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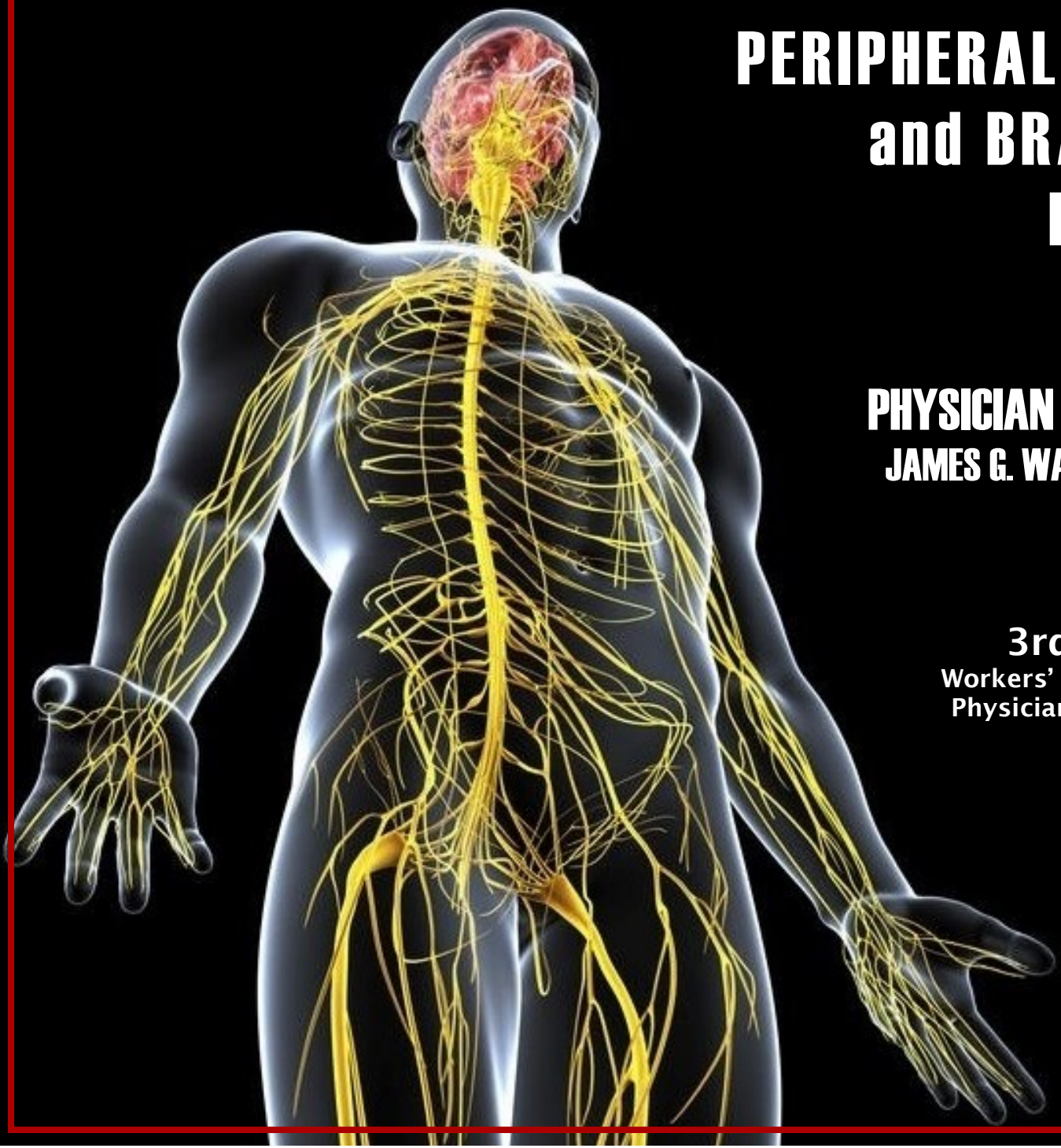

PERIPHERAL NERVE and BRACHIAL PLEXUS IMPAIRMENTS

PHYSICIAN SPOTLIGHT
JAMES G. WARMBROD, MD

3rd ANNUAL
Workers' Compensation
Physicians' Conference

SAVE THE DATES

3rd Annual Physicians' Workers' Compensation Conference

AMA *Guides*, 6th Edition, Training and other medical topics*

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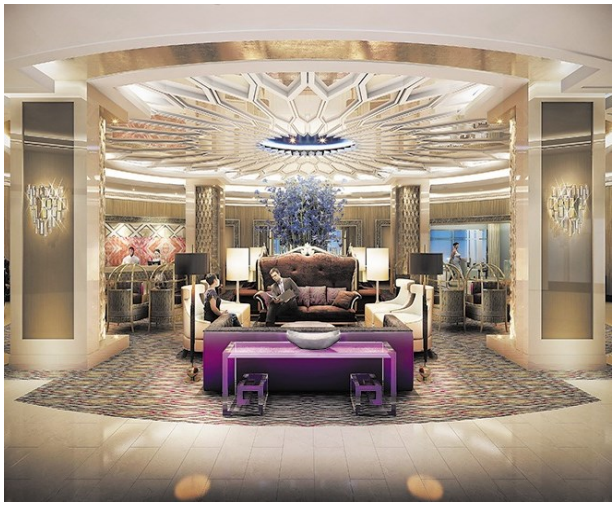
Guest House at Graceland

3600 Elvis Presley Boulevard, Memphis, TN

*Meets requirements for physicians seeking appointment to the Medical Impairment Rating Registry.
See pages 8 and 9 for registration details.



