

# AdMIRable REVIEW

JOURNAL OF THE TENNESSEE  
MEDICAL IMPAIRMENT RATING REGISTRY

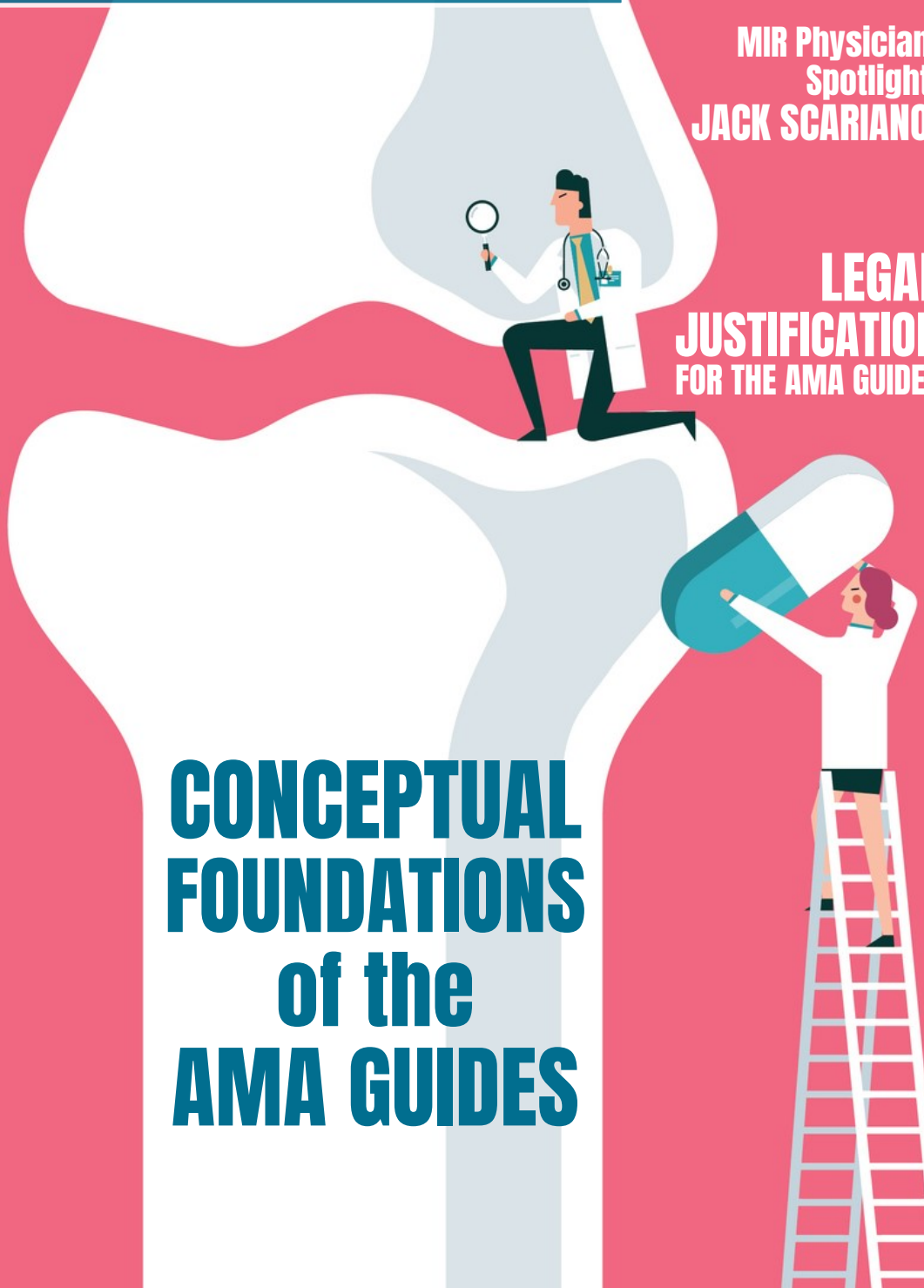
VOLUME 9  
Spring Issue  
2020



**Tennessee's  
Adoption of the  
AMA Guides  
35th Anniversary**

**MIR Physician  
Spotlight  
JACK SCARIANO**

**LEGAL  
JUSTIFICATION  
FOR THE AMA GUIDES**



**CONCEPTUAL  
FOUNDATIONS  
of the  
AMA GUIDES**



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## Attention Board-Certified Physicians:

The Tennessee Bureau of Workers' Compensation is **accepting applications** for physician appointment to the Medical Impairment Rating Registry.

### Benefits Include:

- Opportunity for Public Service
- Industry Recognition as Tennessee's premier impairment rating expert
- Name and expertise added to online [MIR Physician Listing](#)
- \$1500 per MIR referral
- \$2000 per Mental/Behavioral Disorder Referral
- Additional \$500 for extraordinary cases
- Eligible for Physician Spotlight in *AdMIRable Review*.

## Apply to be an MIR Physician

Send completed application, proof of board certification and of malpractice insurance, and CV to [Jay.Blaisdell@tn.gov](mailto:Jay.Blaisdell@tn.gov).

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

p. 615-253-5616 f. 615-253-5263 [Jay.Blaisdell@tn.gov](mailto:Jay.Blaisdell@tn.gov)



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Tennessee's first "Workmen's Compensation Act" was passed by the General Assembly and signed into law by Governor Albert Roberts in April 1919. It took effect on July 1, 1919.

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# In this Issue of AdMIRable Review

Volume 9, Spring 2020, Pages 9001 - 9035

Medical

## MIR Physician Spotlight: Jack Scariano, MD

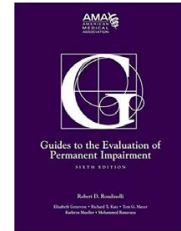
[Read on page 9005 >](#)



Medical

## Conceptual Foundations

[Read on page 9007 >](#)



Medical

## Battling the Opioid Crises Pain Neuroscience Education

[Read on page 9014 >](#)



Medical

## Tennessee's Adoption of the AMA Guides

35th Anniversary

[Read on page 9019 >](#)



Legal

## A Little Legal Guidance on the AMA Guides

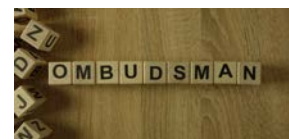
[Read on page 9022 >](#)



Legal

## What is an Ombudsman Attorney?

[Read on page 9025 >](#)



Medical

## Selected Medical Abstracts Regarding Disability Outcomes

[Read on page 9027 >](#)



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## MIR Physician Spotlight

# Jack Scariano, MD



**D**r. Jack Scariano is a native of New Orleans, Louisiana, and he opened a private practice in Knoxville in 1979. At that time he was the third-ever neurologist to practice in Knoxville. For many years, he has worked in hospitals and his office. However, in 2010 after 30 years of working in the office and hospital, he decided just to see patients in his office. His mantra in his practice is to actually listen to the patient and treat the patient and not the test reports. He still practices full-time in his office and loves seeing and treating patients with neurological problems.

He is an only child, and after living in Knoxville for 40 years, East Tennessee is his home. He is married with three very capable grown up kids. His wife, Rebecca, is a speech and language pathologist. His daughter is a veterinarian who practices in Atlanta. His oldest son works in his office and is going to physician assistant school, and his youngest son just graduated from law school in Atlanta and is a practicing lawyer in a large corporation in Atlanta. His hobbies are gardening, raising dogs, and traveling. He also enjoys watching NFL football and seeing bands from the 1970s in concert when they come to East Tennessee or Atlanta. He is a long-time Porsche motor enthusiast.

