments fall in DRE I – II, and some reach the threshold for III
- **Be aware of structural inclusions and the functional criteria necessary to reach the threshold for the different criteria**
- DRE IV-VIII are not common
  - Make sure you know how to determine the IR for these categories
  - Some differences in how this is done for the cervicothoracic / thoracolumbar vs lumbosacral
  - These will be covered more in depth in the Certification Course

Impairment Rating
Spine DRE I - Complaints or Symptoms

- No significant clinical findings
- No muscle guarding or history of guarding
- No documented neurologic impairment
- No loss of structural integrity on F/E x-rays
- No indication of impairment related to injury or illness
- No structural inclusions
- 0% whole person impairment

Impairment Rating
Spine DRE II: Minor Impairment

Structural Inclusions

- Compression fracture < 25%
- Non-displaced posterior element fractures
- Transverse or spinous process fracture with displacement in L and C spine; T spine is unclear

5% whole person impairment

Clinical Findings/Differentiators

- Significant intermittent or continuous muscle guarding or spasm or nonuniform loss of range of motion, dysmetria, is present or has been observed and documented by a physician
- Non-verifiable radicular complaints
- No objective signs of radiculopathy
  - loss of relevant reflex(es)
  - 2 cm or greater atrophy with circumferential measurements of relevant extremity
- No loss of structural (motion segment) integrity lateral view flexion/extension x-rays

Lower Extremity Tables

Arthritis, page 83

Table 62. Arthritis Impairments Based on Roentgenographically Determined Cartilage Intervals.

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Patellofemoral†	—	4 (10)	6 (15)	8 (20)
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Subtalar (3 mm)	—	2 (5) [7]	6 (15) [21]	10 (25) [35]
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First metatarsophalangeal	—	—	2 (5) [7]	5 (12) [17]
Other metatarsophalangeal	—	—	1 (2) [3]	3 (7) [10]

*Normal cartilage intervals are given in parentheses.

†In a patient with a history of direct trauma, a complaint of patellofemoral pain, and crepitation on physical examination, but without joint space narrowing on roentgenograms, a 2% whole-person or 5% lower-extremity impairment is given.

Guarding differentiator, Table 71, page 109

- "Paravertebral muscle guarding or spasm or non-uniform loss of motion, dysmetria"
- These terms are not further defined in the Guides, 4th Ed.

Some thoughts on non-uniform loss of ROM, dysmetria

- **Non-uniform loss of ROM**
  - Does this mean asymmetry?
  - One plane of motion? More than one plane?

- **Dysmetria**
  - Lack of coordinated movement
  - How does this apply to spine?

Some thoughts on muscle guarding and spasm

- **Muscle Guarding** is a **voluntary** contraction of a muscle to minimize motion or agitation of the injured or diseased tissue.
  - It is not true muscle spasm because the contraction can be relaxed.
  - In the spine, it may be associated with reproducible loss of motion, which may be non-uniform loss.
- **Muscle Spasm** is a sudden **involuntary** contraction of a muscle or a group of muscles, usually associated with recent injury.
  - To differentiate true muscle spasm from voluntary muscle contraction, the individual should not be able to relax the contractions.
  - The spasm should be present standing as well as in the supine position.

Some thoughts on muscle guarding and spasm

- “SPASM" can be over-utilized and misused, especially in electronic health records (EHRs)
- Spasm is not typically seen at MMI
- Has low inter-rater reliability, sensitivity, specificity and poor validity

DRE I: Complaints or Symptoms
vs.
DRE II: Minor Impairment

There are the DRE differentiators to consider,

and

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….”

DRE I vs. DRE II
What if there is a documented history of differentiators that are not present at MMI?

DRE I

Criteria requires "…no muscle guarding or history of guarding…"

- DRE I for the IE's lack of muscle guarding or loss of range of motion at the time of MMI would comply with Rule 130.1(c)(3)
- But the IE's history of muscle spasms and loss of ROM documented in the records as having occurred prior to MMI would potentially not meet DRE I criteria

DRE Lumbosacral Category I:
Complaints or Symptoms

Description and Verification: The patient has no significant clinical findings, no muscle guarding or history of guarding, no documentable neurologic impairment, no significant loss of structural integrity on lateral flexion and extension roentgenograms, and no indication of impairment related to injury or illness.

Structural Inclusions: None.

Impairment: 0% whole-person impairment.