The 20th Annual Tennessee Workers' Compensation Educational Conference

June 13-15, 2017

Embassy Suites Hotel, Nashville Southeast

For registration details, click HERE.

Medical Impairment Rating Registry
Tennessee Bureau of Workers' Compensation
220 French Landing, Suite 1-B, Nashville, TN 37243

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BWC Bureau of WORKERS' COMPENSATION

MIR PHYSICIAN SPOTLIGHT
JAMES G. WARMBROD, MD

Staying true to his roots, Dr. James Warmbrod has practiced medicine in his hometown of Jackson, Tennessee, for forty-three years. Although he no longer performs surgeries, he still has a clinical practice two days a week at The Jackson Clinic, where he has worked since July 8, 1974, specializing in foot and ankle surgery. He was certified by the American Board of Orthopaedic Surgery on November 4, 1975.

"I have lived a wonderful and blessed life," says Dr. Warmbrod. "I grew up in Jackson in a happy Christian home with a younger sister and brother. We went to public schools. No one knew that I was born without an odontoid process until I was paralyzed from the neck down during a football game my junior year. I had a neck fusion and obviously made a full recovery. The doctor who operated on me was orthopaedic surgeon Dr. Jack Booth, whom I later joined in practice at The Jackson Clinic."

Dr. Warmbrod is the West Tennessee stalwart of the MIRR. His accuracy and consistency in applying the AMA *Guides* musculoskeletal chapters, as well as his central location in Jackson, have made him a perennial favorite among West Tennessee employers and employees. As one of the most utilized physicians on the MIRR, he is also one of the most experienced, having served since the program's inception in 2005. "In being on the MIRR," says Dr. Warmbrod, "I have an opportunity to give back for the knowledge and health that I have been blessed with."

Tegucigalpa, Honduras


James G. Warmbrod, MD

A "huge" L.S.U. fan, Dr. Warmbrod went to Louisiana State University because his father played football for them. Dr Warmbrod attended medical school at the University of Tennessee College of Medicine in Memphis, where he has since served as Clinical Assistant Professor in the Department of Family Medicine. He interned and undertook his general surgery residency at Philadelphia General Hospital and completed his Orthopaedic Residency at the University of Alabama Hospital and Clinics, in Birmingham.

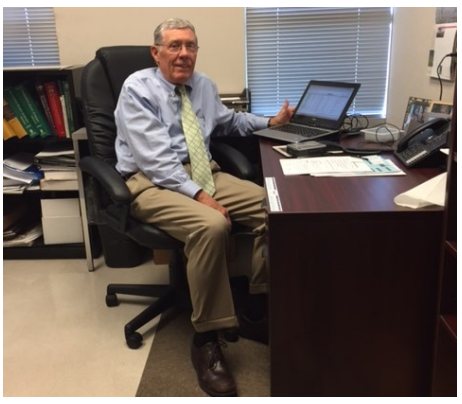
Dr. Warmbrod enjoys taking care of his yard, growing a small vegetable garden, and running in several half marathons each year. In addition to biking and playing golf two or three times a week, he travels regularly, having recently participated in a World War II journey that followed the "Band of Brothers" route from London to Austria.

"The beaches at Normandy were the highlight of that trip. This year we're planning to go the Pacific and see Pearl Harbor, Guam, Iwo Jima, and Sapian. My Dad flew B-29s off Saipan."

Not all of Dr. Warmbrods' travels, however, are purely leisure:

"I have been leading a medical construction mission to Honduras to support long term missionary Suzy McCall since 1998," says Dr. Warmbrod. "I have been going twice a year the last five years. This is through my local church, All Saints Anglican Church. The team size varies from eleven to twenty-two. They live all over the country but most from this area. We do primary care and usually see around twelve hundred people in the poorest neighborhoods of the capital city Tegucigalpa. There is a government system but poorly funded and the people we see cannot afford the care they need. We see some of the same people each year. Being an orthopedic surgeon I take my steroids shots and do over fifty shoulder and knee injections. They cannot afford the surgery they would get in United States. The construction team usually works on construction projects at a children's home where seventy abused and neglected children live. We may not change their overall health but the main thing we do is take the love of Jesus Christ to them and show them that they are loved. I am always looking for people to join us."

Dr. Warmbrod is married to Halina, whom he met while working in a Philadelphia emergency room. They are active in All Saints Anglican Church in Jackson and have three children: his daughter Monica practices law in Birmingham and has two sons; his daughter Stephanie works for Caterpillar Finance in Nashville; and his son James is a Regional Manager for Asset Protection for Dick's Sporting Goods in Memphis and has a son and daughter.