He received all his medical education and residency at Louisiana State University Medical Center in New Orleans. Since he has been practicing, he has continued to improve his knowledge of neurology and has taken other educational courses at Mayo Clinic, Duke University, National Institute of Health and Barrow Neurological

Institute. In the 1980s, neurologists treated all neurological conditions and did not focus on any one area. He was trained as a general neurologist. His main interest now is to diagnose and treat neurological diseases secondary to concussions and spinal disorders. He has had extensive training and experience over his 40 years in practice with rating neurological impairments. He has worked with many insurance companies, attorneys,



and the Social Security Administration. He has been the neurological expert for the Veterans Administration in East Tennessee for determining neurological impairment in patients injured in the Gulf wars. He is also the neurologist for the National Football League Injury Fund for all retired NFL players in East Tennessee who have injuries from multiple concussions. He has additionally been diagnosing

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and treating patients with neurological disorders caused by toxic exposures in the Oak Ridge nuclear plant.

He is board-certified in neurology as of 1982. He is a Fellow of the American Academy of Neurology as of 1980. He is also board-certified in pain medicine and is the Medical Director of several Tennessee certified pain clinics in Knoxville. He has been awarded as Top Neurologist and Top Pain Management Specialist 2020 by the Tennessee Top Doctors. He strongly believes in serving his community and intends to keep providing services through his practice for as long as he can.



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# Conceptual Foundations of the AMA Guides, Sixth Edition

*Jay Blaisdell, MA, and James B. Talmage, MD*



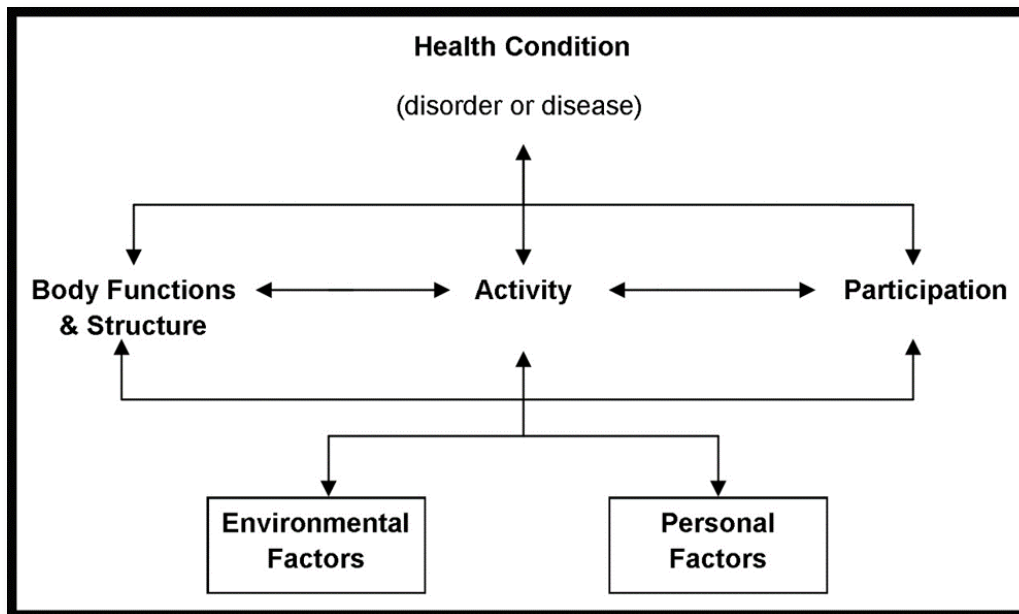
## From Pandemics to Impairment Ratings

Life has changed dramatically for us all since the World Health Organization (WHO) declared COVID-19 a pandemic. Like many others across the world, Bureau employees are working from home while reading the daily headlines, keeping abreast of the latest developments. Entities such as the WHO and Centers for Disease Control (CDC) now figure prominently in our lives and lexicon, whereas before we may have scarcely been aware of what exactly these organizations did. The WHO is actually a specialized agency within the United Nations created in 1948 with a very broad mandate for health. The WHO defines itself in its own constitution as “the directing and coordinating authority on international health work” (WHO). Health care professionals may be more familiar with the Family of International Classifications (FIC) that the WHO has assumed responsibility for publishing, particularly its International Classification of Diseases (ICD) codes. The WHO’s International Classification of Functioning, Disability and Health (ICF) model is perhaps a lesser known member of the Family of International Classifications, but it is one that is vitally important for understanding the *AMA Guides, Sixth Edition*.

## The ICF Model

The ICF model serves as the WHO’s “framework for measuring health and disability at both individual and population levels” (WHO). Because the ICF model acknowledges the complex relationships between a given person and the person’s health condition, environment, and motivation, it appears to be the best foundation for the *Guides* to build an impairment rating methodology upon (p.3). The model consists of three main components: (1) body functions and structures, and their variation from what is considered normal, (2) the ability to execute activities of daily living (ADL), such as bathing, dressing, eating, and walking, and (3) participation in life’s events such as work, leisure, worship, civic, and social events. These three components have varying effects on one another when placed within the context of an individual’s environment (which includes the individual’s support network) and personal qualities, such as “grit” and sense of purpose. One of the main advantages of the current ICF model, and thus the current edition of the *Guides*, is that it mainstreams disability by assuming that every human being will eventually experience a decrease in health, and thus an increase in disability. The question is not if an individual is disabled, but rather how that disability impacts the individual’s life. The ICF model, therefore, shifts the focus from the cause of the disability to the impact of the disability. However, in workers’ compensation and personal injury cases, causation is very important. Two injured workers who suffer the same physiological abnormality may be affected in very different ways (Rondinelli, 2009, p.3). The loss of a finger will have relatively little effect on the life

of a lawyer compared to that of a concert pianist. Sudden paralysis from the waist down may cause some individuals to resign themselves from social and civic life, while others, such as Franklin D. Roosevelt, may go on to be elected governor and president.



## What are Impairment Ratings?

Since the ICF model and the *Guides* make a distinction between impairment and disability, so should physicians. Impairment rating is but one of several determinants of disability, and the one most amenable to physician assessment. An individual's impairment rating must be then integrated with non-physician sources of information, such as psychosocial, vocational, and avocational issues. To put the matter even more simply, physicians rate impairment, while judges rate disability.

The AMA *Guides, Sixth Edition*, defines impairment as a “consensus derived percentage estimate of loss of activity reflecting severity for a given health condition, and the degree of associated limitations of ADLs” (Rondinelli, 2009, p.5). Impairment ratings are foremost a measure of the (1) severity and (2) limitations in the organ body or system in question. We see clearly that the *Guides* places a high priority on pathology and physiology, or variance from normalcy, resulting from the injury or disease, but also the degree to which the injury or disease negatively affects the ability to execute basic physical and mental tasks.