DRE I vs. DRE II

What if there is a documented history of differentiators that are not present at MMI?

DRE II

Criteria states, "...may include significant intermittent or continuous muscle guarding that has been observed and documented by a physician, nonuniform loss of range of motion...

- The IE's documented history of muscle spasm and loss of range of motion prior to MMI would potentially meet DRE II criteria
- The IE's lack of muscle spasm and loss of range of motion at the time of MMI, would potentially not comply with Rule 130.1(c)(3)

DRE Lumbosacral Category II: Minor Impairment

Description and Verification: The clinical history and examination findings are compatible with a specific injury or illness. The findings may include significant intermittent or continuous muscle guarding that has been observed and documented by a physician, nonuniform loss of range of motion (dysmetria, differentiator 1, Table 71, p. 109), or nonverifiable radicular complaints. There is *no* objective sign of radiculopathy and *no* loss of structural integrity. See Table 71, differentiator 1 (p. 109).

Structural Inclusions: (1) Less than 25% compression of one vertebral body; (2) posterior element fracture *without* dislocation (not developmental spondylolysis); the fracture is healed, and there is no loss of motion segment integrity.

A spinous or transverse process fracture with displacement without a vertebral body fracture is a category II impairment because it does not disrupt the spinal canal.

Impairment: 5% whole-person impairment.

DRE I vs. DRE II

What if there is a documented history of differentiators that are not present at MMI?

Also consider, the Guides Differentiators in Table 71, page 109 include:

1. Guarding = “Paravertebral muscle guarding or spasm or nonuniform loss of range of motion, dysmetria, is present or has been documented by a physician” per Table 71, p. 109

DRE I vs. DRE II

Table 71, 1. Guarding - APD 080966-s

..”by placing the word "or" between guarding, spasm and nonuniform loss of ROM we read those terms in the disjunctive. We read the Guarding portion of Table 71 to say **guarding can be used as a differentiator if guarding *or* spasm *or* nonuniform loss of ROM is present or has been documented by a physician**, not that all three items of guarding, spasm and nonuniform loss of ROM must be present or documented by a physician before it can be used as a differentiator.”

DRE 1 vs. DRE II

Considering rule 130.1(c)(3); DRE I, DRE II; and APD 080933-s

- This is an area where there is variability in interpretation
- There may be a difference of medical opinion
- You must determine the appropriate DRE category and ***sufficiently explain*** this in your report, based on the compensable injury and case specific facts

DRE I vs. DRE II

Simply listing the differentiators from the Guides is insufficient

- Document which specific DRE differentiator(s) are present at MMI
  and / or
- Describe where the differentiator(s) are found:
  - in the records
  - on your exam

DRE I vs. DRE II

CONCLUSION:

- **The key is to sufficiently explain your rationale for your choice of DRE I or DRE II** so that others reading your report, including an administrative law judge, clearly understand your IR and rationale.
- Failure to sufficiently explain your rationale can lead to receipt of an LOC, or your report being overturned.

DRE II

DON'T FORGET THE OTHER STRUCTURAL DRE II DIFFERENTIATORS

Structural Inclusions:

- Compression fracture < 25%
- Non-displaced posterior element fractures
- Transverse or spinous process fracture with displacement in L and C spine; T spine is unclear

DRE II

DON'T FORGET THE OTHER CLINICAL DRE II DIFFERENTIATOR

Clinical Differentiator:

- Non-verifiable radicular complaints
- No objective signs of radiculopathy
  - ✓There may be a clinical radiculopathy, HOWEVER, it does not meet DRE III thresholds.

Impairment Rating
Spine DRE III: "Radiculopathy"

Radiculopathy is a "title" for the DRE III category

- **Like the DRE II Category, there are DRE III structural and clinical differentiators.**
- **Structural inclusions:**
  1. 25% to 50% compression of one vertebral body;
  2. Posterior element fracture, but *not f*racture of transverse or spinous process, *with* displacement disrupting the spinal canal, healed without loss of structural integrity.