PERIPHERAL NERVE AND BRACHIAL PLEXUS IMPAIRMENTS, AMA *Guides,* 6th Edition

James B. Talmage, MD, and Jay Blaisdell, CEDIR VI

MIR Physicians will employee a variety of methodologies within the AMA *Guides,* 6th Edition, to rate nerve injuries, depending on the type of injury and location of the nerve. Traumatic injuries causing impairment to the peripheral or brachial plexus nerves are rated using section 15.4e beginning on page 429 for upper extremities and section 16.4c beginning on page 533 for lower extremities. Verifiable nerve lesions that incite the symptoms of Complex Regional Pain Syndrome, Type II (similar to the former concept of Causalgia) are also rated in these sections.

Nerve entrapments, however, which are not caused by isolated traumatic events, are rated using the methodology in Section 15.4f starting on page 432 (see *AdMIRable Review*, Summer 2013). Type I Complex Regional Pain Syndrome (somewhat similar to the former concept of Reflex Sympathetic Dystrophy) is rated using section 15.5 on page 450 for upper extremities or section 16.5 on page 538 for lower extremities (See *AdMIRable Review*, Winter 2016). Digital nerve impairments in the hand are rated using the methodology found in Section 15.4c on page 425 (See *AdMIRable Review*, Winter 2014). Purely sensory nerves of the hand or forearm are rated using Section 15.4d on page 429.

METHODOLOGY OVERVIEW

The MIR Physician first identifies the injured peripheral or plexus nerve and then grades the severity of both sensory and motor deficits on a continuum ranging from "none" or "normal" to "very severe" or "complete loss. Next, the MIR Physician finds the name of the injured nerve in question in the far left column of the appropriate table (a.k.a. grid) and assigns an impairment class, for both sensory and motor deficits, based on the severity of clinical test findings from the neurological examination. Finally, the MIR Physician adjusts the default ratings of the impairment classes, for both motor and sensory deficits, using non-key factors (a.k.a. grade modifiers) and then combines the final motor and sensory ratings for the total extremity rating value for the injured nerve in question.

STEP 1: IDENITIFY THE INJURED NERVE

"Precise knowledge of the anatomy and physiology of the nervous system is prerequisite."[1(419)] To better identify the function and location of upper extremity peripheral nerves, the MIR Physician may benefit from reviewing:

- Table 15-19, "Origins and Functions of Peripheral Nerves of [the] Upper Extremity Emanating from Brachial Plexus," on page 431, [Note: the median and ulnar nerves were inadvertently left off this table during printing]
- Figure 15-7, "Motor Innervation of the Upper Extremity," on page 432, and
- Figure 15-8, "Cutaneous Innervation of the Upper Extremity and Related Peripheral Nerves and Roots" also on page 432.

To better identify the function and location of lower extremity peripheral nerves, the MIR Physician may benefit from reviewing:

PERIPHERAL AND BRACHIAL PLEXUS NERVE RATING PROCESS

STEP 1: Identify the injured nerve.

STEP 2: Grade the severity of sensory and motor deficits.

STEP 3: Assign the impairment class for sensory and motor deficits.

STEP 4: Adjust the default ratings using non-key factors.

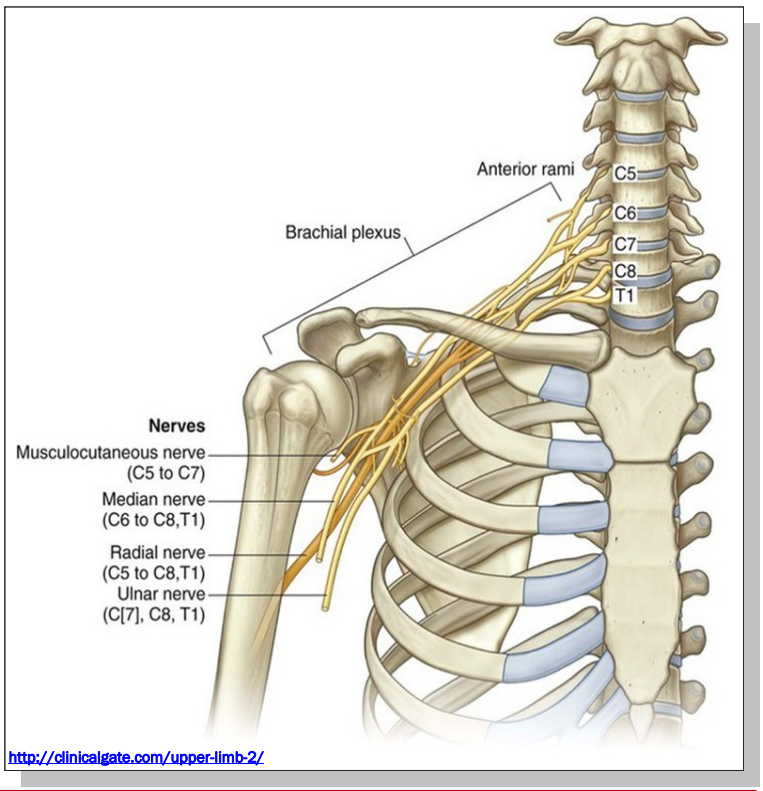
STEP 5: Combine the adjusted sensory and motor ratings.