All impairments ratings are given in whole person, or converted to whole person, ranging from 0% to 100%. An impairment rating of 0% means that there is no significant organ or body system functional consequence, and the injury or disease does not limit the performance of common activities of daily living, while a rating of



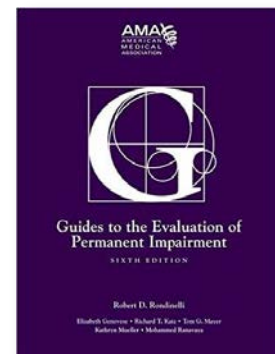
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90% to 100% indicates that there is severe organ or body system impairment and the individual is fully dependent on others to execute ADLs and is approaching death (p.19). These percentages are used to establish the financial obligations of payers to individuals.

The *Guides* provides an explicit list of Activities of Daily Living on page seven. This list includes fundamental physical tasks such as eating, mobility, hygiene, and grooming. The *Guides* also provides an explicit list of more complex activities called Instrumental Activities of Daily Living (IADL) that while common to many individuals are not common to all individuals. This list includes care of others, care of pets, child rearing, community mobility, financial management, health management, meal preparation, and shopping (p.7). One key point is that “work” is not listed as either an ADL or IADL. This is because different jobs have different functional requirements. According to the Bureau of Labor Statistics, the average person will hold ten different jobs before the age of forty and will have twelve to fifteen jobs in their lifetime.

## Sixth Edition Improvements

The sixth edition has done a better job of incorporating loss of function into its rating scheme. This improvement is a response, in small part, to critics of the fifth edition, who said that the *Guides* paid “inadequate attention to functional assessment” (Rondinelli, 2009, p.9). Other criticisms of the fifth edition include its “failure to provide a [. . .] valid, reliable, unbiased, and evidence-based rating system” and the contention that numeral ratings are more a reflection of “legal fiction” than “medical reality” (p.2). Reliability refers to the consistency by which the different raters gave the same impairment rating under the same conditions. Validity refers to the ability of the rating scheme to accurately measure the severity and limitations of the body part or organ system in question and resulting functional limitation in task execution. To remedy these deficiencies, several changes were recommended for the sixth edition, including standardizing assessment of ADL limitations, use of functional assessment tools (such as the Pain Disability Questionnaire [PDQ] and QuickDASH), and improved reliability through greater ease and uniformity of application (Rondinelli, 2009, p.2). The extent to which the sixth edition followed these recommendations and implemented successful changes is debatable, but the consensus is indeed that the newest edition is generally easier to use, more uniform in its rating scheme, more consistent in its results, with a greater emphasis on standardized functional loss and evidence-based diagnoses.



## The DBI is the Preferred Method

As with the fifth edition, the sixth employs a multitude of rating schemes to rate different body parts and organ systems. Nerve entrapment, peripheral nerves, amputation, and complex regional pain syndrome, for example, all require the physician to learn and apply a different methodology found in the extremity

chapters. Similarly, impairment ratings derived from the skin, visual, ENT, and CNS chapters all require the evaluating physician to learn and apply different rating methodologies. That being said, the sixth edition has made great progress in simplifying and unifying the rating process throughout its chapters. Roughly 90 percent of workers' compensation injuries require the musculoskeletal chapters for rating purposes: Chapter 15, Upper Extremities; Chapter 16, Lower Extremities; and Chapter 17, Spine and Pelvis. Within these chapters, the Diagnosis-Based Impairment (DBI) method is "the method of choice for calculating impairment" and thus "most impairments are based on the diagnosis-based impairments" (DBI) [method] (Rondinelli, 2009, pp. 14, 387, 463).

Since the DBI is the same throughout these chapters, if the MIR Physician learns how to apply the methodology in one of these chapters, the MIR Physician will have a solid understanding of how to rate in the other musculoskeletal chapters. In short, the overwhelming majority of injuries that most MIR physicians will see will require the application of one methodology. The DBI method found in the musculoskeletal chapters also serves as a strong foundation for understanding the rating schemes found in other chapters, such as Chapter 4, The Cardiovascular System; Chapter 5, The Pulmonary System; and Chapter 6, The Digestive System. Consequently, when compared to the fifth edition of the *Guides*, the sixth is remarkably cohesive. The intent of this uniformity is to make the *Guides* easier to apply and more reliable in its measurements.

## Principles of the Diagnosis-Based Impairment Method

In the musculoskeletal chapters, the DBI method groups impairment into five different impairment classes within a grid: 0, 1, 2, 3, and 4. The range of impairment increases with each class. The diagnosis usually establishes the impairment class. Within each class there are usually five grades of increasing severity: A,B,C,D, and E. The default grade is C. The default value of impairment can be modified to a greater or lesser impairment value within the impairment class with grade modifiers. These modifiers are Functional History (GMFH), Physical Examination (GMPH), and Clinical Studies (GMCS). The Adjustment Grid Summary

### DBI = Diagnosis-Based Impairment Generic Grid

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

provided in Table 15-6 (p.406), Table 16-5 (p. 515), and Table 17-5 (p.575) shows that a grade modifier value of zero means no problem, a value of one means a mild problem, a value of two means a moderate problem, and a value of four means a very severe problem.

Once the impairment class and grade modifiers are assigned, the net adjustment formula is used to determine the net adjustment to the default value. The impairment class value is subtracted from each of the grade modifier values. The differences are then summated, providing the net adjustment. A net adjustment of +1 moves the impairment value from Grade C to Grade D and a +2 moves the value to Grade E. Similarly, a net adjustment of -1 moves the impairment value from Grade C to Grade B and a -2 moves the value to Grade A. Modification does not allow the impairment class change, so a net adjustment greater than +2 will not increase the impairment class and a net adjustment less than -2 will not decrease the impairment class.

The MIR Physician must be mindful that only reliable modifiers may be used. If the modifier is deemed to be unreliable for any reason, the modifier must be totally excluded from the net adjustment formula rather than given a value of zero. If the value of the GMFH differed by two or more from the values of the GMPE or GMCS, it should be assumed to be unreliable (Rondinelli, 2009, p.406). Finally, after the net adjustment is applied, extremity impairments should be translated to whole person impairment using either Table 15-11 (Rondinelli, 2009, p.421) for upper extremities or Table 16-10 and page 530 for lower extremities. Whole person values from different body parts or organ systems are then combined using Appendix A, "Combined Values Chart," on page 604.

NET ADJUSTMENT FORMULA, IF APPLICABLE:		
(Functional History Grade Modifier	) -(Class	) = (Adjustment )
+ (Physical Exam Grade Modifier	) -(Class	) = (Adjustment )
+ (Clinical Studies Grade Modifier	) -(Class	) = (Adjustment )
TOTAL NET ADJUSTMENT =		
FINAL GRADE (A, B, C, D, or E) =		

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## DBI Method Summary for Musculoskeletal Chapters

1. Determine the correct diagnosis.
2. Choose the correct grid in the applicable chapter and find the correct diagnosis line within the grid.
3. Determine the impairment class in the grid.
4. Using the appropriate Tables, determine the grade modifiers.
5. Apply the Net Adjustment Formula.
6. Adjust the grade within the impairment class with the net adjustment.
7. Translate any extremity impairments to whole person impairment.
8. Combine values if there are ratings from multiple body parts.

## Conclusion

The AMA *Guides, Sixth Edition* uses the World Health Organization's ICF model to inform its impairment rating methodology. This methodology represents a significant paradigm shift from previous editions because, like the ICF model, it recognizes the complex and nonlinear relationship between pathology, "activities of daily living," and social participation with an individual's environment and personal qualities. This changes the focus of assessment from cause to impact. Impairment ratings measure the severity and limitations of the affected body part or organ system and the resulting functional loss. The sixth edition has done a better job of standardizing and incorporating this functional loss than previous editions. The methodology within the sixth edition is much more cohesive, with the DBI method serving to unify the musculoskeletal chapters while informing the approaches found to soft-tissue chapters.