Impairment Rating
Spine DRE III: Radiculopathy

- Radiculopathy may be accepted or a compensable condition, with corresponding clinical findings, BUT must reach threshold of **"significant signs"** to be *ratable* as DRE III
- "Significant signs" of radiculopathy
  - Loss of relevant reflex(es)
    - includes decreased and absent relevant reflex(es)
  - 2 cm or greater atrophy (at same location)with circumferential measurements of relevant extremity

Impairment Rating
Spine DRE III: Radiculopathy

- APDs 040924, 091039, 111710 - **Loss of relevant reflex(es) includes *decreased* and *absent* reflexes.**
- APD 030091-s Radiculopathy requires > 2 cm of atrophy and/or loss of relevant reflex(es).
- APD 072220-s clarified that DRE III radiculopathy was for atrophy of **2 cm or more.**

Impairment Rating
Spine DRE III: Radiculopathy

Table 71 (Chapter 3, page 109) lists other differentiators.

4. * Electrodiagnostic evidence

Unequivocal electrodiagnostic evidence exists of acute nerve root compromise, such as multiple positive sharp waves or fibrillation potentials; or H-wave absence or delay greater than 3 mm/sec; or chronic changes such as polyphasic waves in peripheral muscles.

- HOWEVER, APDs 051456 and 980375 state that electrodiagnostic testing is insufficient by itself to assign impairment for radiculopathy in the absence of significant signs of radiculopathy (loss of relevant reflexes or unilateral atrophy).

Impairment Rating Radiculopathy

- A CLINICAL RADICULOPATHY may be evident in the clinical history, BUT at the point of MMI, the injured employee's condition may be a:

DRE III

DRE II

DRE I

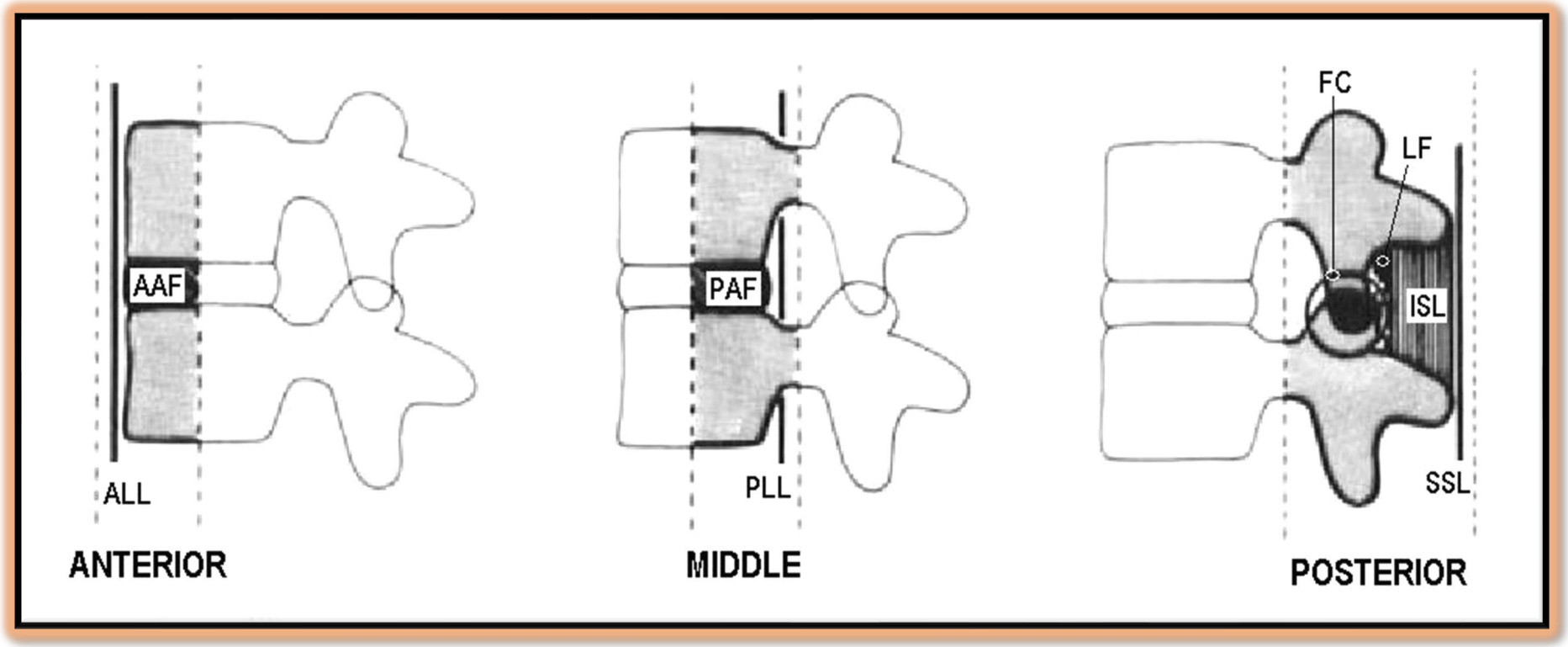
Dependent on the severity of the RADICULOPATHY, individuals may not recover, recover incompletely or recover completely – hence the variability of the DRE category.