- Figure 16-3, "Sensory Nerves of the Lower Extremity," and
- Figure 16-4, "Motor Nerves of the Lower Extremity," both on page 537.

Muscles that are weak because of injury to a specific nerve are usually, but not always, consistent with textbook descriptions of the nerve's innervation of specific muscles. Similarly, a sensory deficit may not correspond exactly with a textbook dermatome. Irregular innervation does occur, and the MIR Physician may wish to consult updated references on specific deficits seen with documented injury to specific nerves.

STEP 2: GRADE SEVERITY OF SENSORY & MOTOR DEFICITS

As a part of the 2013 Workers' Compensation Reform Bill, Tennessee Code 50-6-204 (k) (2) stipulates that evaluators "shall not consider complaints of pain in calculating the degree of permanent impairment." Only an administrative judge can interpret exactly how this new law applies to *Guides* methodology, but until then, the Bureau Medical Directors have published some guidelines which can be found online. When assessing



http://clinicalgate.com/upper-limb-2/

(Continued from page 4)

nerve injury impairment, the Directors advise evaluators to "use only sensory deficit, or numbness, rather than pain."

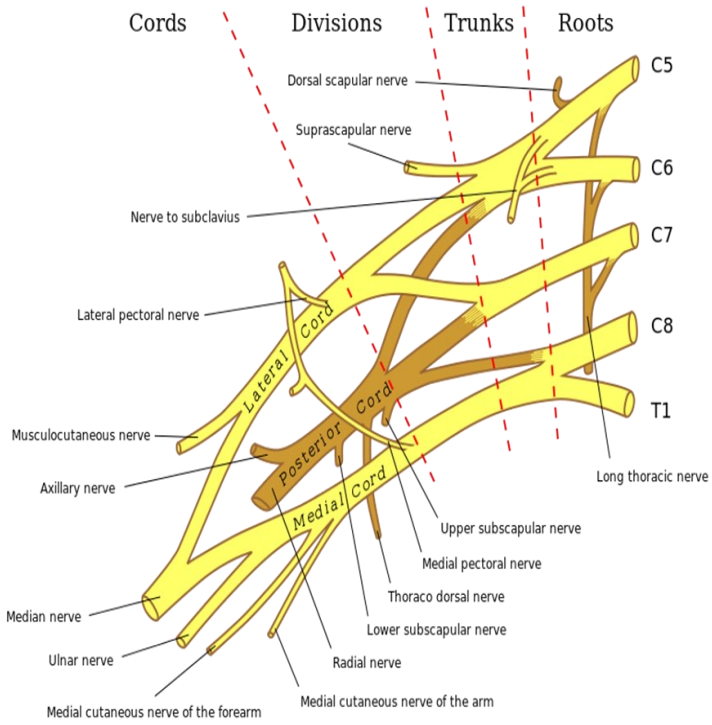
The two clinical tests that are most commonly employed to quantitatively measure sensory deficits are the 2-point test for fine discrimination sensibility and the Semmes-Weinstein monofilament touch pressure threshold test. "Two-point discrimination has its widest application for individuals who have sustained nerve lacerations" [in the hand], while Semmes-Weinstein monofilament testing may be better for detecting abnormalities in both "clinical and induced neuropathies." [1(424)] The MIR physician should conduct the tests the day of the evaluation. The results of monofilament testing are conveyed in grams of force necessary for the patient to detect cutaneous touch-pressure sensation when the filament used begins to bend during force application. The results of 2-point discrimination testing are recorded in millimeters (between two points) necessary for the patient to distinguish between 1 and 2 point stimulation.

2-Point Discrimination Test

To grade the severity of sensory deficits on a scale ranging from "normal" to "complete loss," the results of monofilament or 2-point discrimination testing are interpreted using Tables 15-13 and 15-14 on pages 424-5 for upper extremities and Table 16-11 on page 533 for lower extremities.