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Dr. Talmage is a graduate of the Ohio State University for both undergraduate school (1968) and medical school (1972). His orthopedic surgery training was in the United States Army. He has been Board Certified in Orthopaedic Surgery since 1979 and also was Board Certified in Emergency Medicine from 1987 - 2017. He retired in April 2016 after 14,154 days as a treating physician in Orthopaedics and Occupational Medicine. Since 2005 he has been an Adjunct Associate Professor in the Division of Occupational Medicine, Department of Family and Community Medicine at Meharry Medical College in Nashville. In 2013 he was Acting Medical Director for the State of Tennessee Division of Worker's Compensation. In 2014 he became Assistant Medical Director for the renamed Bureau of WC. He teaches in Physician Continuing Medical Education courses for IAIME, AAOS, ACOEM, SEAK, and the TN BWC. He has been an author and co-editor of the AMA published books on Work Ability Assessment, and the second edition of the *Causation* book. He was a contributor to the AMA *Impairment Guides, 6th Edition*, and he has served as Co-Editor of the *AMA Guides Newsletter* since 1996.

### Jay Blaisdell, MA

Jay Blaisdell is the coordinator for the Tennessee Bureau of Workers' Compensation's Medical Impairment Rating (MIR) and E-Billing programs. He has been the managing editor of *AdMIRable Review* since 2012, and is certified through the International Academy of Independent Medical Evaluators (IAIME) as a Medicolegal Evaluator. His medical impairment rating articles are published regularly in the *AMA Guides Newsletter*. Jay has been with the Tennessee Bureau of Workers' Compensation since 2005.

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# Battling the Opioid Crises

## Pain Neuroscience Education

*Dan Headrick, PT, CEAS III, ASTYM Certi., BS\**

*Sandy Murphy, DPT\**



In our last article in *AdMIRable Review*, pain theories were reviewed. The biomedical model shows a direct link between “pain messages” as a result of an injury being sent to the brain to tell the brain that an injury is painful. Weaknesses within this traditional model were exposed (Moseley, 2015). Examples of patients abound where injuries and surgeries are healed, yet pain still occurs. Further examples of patients who have worse imaging studies on the less painful side, and populations of athletes who have significant imaging studies for arthritis and have no pain, are examples of the weakness of the biomedical model of pain. Within the workers’ comp world, pain is associated with tissue injury. If a client has pain, that pain must mean that the tissue injury is not healed, or that the medical team did not fix the problem. Addressing that chronic pain has usually taken the form of Pain Management, with varying dosages of pain medications, and medication needed to alleviate the side effects of the pain medication use. Chronicity has not improved with this model and has contributed to increased healthcare utilization, disability, and opioid use.

Studies (Van Oosterwijck, 2010 and 2013) have shown that patients who know and understand more about the biology and physiological processes of pain have:

- Lower pain ratings
- Less fear avoidance
- Less pain catastrophizing
- Less limitation of movement
- Increased functional tolerances
- Less healthcare utilization.

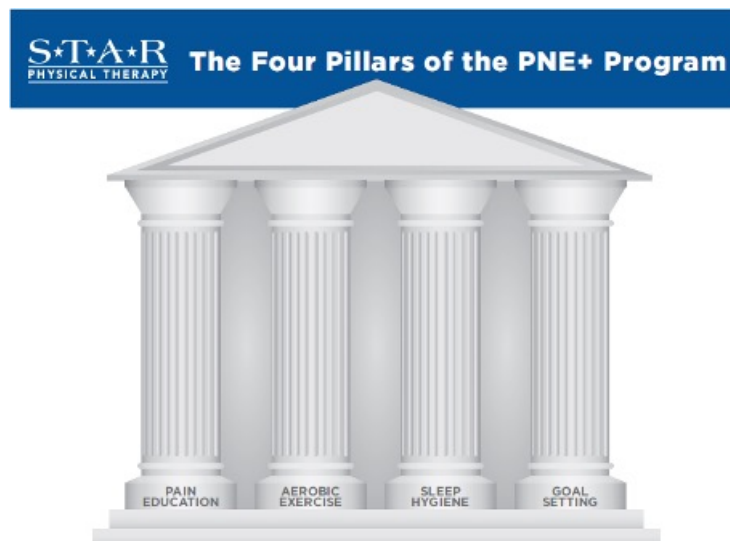
Further, in a comparative study of patients who were scheduled to have lumbar discectomies, one group received the traditional surgical model and the second group received a new surgical model (Louw, 2013 and 2014).

- Traditional Model: Visit with spine surgeon, and patient decides to undergo surgery; surgeon gives 10-15 minutes pre-op education regarding surgery procedures and recovery; and patient receives surgery.
- New Model: Patient does the same visit with the surgeon, receiving the same education; the patient is then sent to a physical therapist who educates the patient in pain neuroscience during a 30-minute session; gives the patient a pain booklet; and patient has surgery.

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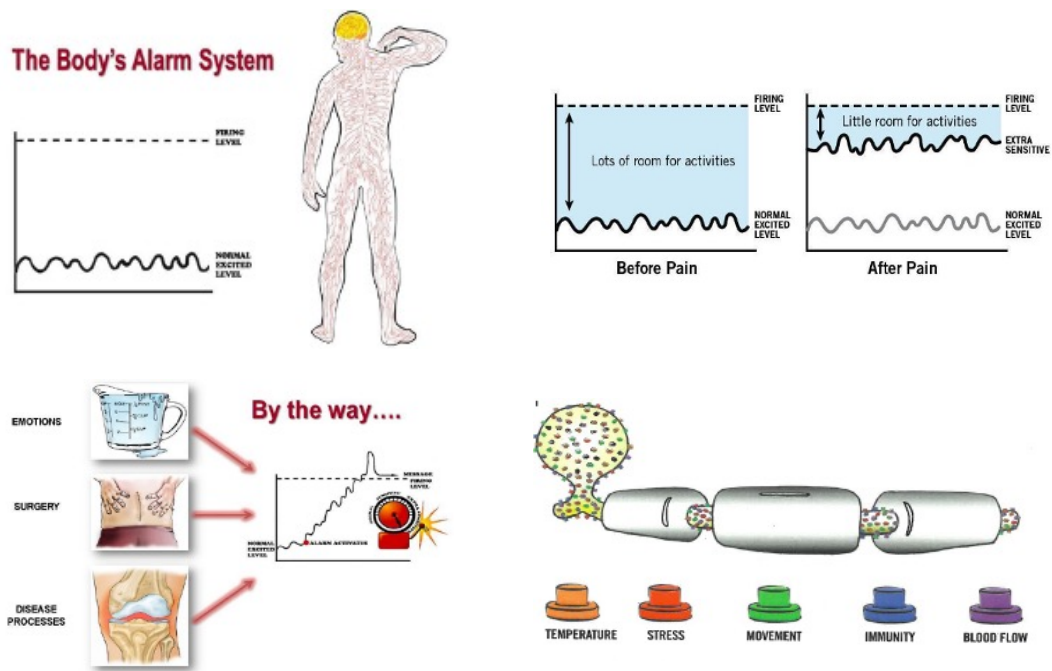
Each patient population was tracked one year following surgery. The New Model group showed a 45% reduction in cost as compared to the Traditional Model group. The outcome of each group was the same, but fear of re-injury and pain in the Traditional Model group coincided with follow-ups that included additional imaging and treatments. The New Model group had follow-ups that were office visits with less need for imaging or additional treatments following surgery.