Impairment Rating
Spine DRE Categories IV - VIII

SUMMARY

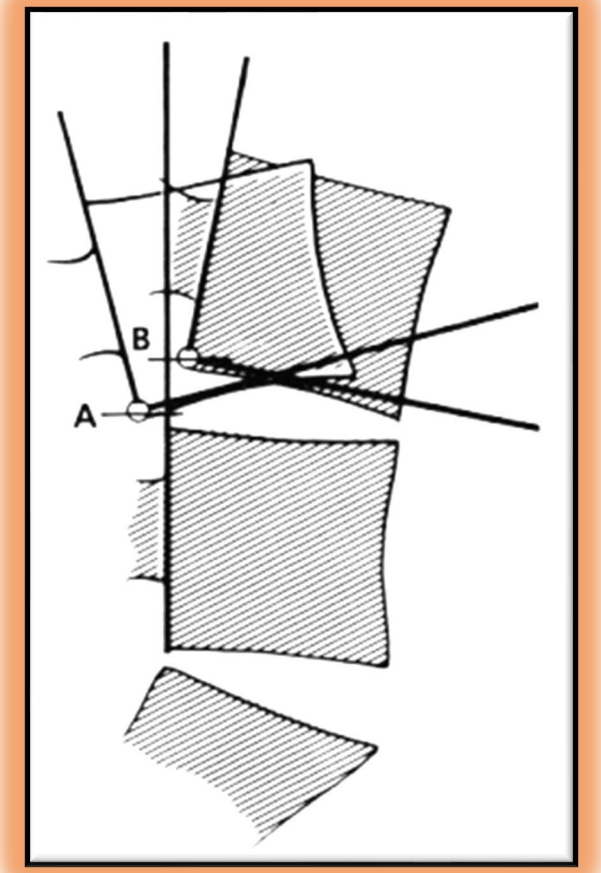
- Rare circumstances
- Covered more thoroughly in the Certification Course
- Refer to AMA Guides, pages 102-111
- Generally, will require HIGH ENERGY trauma mechanism; resulting in enough damage to the supporting structure of the spine and compromises the spinal canal to produce higher levels of neurologic compromise

Spine DRE Categories IV – VIII
Schematic Spinal Anatomy
3 Column Theory (Denis)