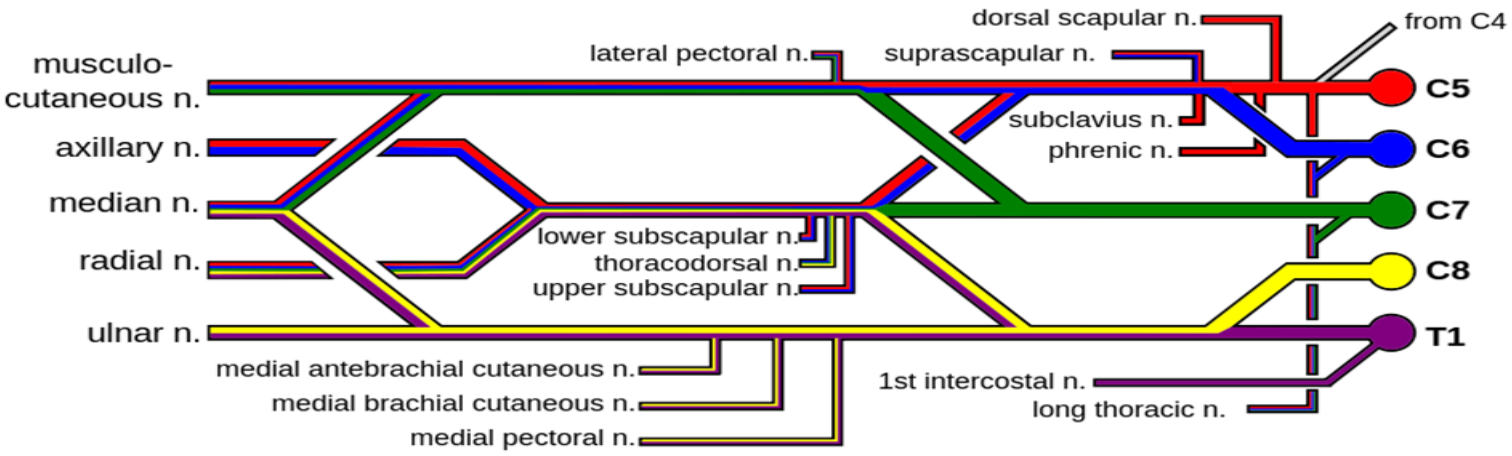
Any ratable motor deficit should persist over time, not come and go, and be recognizable by multiple examiners. Motor deficits are quantitatively measured using manual muscle strength testing for both the injured and contralateral limb and then comparing results. Motor deficits are significant for impairment purposes when the MIR Physician finds a difference in strength between the healthy and injured limbs. The MIR Physician assigns strength according to the MRC muscle strength scale.

Since manual muscle strength testing can be subjective, the MIR Physician should use muscle atrophy measurements and



Anatomy of the Brachial Plexus

EMG studies, when possible, to support motor deficit findings. Pronounced atrophy can be further documented by digital photography, with photographs attached to the MIR Report. The severity of the motor deficit, also graded on a scale from normal to complete loss, is assigned by applying the number obtained on the MRC muscle strength scale to Table 15-14 on page 425 for upper extremities and Table 16-11 on page 533 for lower extremities. If the MIR Physician's quantitative test findings differ from those of other examiners by more than 1 grade, the findings should be deemed invalid. [1 (425)] These tables are the source for the Severity words "Mild," "Moderate," "Severe," and "Very Severe" used in the tables to rate the specific nerve impairments (Tables 15-20, 15,21, and 16-12).



[1]Rondinelli R, Genovese E, Katz R, et al. *Guides to the Evaluation of Permanent Impairment*. 6th ed. Chicago, IL: AMA, 2008

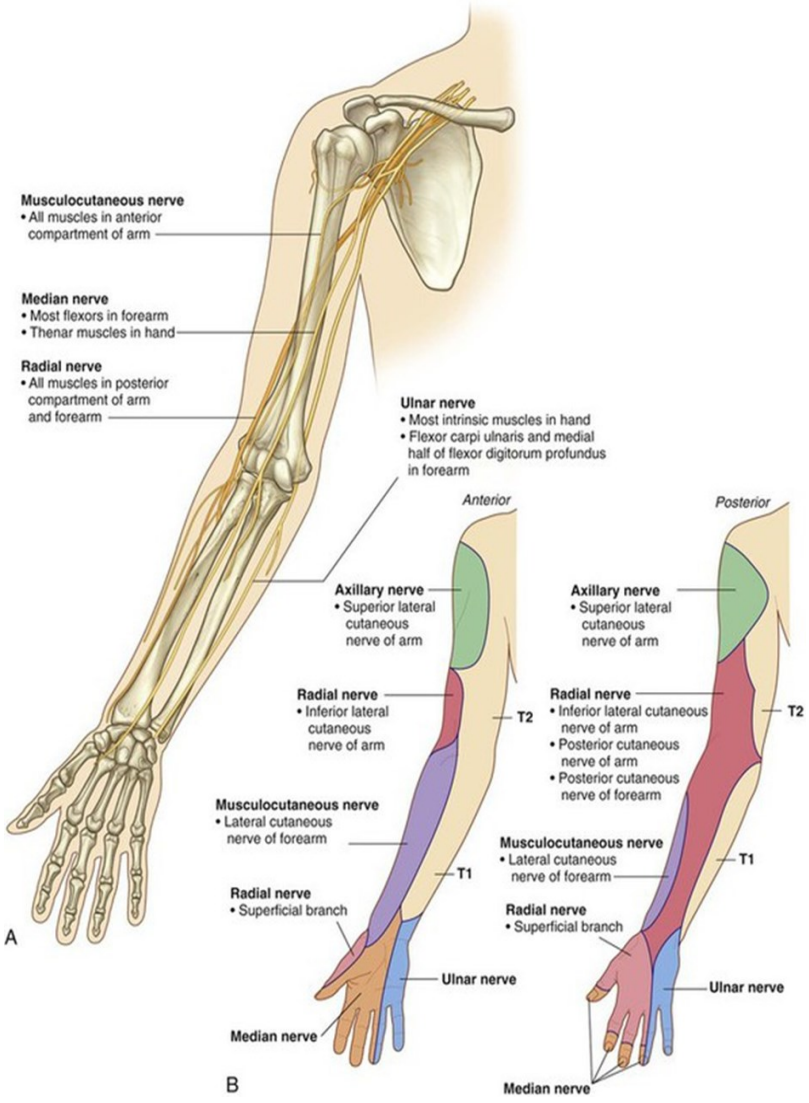
(Continued from page 5)

Medical Research Council (MRC) Muscle Strength Scale:
0 = Complete Paralysis. No movement observed in the muscle.
1= Muscle activation with a trace or flicker of muscle movement, but no joint movement.
2 = Movement through full range of motion when gravity is eliminated.
3 = Movement through full range of motion against gravity, but without resistance from examiner.
4 = Movement through full range of motion against gravity and moderate resistance from examiner.
5 = Normal strength. Movement through full range of motion against gravity and full resistance from examiner.