The New Model group received Pain Neuroscience Education (PNE). PNE is an evidence-based, protocol-driven treatment system that addresses the biology and physiology of pain. The program was developed by Dr. Adriann Louw and his team at the International Spine and Pain Institute. PNE can be used alone, such as in the preoperative phase to lessen chronicity and healthcare expenses. PNE plus is also used in the chronic pain population to improve activity tolerance and functional ability and lower pain med use. PNE is built on four pillars.



Pain Education focuses on metaphors that explain the biology and neurophysiology of pain. Sensitive nerves, nerve sensors, nosy neighbors, calming nerves, pain and the brain, the brain's pain map, stress and pain, neurogenic inflammation, the brain's body maps, immune system and pain, and emotions and pain are each examples of pain education that can take place during the session. Pain education has scripted educational points that take about 8-15 minutes, and the session includes cognitive homework for the patient.

Aerobic exercise is not contraindicated in chronic pain, but instead is indicated. Exercise improves: analgesia after 10-20 minutes of exercise; chemical levels that enhance pain; moods and depression; sleep; and enhances blood flow. Teaching mantras such as "sore is safe," "motion is lotion," and "hurt does not equal harm" are necessary throughout the session.



Sleep hygiene improves immune function, tissue healing, pain modulation, cardiovascular health, cognitive function, learning and memory. Sleeping ability is lost in the chronic pain population, and some simple changes in lifestyle can help improve sleep. Journaling, getting the TV out of the bedroom, lessening blue light occurrence, and relaxation exercises are all possible education opportunities in PNE plus to improve sleep.

Goal-setting is huge. This population is in the disabled mindset or quickly progressing there. Finding an activity they want to get back to doing, then setting achievable short-term goals to show progress towards their long term goal, and praising the progress, gives them hope. Hope is powerful.

## Does PNE plus work?

In a study comparing Gabapentin, Antidepressants or PNE to address pain, PNE was found to be effective in one of three patients in improving pain and one of two patients in improving function, as compared to one in six or seven patients on medications to improve pain and function (Moore, 2014).

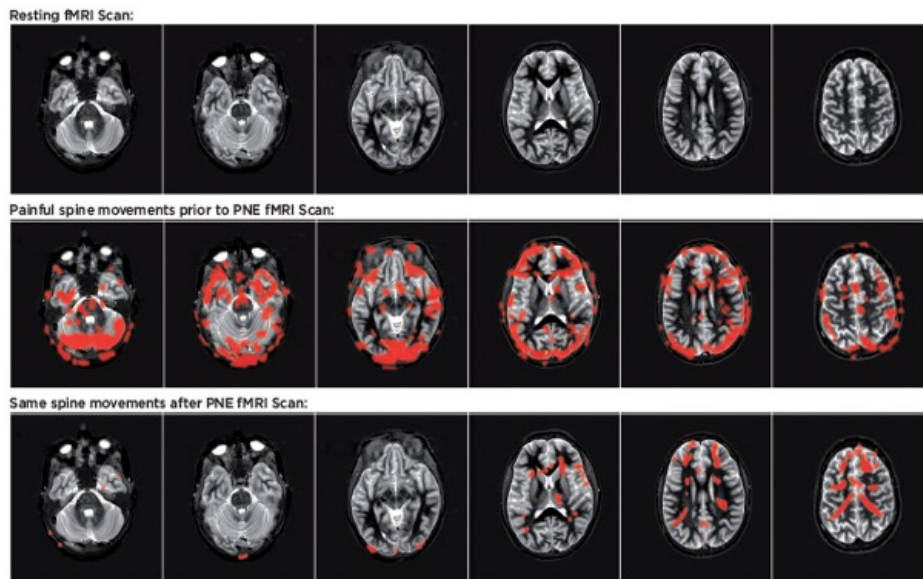
- 1:6 patients experienced 50% reduction in pain with Gabapentin.
- 1:7 patients experienced 50% reduction in pain with Antidepressants.
- **1:3 patients experienced 50% reduction in pain with PNE.**
- **1:2 patients experienced improved function with PNE.**

A functional MRI was done on a patient with chronic low back pain. Her complaint: "Any exercise makes my low back hurt." The patient had little to no pain at rest. She was not a surgical candidate and had tried physical therapy before, but pain



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limited her tolerance. She was scanned at rest, while doing a basic posterior pelvic tilt, and while doing that same exercise AFTER PNE (Louw, 2015).



Louw A, Puentedura EJ, Diener I, Peoples RR. Preoperative therapeutic neuroscience education for lumbar radiculopathy: a single-case fMRI report. *Physiotherapy Theory and Practice*. Oct 2015;31(7):496-508.

The red areas (the patient is in pain with tilting) show a marked decrease after PNE. So yes, PNE plus is an effective treatment option to lessen the use of opioids before and after injury or surgery.

Education about pain, teamed with other traditional physical and occupational therapy treatment processes, can improve functional tolerances and lessen incidences of disability. In the last article of this series, evidence of lessening disability, and case examples will be highlighted.

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Dan Headrick is a physical therapist, and a level III Certified Ergonomic Assessment Specialist serving injury prevention and treatment needs of employers and injured workers since 1992. He has been a presenter at the Tennessee Bureau of Worker's Compensation Physician Education Conference as well as the Bureau's education conference. He has presented at the Tennessee Safety Congress and currently serves as the membership chair of American Society of Safety Professionals, as well as the co-vice president of the Mid-South Worker's Comp Association. He works as the Industrial Specialist for STAR Physical Therapy, an outpatient physical therapy company with 67 locations across Tennessee and Arkansas. He is married to his college sweetheart and has two fantastic children.

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# Adoption of the AMA Guides in Tennessee: A Perilous Journey

*The Honorable Timothy W. Conner\**  
*Jasmyn McCalla, Esquire\**



For any Tennessee physician who began treating patients with work injuries after the mid-1980's, it is difficult to imagine a medical practice without the American Medical Association's *Guides to the Evaluation of Permanent Impairment* ("AMA Guides").

That publication, which instructs physicians on accepted methodologies for determining a patient's residual permanent impairment following an injury or disease diagnosis, is used by most states to evaluate work-related injuries. The Tennessee legislature's adoption of the *AMA Guides* was the culmination of a perilous journey and an extensive debate about fairness and consistency.

In the mid-1980s, in response to growing concerns from employers and insurers over increasing workers' compensation costs and higher insurance premiums, then-Governor Lamar Alexander appointed a committee to investigate the issue and propose a solution. By the time the committee was formed, workers' compensation insurers had become frustrated by inconsistencies in impairment ratings and disability awards. For example, one injured worker with a low back strain might receive a relatively low impairment rating from one physician, but another worker with a similar injury might receive an impairment rating two or three times higher by another physician. This difference in impairment ratings would often lead to significantly different disability awards for similarly-situated employees, which contributed to a perception that the system was unfair. On the other side of the issue, unions and employee representatives complained that Tennessee's benefit scheme was the second-lowest in the country. Moreover, the year before he appointed the committee, Governor Alexander had vetoed a bill that would have significantly reformed Tennessee's workers' compensation laws. Tensions were running high when Governor Alexander instructed his Finance Commissioner to form a "Cabinet-level group" to work with lawmakers and other interested stakeholder representatives.