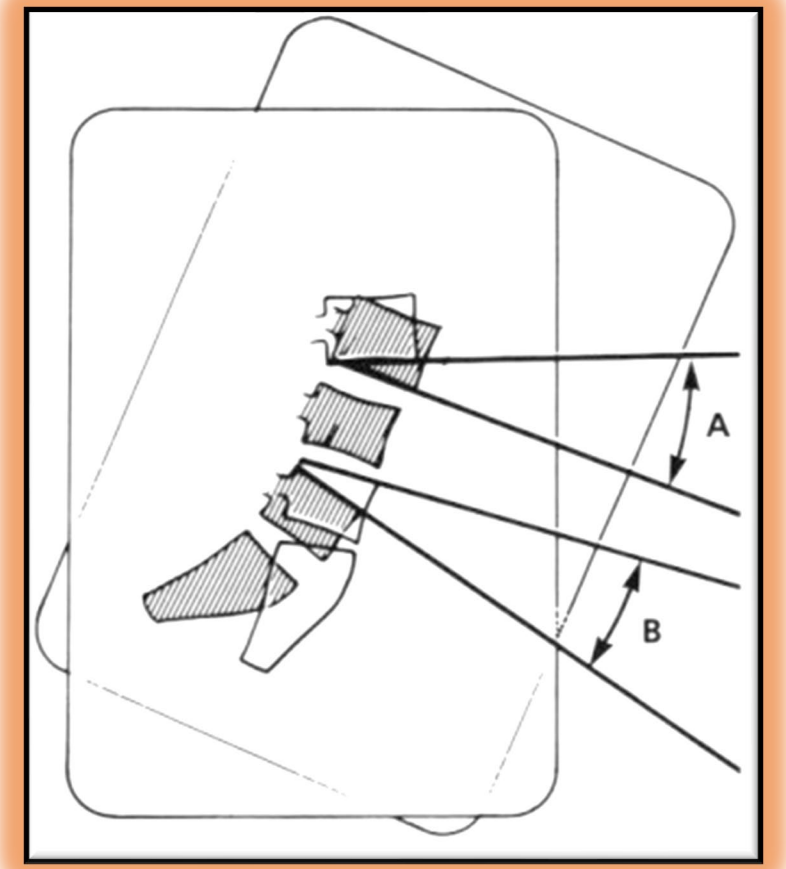


(ALL: Anterior longitudinal ligament, AAF: Anterior annulus fibrosus, PLL: Posterior longitudinal ligament, PAF: Posterior annulus fibrosus, SSL: Supraspinous ligament, ISL: Interspinous ligament, LF: Ligamentum flavum, FC: Facet capsule)

Spine DRE IV
Loss of Motion Segment Integrity - FIGURE 63



TRANSLATION



ANGULAR MOTION

Spine DRE IV
Loss of Motion Segment Integrity or Multilevel Neurologic Compromise

Lumbar

≥ 5mm translation of one vertebra on another (Guides state both ≥ 5mm and > 5mm)

> 15º more angular motion at L5-S1 than L4-L5

>11º more angular motion than adjacent levels

Cervical

≥ 3.5 mm translation of one vertebra on another

> 11º more angular motion than adjacent levels

Lumbar and Cervical

Structural inclusions

- Compression Fracture >50%
- Multilevel spine segment structural compromise (fractures and dislocations)