STEP 3: ASSIGN THE IMPAIRMENT CLASS FOR SENSORY AND MOTOR DEFICITS

This is basically the same methodology utilized in the Diagnosis-Based Method (DBM), but instead of identifying the appropriate diagnosis in the far-left column of the appropriate grid, the MIR Physician instead finds the name of the injured nerve in the far-left column. For injuries to peripheral nerves of the upper extremity, Table 15-21 on page 436 is the appropriate grid. For injuries to the trunks of the Brachial Plexus, Table 15-20 on page 434 is the appropriate grid. For injuries to peripheral nerves of the lower extremity, Table 16-12 on page 534 is the appropriate grid. Once the correct injured nerve (a.k.a. diagnosis line) is identified in the far-left column, the MIR Physician uses the grade severity obtained in STEP 2 to assign the Impairment Class of both the sensory and motor deficits, yielding a range of impairment values.

Semmes-Weinstein Monofilament Test



Upper limb. A. Anterior view of the upper limb. B. Superior view of the shoulder.
http://clinicalgate.com/upper-limb-2/

STEP 4: ADJUST THE DEFAULT RATINGS USING NON-KEY FACTORS

Each impairment class is separated into five grades: A, B, C, D, and E, with grade C being the default, or middle value. Grade A is the lowest impairment value within each impairment class and Grade E is the highest. Depending on the Functional History (GMFH) and Clinical Studies (GMCS) grade modifiers, the evaluator may move the impairment grade higher or lower than the default, but never into another impairment class. Since physical examination findings are used to place a peripheral nerve injury in its impairment class, the Physical Examination grade modifier (GMPH) is not used for adjustment purposes.

The Clinical Studies grade modifier (GMCS) incorporates the findings of nerve conduction and electrodiagnostic testing and is obtained using Table 15-9 for upper extremities on page 411 and Table 16-8 on page 520 for lower extremities. The electromyographer should be able to classify a nerve injury as conduction delay, by conduction velocity; as conduction block, by loss of amplitude; or axon loss, by needle electromyogram (EMG). Please note that a needle electromyogram (EMG) must be conducted between 3 weeks and 9 months after the injury occurred for it to be used to assign the Clinical Studies grade modifier, per Tables 15-9 and 16-8 .

PERIPHERAL NERVE AND BRACHIAL PLEXUS IMPAIRMENTS, AMA *Guides*, 6th Edition

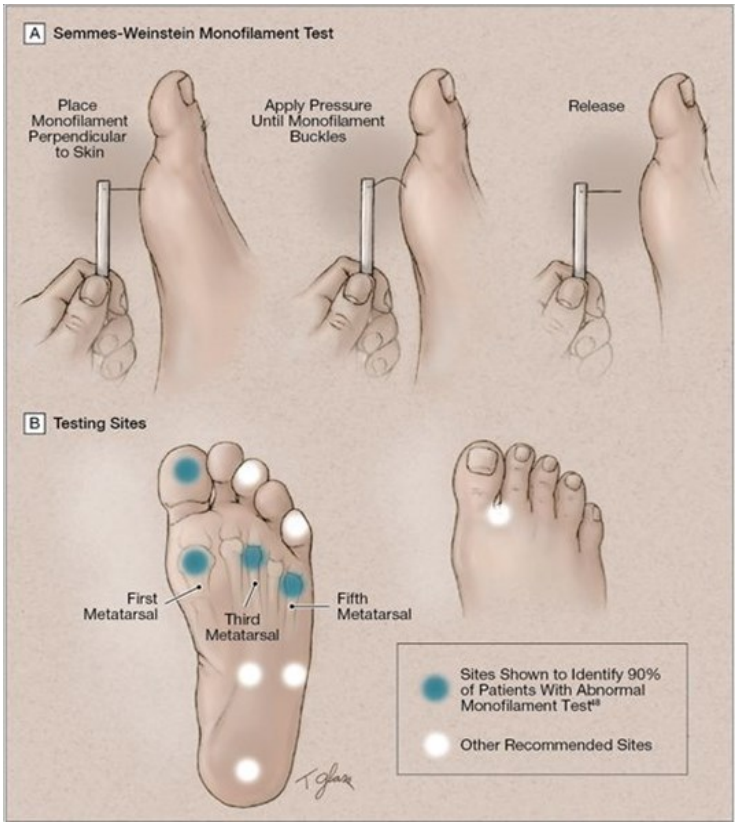
(Continued from page 6)

The Functional History grade modifier (GMFH) attempts to capture the degree to which symptoms interfere with activities of daily living and is assigned using Table 15-7 on page 406 for upper extremities and Table 16-6 on page 516 for lower extremities. While Table 15-7 incorporates both pain and results of the QuickDASH for assigning the GMFH, Tennessee Code 50-6-204 (k) (2) may preclude or modify their consideration since evaluators "shall not consider complaints of pain in calculating the degree of permanent impairment." Bureau Medical Directors advise evaluators not to "consider complaints of pain in using the Functional History Modifier." Questions 9 and 11 of the QuickDASH should also be interpreted differently, since they deal exclusively with pain:

QuickDASH Question 9: "Arm, shoulder, or hand pain." The Bureau Medical directors suggest that this question should be interpreted "using an assessment of sensory deficit or clinically evident disuse atrophy/changes of the skin or muscles."