Unfortunately, things did not go smoothly for the committee. On January 27, 1985, an article in the *Tennessean* noted: "It became clear in the state legislature last week that various factions battling over the workers' compensation issue are not going to reach an agreement. . . . It is not certain that the committee will even meet again." After much debate and negotiation, however, the committee did hammer out an agreement and propose a solution. In the spring of 1985, the Tennessee legislature adopted an amendment that, among other things, required impairment ratings to be determined using the *AMA Guides*. The stated intent of this amendment was to "provide uniformity and fairness for all parties." That law has

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been tweaked over the years. For example, in 1986, the legislature added the American Academy of Orthopedic Surgeons' Manual for Orthopedic Surgeons in Evaluating Permanent Physical Impairment as an option for physicians to use to determine injured workers' impairment (though that option later disappeared from the statute). In essence, however, the law remains unchanged from 1985 to the present. Tennessee Code Annotated section 50-6-204(k)(2) (A) (2019) mandates the use of the *AMA Guides* in evaluating permanent medical impairment, and subsection 204(k)(2)(C) provides "[n]o impairment rating . . . shall be accepted during alternative dispute resolution proceedings or be admissible into evidence at the trial of a worker's compensation claim unless the impairment rating is based on the applicable edition of the [*AMA Guides*] . . ."



Senator Lamar Alexander

Although our state's adoption of the *AMA Guides* was a contentious process, Tennessee physicians eventually became instrumental in drafting subsequent editions of the *Guides*. The *AMA Guides* were first published in 1971 and the sixth—and most recent—edition was published in 2008. For the fifth edition, Dr. Robert Haralson, a Maryville physician, chaired the committee responsible for the chapter regarding the spine. In the same edition, Dr. Frank Jones of Nashville chaired the committee responsible for the chapter related to the upper extremities. In addition, Dr. Phillip Coogan of Nashville was a contributor to this edition. Several years later, for the sixth edition, Dr. Robert Barth of Chattanooga and Dr. James Talmage of Cookeville, were included as chapter contributors.

This year, we mark the thirty-fifth anniversary of the adoption of the *AMA Guides* in Tennessee's Workers' Compensation Law. Its use has resulted in a more defined method for determining impairment ratings in most cases, and it has contributed to fairness and consistency in the awarding of disability benefits. The *AMA Guides* have become a mainstay in Tennessee's workers' compensation program.

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## About the Authors

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Timothy W. Conner has served as a judge on the Tennessee Workers' Compensation Appeals Board since August 1, 2014. Prior to that, Judge Conner practiced law for twenty-two years in the areas of workers' compensation, wills and estates, and general liability defense. He is also an Adjunct Professor at the University of Tennessee College of Law, where he teaches the course on Workers' Compensation Law, and at Lincoln Memorial University's Duncan School of Law, where he teaches legal writing. He received his bachelor's degree from Boston University and his J.D. from Wake Forest University School of Law. Judge Conner is married and has two daughters.

### \*Jasmyn McCalla, Esquire

Attorney Jasmyn McCalla recently transitioned from her role as a staff attorney with the Workers' Compensation Appeals Board to private practice. She now works as an associate at Cornelius & Collins, LLP, in Nashville. Ms. McCalla received her Juris Doctor from the University of Tennessee College of Law in 2019, with a concentration in Advocacy & Dispute Resolution. During law school, Ms. McCalla was Symposium Editor of the Tennessee Law Review. Ms. McCalla also served as a legal assistant, president of the Phi Alpha Delta law fraternity, and student attorney with the law school's Advocacy and Expungement Clinics. Prior to law school, Ms. McCalla received her Bachelor of Arts in English Literature from Florida Southern College in Lakeland, Florida. Ms. McCalla is also a certified lifeguard and swim instructor.

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# A Little Legal Guidance on the AMA Guides

Jane Salem, Esquire\*



**F**or several decades, the American Medical Association *Guides to the Evaluation of Permanent Impairment* has played a critical role in Tennessee's workers' compensation system.

The *Guides* date back to 1958, when the AMA first published an article entitled, "A Guide to the Evaluation of Permanent Impairment of the Extremities and Back." The Journal of the American Medical Association published several similar articles on other body parts such as the digestive and endocrine systems in the years that followed. Then in 1971, these 13 articles were combined and published as the first edition of the *Guides*.

It caused a sea change. Tennessee lawmakers amended the statute to require use of the *Guides* in 1985. As of July 2019, 32 states including Tennessee use some edition of the *Guides* to assess injured workers' impairments. Sixteen states use their own state-specific guides, but all except one say the *Guides* may be consulted.

As the years passed, parties in Tennessee challenged the constitutionality of use of the *Guides*. Notably, in *Brown v. Campbell Cnty. Bd. of Educ.*, 915 S.W.2d 407, 416 (Tenn. 1995) the Supreme Court rejected an argument that the *Guides* violate the Equal Protection Clause, observing, "If the *Guides* were not used, medical opinions would be more subjective, and perhaps, arbitrary. It is no surprise, therefore, that most states either mandate, recommend, or frequently use the *Guides* in workers' compensation cases."

(*Brown* involved a challenge to the use of the *Guides* in calculating permanent disability using multipliers under Tennessee Code Annotated section 50-6-241, which provision has since been repealed. However, the change in the statute under the Reform Act of 2013 doesn't necessarily mean that the Supreme Court's acceptance of the *Guides* is no longer good law.)

Tennessee law previously required use of the *Guides* in all cases. Specifically, Tennessee Code Annotated section 50-6-204(d)(3) formerly stated, "To provide uniformity and fairness for all parties, any medical report prepared by a physician furnishing medical treatment to a claimant shall use the American Medical Association *Guides to the Evaluation of Permanent Impairment*."

Perhaps recognizing that this might not be possible in every case, lawmakers later amended the law. The current version of this provision, section 50-6-204(k)(2)(A), now reads, "The treating physician or chiropractor shall utilize the applicable edition of the AMA guides[.]" Importantly, however, section 50-6-204(k)(2)(C) additionally states that no impairment rating "shall" be admissible into evidence "unless the impairment rating is based on the applicable edition of the AMA guides

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or, in cases not covered by the AMA guides, an impairment rating by any appropriate method used and accepted by the medical community." (Emphasis added.)

Note the use of an alternative method is appropriate only in cases not covered by the *Guides*. As recently stated by a Supreme Court Panel, "[R]egardless of any particular physician's personal misgivings about the AMA *Guides*, the Tennessee General Assembly has expressed its clear intent that the *Guides* generally are to be used." *Alexander v. A&A Express, LLC*, No. W2014-01643-SC-R3-WC, 2015 Tenn. LEXIS 726, at \*30 (Workers' Comp. Panel Sept. 10, 2015).

The *Guides* is a sizeable learned treatise. It's been updated five times, and it now offers 634 pages of instruction. But as complete as it is, it doesn't, and probably never will, cover every possible medical condition. Below are a couple of recent cases where physicians determined the impairments weren't covered in the *Guides* and used alternative methods, with courts approving their reasoning and methodologies.