Impairment Ratings

Cervicothoracic = 25%

Thoracolumbar = 20%

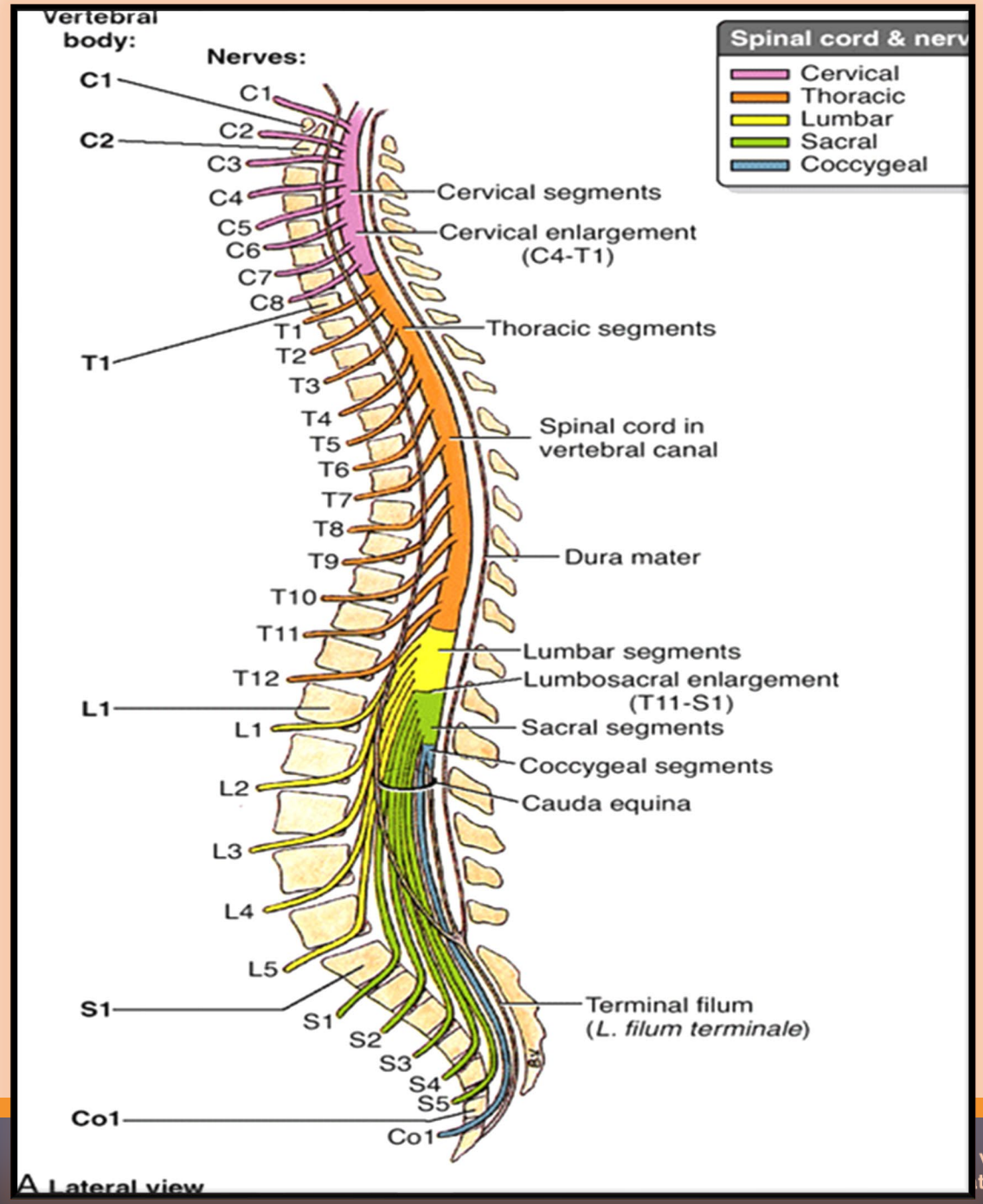
Lumbosacral = 20%

Spine DRE Categories IV – VIII

SPINAL CORD / CAUDA EQUINA / NERVE ROOT SCHEMATIC

Be aware of the spinal segmental levels where the different nerve roots emerge from the cord

- C8 between C7 and T1
- T12 above the conus medullaris (CM) starts to emerge at ~ T9
- L5 root start to emerge from the lumbosacral enlargement of the CM at ~ T11 and exits the spine between L5 and S1
- Sacral roots start to emerge from the lumbosacral enlargement of the CM at ~ T12 and L1



SUMMARY: Spine DRE Categories IV – VIII Cervicothoracic / Thoracolumbar / Lumbosacral

- Refer to summary Tables:
- 73 – page 110 Cervicothoracic
- 74 – page 111 Thoracolumbar

- These show how the DRE VI to VIII Combine with the DRE II to V
  - **43 % to 84 % for Cervicothoracic**
  - **38 % to 76 % Thoracolumbar**

- *LS spine DRE II – VIII are stand alone IR. DO NOT COMBINE WITH OTHER DRE.*

COMMON SPINE IMPAIRMENT ERRORS

Not understanding

- Basic science, anatomy and especially neuroanatomy
- Injury mechanisms

Not understanding

- Not all SPINE complaints / clinical findings / imaging findings are due to a specific injury event **[Learn the literature!]**
- Findings on imaging are cumulative over a lifetime even in asymptomatic populations

Nerve Injury, potentially associated with Spine Injury

- Chapter 4 (pages 150-152) address some areas of nerve injury potentially associated with Spine
- Intercostal – Sensory or motor Max 2 % per nerve
- Table 23 – “Spinal Nerves in the Head and Neck Region”
- Table 24 – “Inguinal and Perineal”

Nerve Injury, potentially associated with Spine Injury

- Associated nerve Injury
- Intercostal / Table 23 / Table 24
- Take the MAX value and multiply by Tables in Chapter 4 on page 151 to obtain the final IR:
  - Table 20 – Sensory
  - Table 21 - Motor

Pelvis

Section 3.4 – page 131

- Table is based on healed fractures.
- IR accrues only with displacement of the healed fracture and with or without residuals, dependent on the location.
- Some pelvic fractures are also addressed in lower extremity DREs (Table 64)
- SI joint issues?

Spinal Cord Injury

Section 4.3

Can occur without injury to the structure of the boney spinal column. In this case, – Use Chapter 4 (4.3) – pages 147-149.

- Examples: Epidural Hematoma, Transverse Myelitis, Infections
- Six areas of function (7 tables)
- If multiple areas are involved, *COMBINE* the values.

Check out the article,
"Nomenclature and Classification of Lumbar Disc Pathology" at:

http://hbtinstitute.com/files/SPINE2001_Disk_Nomenclature.pdf

Any Questions on Spine IR?

Any Questions on:

DD Roles & Responsibilities?

Maximal Medical Improvement?

Impairment Rating?