QuickDASH Question 11: "During the past week, how much difficulty have you had sleeping because of the pain in your arm, shoulder or hand?" This should be interpreted "by asking, for example: how many nights/week did you have to change positions to go back to sleep?"

Once the Functional History and Clinical Studies grade modifiers are determined, the MIR Physician applies the net adjustment formula to calculate whether the impairment rating is modified from the default value. The impairment class integer is subtracted from each grade modifier and the differences are added for a net adjustment. A positive adjustment moves the final grade to the right of the default grade, and a negative adjustment moves the final grade to the left.



NET ADJUSTMENT FORMULA

(Functional History Grade Modifier ___) - (Class ___) = (Adjustment ___}

\+ (Clinical Studies Grade Modifer ___) - (Class ___) = (Adjustment ___)

_____

NET ADJUSTMENT = ___

FINAL GRADE (A, B, C, D, or E) = ___

For Class 4 impairments, which are possible for Brachial Plexus injuries, the MIR Physician adds +1 to each grade modifier before subtracting the impairment class integer and adding the differences for the net adjustment.[1(412)] Otherwise, an adjustment value above grade C would be mathematically impossible.

STEP 5: COMBINE THE SENSORY AND MOTOR RATINGS

Using the combined values chart on page 604, the MIR Physician then combines the adjusted motor and sensory impairments at the extremity level, which is then converted to the whole person value using either Table 15-11 on page 420 for upper extremities or Table 16-10 on page 530 for lower extremities.

COMBINING OTHER VALUES

Impairment ratings derived from different peripheral and plexus nerves may be combined at the appropriate extremity level using the combined values chart on page 604 provided that one impairment rating does not encompass the other. Peripheral and plexus nerve impairments may also be combined at the appropriate extremity level with impairment ratings derived using Diagnosis Based Impairment (DBI), entrapment neuropathy (Section 15.4f, pg.432) digital nerve (section 15.4c, pg. 425), and "sensory only" peripheral nerve injuries (Section 14.4d, pg. 429) methodologies—again, provided that one impairment does not encompass another. The Functional History grade modifier (GMFH) adjustments may be applied only to the highest of the ratings that will be combined.[1(406)]

CONCLUSION

For Tennessee Workers' Compensation injuries that occur on or after July 1, 2014, the MIR Physician should consider sensory deficits and functional limitations rather than pain. The methodology used to rate permanent impairment of the peripheral nerves or brachial plexus is nearly identical to the methodology used in the Diagnosis-Based Impairment scheme with the exception that the Physical Examination grade modifier (GMPE) is never used to adjust the default rating and the names of individual nerves or plexus trunks appear in the far-left column of the rating grids as opposed to the names of diagnoses. Special care should be taken not to duplicate nerve impairments when combining at the extremity level.

TN WORKERS' COMPENSATION PHYSICIANS' CONFERENCE, June 10-11, 2017

The Tennessee Bureau of Workers' Compensation and the International Workers' Compensation Foundation are sponsoring a special Educational Conference for Physicians and Attorneys focusing on medical topics of particular importance to physicians, attorneys, nurse practitioners, physician assistants, and medical and administrative staff.

WHO SHOULD ATTEND?

The Saturday session is directed to physicians, attorneys, medical staff and other professionals who are interested in the proper application of the AMA *Guides*. This session meets the training requirements for physicians seeking appointment to the MIR Registry.

The Sunday session will provide valuable and current information for physicians, nurse practitioners, physician assistants, medical and administrative staff, attorneys, and other individuals involved in workers' compensation in Tennessee. Topics covered include causation and return-to-work, Utilization Review, ODG, Treatment Guidelines, Drug Formulary, and the WC Administrative Courts.

LOCATION

The Guest House at Graceland
3600 Elvis Presley Blvd.
Memphis, TN 38116
(800) 238-2000

A block of rooms has been reserved at the conference hotel at the rate of $129, available 3 days prior and post based on availability. Rooms will be held through May 10, 2017, unless this block becomes fully reserved prior to this date. Call (800) 238-2000. Indicate you are attending the Tennessee Workers' Compensation Physicians Conference and give the code 170609INTE when making your reservations or book online.

CONTINUING EDUCATION

Application is pending for continuing medical education (CME) credit for physicians and continuing legal education (CLE) credit for attorneys.