## Scholarly articles pave the way for legal acceptance

In *Lambdin v. Goodyear Tire & Rubber Co.*, 468 S.W.3d 1 (Tenn. 2015), the full Tennessee Supreme Court affirmed a judgment from Obion County Chancellor W. Michael Maloan awarding benefits for an injured worker's high-frequency, noise-induced hearing loss.

Dr. Karl Studtmann, a surgeon with a specialty in otolaryngology, opined that the *Guides* failed to address impairment for hearing losses at higher than 3000 hertz, so he used an alternative method relying on existing research. Dr. Studtmann concluded that the employee had a 20 percent, rather than a .9 percent, binaural hearing impairment.

Justice Gary Wade wrote that Dr. Studtmann provided unrefuted testimony that the component parts of his method of calculating impairment were peer-reviewed and had a level of acceptance among the medical profession. Further, the doctor presented published studies indicating that higher-frequency hearing losses tended to increase the number of accidents at the workplace; he explained his method of assessment; and the exhibits made a part of the record supported his methodology.

The justices concluded: "Of importance, we note that the higher impairment rating by Dr. Studtmann, while not calculated pursuant to the AMA *Guides*, was based upon objective test results obtained during the treatment of the Employee. The Employer has made no objection to the use of audiograms or an auditory brainstem response test as acceptable methods of evaluating hearing loss. Dr. Studtmann simply extended the application of these standard tests to estimate the extent of the Employee's disability above the 3000 hertz level—the type of high-frequency hearing loss that is not covered by the AMA *Guides*["] *Lambdin*, at \*32-33.

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Last year, a similar issue came before the Tennessee Supreme Court Special Panel from the Court of Workers' Compensation Claims in *Coleman v. Armstrong Hardwood Flooring Co.*, No. W2017-02498-SC-R3-WC, 2019 Tenn. LEXIS 167 (Workers' Comp. Panel Apr. 12, 2019).

The employee, age 62, suffered mixed hearing losses in both ears. The *Guides* gave a 17-percent rating, but the authorized treating physician, otolaryngologist Dr. Christopher Hall, distinguished the worker's "sensorineural," or "noise-related," hearing loss from employment, from hearing loss that might have been caused by other factors such as aging or ear infections. Dr. Hall reduced the employee's rating to 14 percent. At trial, Judge Allen Phillips, Jackson, found Dr. Hall's extrapolation method permissible.

Justice Holly Kirby wrote the Panel opinion affirming the trial court. The Panel agreed that the doctor's method was "well within the bounds of propriety." Dr. Hall had noted a passage in the *Guides* stating that no correction to a rating should be made for age-related hearing loss. However, the Panel cited a scholarly article to conclude that age-related hearing loss is a type of "sensorineural" hearing loss, while Dr. Hall extrapolated only to exclude "conductive," or "non-work-related" hearing loss.

On a final note, the Tennessee Workers' Compensation Appeals Board has yet to consider a case where the physician placed a rating outside the *Guides* in the Board's five and one-half years of existence.

While it is clear that physicians must qualify their decisions to venture beyond the *Guides* when giving ratings, the need to do so appears to be rare.

### \*Jane Salem, Esquire

Jane Salem is a staff attorney with the Court of Workers' Compensation Claims in Nashville. She administers the Court's blog and is a former legal reporter and editor. She has run more than forty marathons.



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# The Ombudsman Attorney

*Charles S. Herrell, Esquire\**



**D**oes this situation seem familiar? The next patient that you are to see has selected you from a panel of physicians from a workers' compensation insurance company. You know little about the patient, and the patient knows little, if anything, about what to expect from you or the process that brought them to you. The patient might be under financial stress, had a job loss, even anxiety or depression regarding the future. The patient has no lawyer, and sees you as the first person with any knowledge of the process. They have questions that are not within the scope of medical practice. What to do? When the injured worker is unrepresented by counsel, there is a referral that can be made.

In 2014, substantial changes in the Tennessee Workers' Compensation Law took effect. One feature of the "new" law was enabling legislation resulting in the creation of the Mediation and Ombudsman Services of Tennessee program (MOST). The services provided by MOST are oriented toward resolution of workers' compensation claims without the need to involve the courts. Although the services provided by MOST are effective, in some cases injured workers have found that their cases require the intervention of the Court of Workers' Compensation Claims.

Certain changes in the law resulted in difficulty acquiring legal representation. In response to the decreased ability to obtain counsel, the General Assembly authorized the creation of the office of the Ombudsman Attorney. The Bureau of Workers' Compensation sought, and was provided, guidance from the Board of Professional Responsibility of the Tennessee Supreme Court as to whether and how employees of the Bureau who are licensed attorneys could provide limited legal advice to unrepresented parties in claims arising on or after July 1, 2016. The Ombudsman Attorney provides assistance to unrepresented workers or employers whose claims are in litigation or involve the litigation process.



The Ombudsman Attorney does not establish an attorney-client relationship with the claimant. Rather, he acts as a guide through the litigation process. There is no fee for the service.

The Ombudsman Attorney can explain legal concepts, define legal terms, discuss strengths and weaknesses of a claim, and explain the medical proof that is necessary to prove the case as well as ways that proof may be obtained. The Ombudsman Attorney cannot make appearances in any court proceedings on behalf of any person or entity, nor can he appear at depositions, draft or file any documents.

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If a patient has questions about the legal process, tell him or her to contact the office of the Ombudsman at (800) 332-2667.

## About the Author

### \*Charles S. Herrell, Esquire

Charles S. (Charlie) Herrell is an Ombudsman Attorney in his second tenure with the Bureau of Workers Compensation. Charlie began his career in the workers compensation arena as an associate with the Davies and Humphreys firm. He joined the Division of Workers Compensation in 2005 and achieved the level of workers compensation specialist five as an Administrator's Designee deciding temporary disability and medical benefit issues. Prior to his current work with the Bureau, he spent five years with the Department of Commerce and Insurance as a civil prosecutor in the Insurance and Securities Divisions of that agency. Charlie is a Nashville native living in Davidson County with his wife of thirty-seven years. They have three adult children. He enjoys travel, woodworking and reading history in his spare time.

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# Commentary on Medical Abstracts of Interest Regarding Disability Outcomes

*James B. Talmage, MD*



In the Fall 2019 issue of *AdMIRable Review* there were articles on the value of return to work. This issue highlights some of issues that result in poorer outcomes of workplace injury.

There are few published studies that get at basic causes of poor outcomes. What is presented here shows that impairment (what's wrong medically) as assessed by the *AMA Guides* correlates with function (Activities of Daily Living), but work disability is more complex, with multiple factors influencing outcome or return to work versus disability.

Pain severity does not correlate well with impairment (what's wrong medically), but pain and disability correlate with catastrophizing, depression, and psychosocial factors. Physician agreement (reliability) on disability or work ability assessment is suboptimal.

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# Abstract 1

*Selected by James B. Talmage, MD*

*Published verbatim from [PubMed.gov](https://pubmed.gov), in the public domain.*

[Clin Orthop Relat Res.](#) 2015 Nov;473(11):3470-6.

doi: 10.1007/s11999-015-4228-7.