"The AMA *Guides*, 6th Edition Training Course (Saturday) and the Physician Education Program (Sunday), are jointly sponsored by the International Academy of Independent Medical Evaluators (IAIME) and the Tennessee Bureau of Workers' Compensation (BWC). The IAIME is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The International Academy of Independent Medical Evaluators™ (IAIME) designated this Tennessee Bureau of Workers' Compensation educational activity for a maximum of (TBD) hours of AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity."

AGENDA for SATURDAY, June 10, 2017

AMA *Guides*, 6th, Edition, IMPAIRMENT RATING COURSE

THIS PROGRAM MEETS TRAINING REQUIREMENTS FOR PHYSICIANS SEEKING APPOINTMENT TO THE TN MEDICAL IMPAIRMENT RATING REGISTRY.

7:30 - 8:00 am	**REGISTRATION & Continental Breakfast**
8:00 - 8:10 am	**Opening Introductions** Robert Snyder, M.D.
8:10 - 8:30 am	**Pre-Test**
8:30 - 9:00 am	**Welcome/Introduction to the Tennessee Medical Impairment Rating (MIR) Registry** Jay Blaisdell, CEDIR VI, MIRR Program Coordinator
9:00 - 10:00 am	**Introduction, Chapters 1 & 2, Definitions and Philosophies** James Talmage, M.D., Fellow IAIME
10:00- 10:15 am	**Break**
10:15- 12:15 pm	**Breakout Session A: Chapter 17, Spine & Pelvis** Jeffrey Hazlewood, M.D.
	Breakout Session B (as needed): **Chapter 5, Pulmonary** **Chapter 11, Ear Nose and Throat** **Chapter 14, Mental and Behavioral** **Chapter 12, Visual** James Talmage, M.D.
12:15 -12:45 pm	**Lunch (provided)**
12:45 - 2:00 pm	**Chapter 15, Upper Extremity** James Talmage, M.D.
2:00 - 3:00 pm	**Chapter 16, Lower Extremity** Jeffrey Hazlewood, M.D.
3:00 - 3:15 pm	**Break**
3:15 - 4:15 pm	**Chapter 13, Central & Peripheral Nervous System** **Chapter 3, Pain** James Talmage, M.D.
4:15 - 5:00 pm	**How to Complete the MIR Registry Report Form/Common Errors Seen in MIR Reports** **Q & A** James Talmage, M.D. Jeffrey Hazlewood, M.D. Jay Blaisdell
5:00 - 5:55 pm	**Post Test/Case Examples & Discussion**

REGISTRATION FORM

TENNESSEE WORKERS' COMPENSATION PHYSICIANS CONFERENCE
SPECIAL SATURDAY AND SUNDAY PROGRAMS FOR PHYSICIANS AND ATTORNEYS
JUNE 10-11, 2017

Registration fee includes conference admission (Sat and/or Sun), materials, break & lunch and CME or CLE credits.

(Copy of AMA *Guides* not included.)

Registration Fee Before May 1st:

_____ **$300** per day ☐ Saturday, June 10 or ☐ Sunday, June 11 (Please check which day you will attend)
_____ **$475** both sessions Saturday & Sunday, June 11 & 12
_____ **$250** for Saturday 8:00 a.m.-12:15 p.m. only with Breakout B

Registration Fee On or After May 1st:

_____ **$325** per day ☐ Saturday, June 10 or ☐ Sunday, June 11 (Please check which day you will attend)
_____ **$525** both sessions Saturday & Sunday, June 11 & 12
_____ **$300** for Saturday 8:00 a.m. - 12:15 p.m. only with Breakout B

Please Specify
☐ Payment by credit card. Fax this form to (386) 677-0155.
☐ Check enclosed. Make payable to IWCF and mail to IWCF, 570 Memorial Circle, Suite 320, Ormond Beach, FL 32174

Name:_____
Business Name:_____
Title:_____
Address:_____
Email:_____
Amount:_____
Name on Credit Card:_____
Credit Card Billing Address (must match billing address at issuing bank):_____
_____
Credit Card Number:_____
Expiration Date:_____
Credit Card CVV2: (3-digit number on back of Visa/MC, 4 digits on front of AMEX)_____
Date:_____

LODGING: The Guest House at Graceland is located at 3600 Elvis Presley Blvd., Memphis, TN 38116. A block of rooms has been reserved at the rate of $129.00 plus applicable taxes. This rate will be available through May 10, 2017, unless this block becomes fully reserved prior to this date. Call the hotel's direct number, (800) 238-2000 and give group code 170609INTE or book online at https://tinyurl.com/TNPHYS17. Hotel reservations alone do not guarantee admission to the conference.

CANCELLATION REFUND POLICY: Cancellation of pre-registration must be made before 5:00 pm on May 31,2017. Substitution of personnel is recommended in lieu of cancellation after that date. The full registration fee will be forfeited if you fail to attend or cancel timely.

SPECIAL NEEDS: Individuals attending the conference who may need auxiliary aids or special services are requested to provide notice of their needs in writing no later than 10 working days before the conference so that appropriate arrangements can be made.

DRESS CODE: Casual clothing is appropriate for all events.

For additional information contact the IWCF at (386) 677-0041, Fax (386) 677-0155, or email IWCF@bellsouth.net.