## Does Disability Correlate With Impairment After Hand Injury?

[Farzad M1](#), [Asgari A2](#), [Dashab F1](#), [Layeghi F3](#), [Karimlou M4](#), [Hosseini SA1](#), [Rassafiani M1](#).

### Background

Any loss or deviation in body function and structure is considered impairment, whereas limitations on activities are fundamental to the definition of disability. Although it seems intuitive that the two should be closely related, this might not be the case; there is some evidence that psychosocial factors are more important determinants of disability than are objective impairments. However, the degree to which this is the case has been incompletely explored.

### Questions/Purposes

The purpose of this study was to determine if disability (as measured by the Disabilities of the Arm, Shoulder and Hand [DASH] and the Michigan Hand Questionnaire [MHQ]) and pain intensity correlate with impairment (as measured by the American Medical Association [AMA] impairment guide). Secondary study questions addressed the effect of pain intensity and symptom of depression on predicting disability.

### Methods

Impairment and disability were evaluated in a sample of 107 hand-injured patients a mean of 11 months after injury. Impairment rating was performed prospectively. From the patients who came for therapy, they were invited to fill out the questionnaire and evaluated for impairment rating. Response variables of DASH, MHQ, and visual analog scale pain intensity values were collected at the same setting. Other explanatory variables included demographic, injury-related, and psychological factors (symptoms of depression measured with the Beck Depression Inventory). Initial bivariate and multivariate analyses were

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performed to determine correlations of disability and pain to impairment rating and other exploratory variables.

## Results

Disability as measured by the DASH showed intermediate correlation with AMA impairment ( $r = 0.38$ ,  $\beta = 0.36$ ,  $p = 0.000$ ). Together with gender, it accounted for only 22% of the variability in DASH scores. Similarly, MHQ score correlated with impairment rating ( $r = -0.24$ ,  $\beta = -0.23$ ,  $p < 0.05$ ). However, together with age, injured hand accounted for only 19% of the variability in MHQ scores. However, pain intensity did not correlate with impairment ( $r = -0.46$ ,  $p > 0.05$ ). Interestingly, pain intensity did correlate with the time passed from surgery but it was correlated with symptom of depression ( $r^2 = 0.10$ ,  $\beta = 0.33$ ,  $p = 0.001$ ).

## Conclusions

The limited correlation between impairment and disability emphasizes the importance of factors other than pathophysiology in human illness behavior. These may include physical (pain, dominant injured hand) and conditional factors (time since surgery) or psychological factors such as depression and adapting; all mentioned can be considered as personal factors that may be different in each patient. So considering personal difference and any other condition except the impairment alone can help to better plan interventions and also diminish disability level.

## Level of Evidence

Level III, therapeutic study.

PMID: 25739342 PMCID: [PMC4586227](https://pubmed.ncbi.nlm.nih.gov/25739342/)

DOI: [10.1007/s11999-015-4228-7](https://doi.org/10.1007/s11999-015-4228-7)

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## Abstract 2

*Selected by James B. Talmage, MD*

*Published verbatim from [PubMed.gov](https://pubmed.gov), in the public domain.*

[Clin Orthop Relat Res.](#) 2015 Nov;473(11):3519-26. doi: 10.1007/s11999-015-4504-6.

# Psychosocial Factors Predict Pain and Physical Health After Lower Extremity Trauma.

Archer KR, Abraham CM2, Obremskey WT.

## Background

There has been increasing evidence to support the importance of psychosocial factors to poor outcomes after trauma. However, little is known about the contribution of pain catastrophizing and fear of movement to persistent pain and disability.

## Questions/Purposes

Therefore, we aimed to determine whether (1) high pain catastrophizing scores are independently associated with pain intensity or pain interference; (2) high fear of movement scores are independently associated with decreased physical health; and (3) depressive symptoms are independently associated with pain intensity, pain interference, or physical health at 1 year after accounting for patient characteristics of age and education.

## Methods

Of 207 eligible patients, we prospectively enrolled 134 patients admitted to a Level I trauma center for surgical treatment of a fracture to the lower extremity. Sixty percent of patients (80 of 134) had an isolated lower extremity injury and the remainder sustained additional minor injury to the head/spine, abdomen/thorax, or upper extremity. Pain catastrophizing was measured with the Pain Catastrophizing Scale, fear of movement with the Tampa Scale for Kinesiophobia, and depressive symptoms with the Patient Health Questionnaire. Pain and physical health outcomes were assessed with the Brief Pain Inventory and the SF-12, respectively. Assessments were completed at 4 weeks and 1 year after hospitalization. Multiple variable hierarchical linear

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regression analyses were used to address study hypotheses. One hundred ten patients (82%) completed the 1-year followup.

## Results

Pain catastrophizing at 4 weeks was associated with pain intensity ( $\beta = 0.67$ ;  $p < 0.001$ ) and pain interference ( $\beta = 0.38$ ;  $p = 0.03$ ) at 1 year. No association was found between fear of movement and physical health ( $\beta = 0.15$ ;  $p = 0.34$ ). Depressive symptoms at 4 weeks were associated with pain intensity ( $\beta = 0.49$ ;  $p < 0.001$ ), pain interference ( $\beta = 0.51$ ;  $p < 0.001$ ), and physical health ( $\beta = -0.32$ ;  $p = 0.01$ ) at 1 year.

## Conclusions

Catastrophizing behavior patterns and depressive symptoms are associated with more severe pain and worse function after traumatic lower extremity injury. Cognitive and behavioral strategies that have proven effective for chronic pain populations may be beneficial for trauma patients. Future research is needed to determine whether the early identification and treatment of subgroups of at-risk patients based on catastrophizing behavior or depressive symptoms can improve long-term outcomes.

## Level of Evidence

Level I, prognostic study.

PMID: 26282387 PMCID: [PMC4586200](#) DOI: [10.1007/s11999-015-4504-6](#)

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## Abstract 3

*Selected by James B. Talmage, MD*

*Published verbatim from [PubMed.gov](https://pubmed.gov), in the public domain.*

*J Hand Microsurg.* 2015 Dec;7(2):261-7.

doi: 10.1007/s12593-015-0197-z. Epub 2015 Aug 12.

# Exploring the Relation Between Impairment Rating by AMA Guide and Activity and Participation Based on ICF in the Patients with Hand Injuries.

Farzad M, Asgari A, Layeghi F, Yazdani F, Hosseini SA, Rassafiani M, Kus S.

The aim of this paper is to analyze the relation between components of disability with distinguished score of impairment, activity and participation questionnaire based on clinical data of persons with hand injuries. Impairment was evaluated by use of AMA guide 6th edition and disability by DASH questionnaire on Convenience sample of patients (N = 117), with chronic hand injuries. Linking and allocating items of the DASH were done based on the ICF Core Set for Hand Conditions and the opinions of a group of experts from different related fields. Data was analysed by using Kappa index, Chi square test and a set of Pearson, Part and Partial correlations coefficient. Most of the DASH items were allocated to the activity; one to four of the items could not be classified and 0 to 22 were classified as having overlap. Participation and activity scores correlated positively with each other ( $r > 0.80$ ). Impairment had high correlation with activity and participation scores ( $>73$ ). With controlling the effect of each or both construct, this relation between them with impairment diminished but still significant between activity and impairment. There is a huge overlap in definition of activity and participation. The most effecting item in relation of disability and impairment is activity restriction. Participation had no relation with impairment.

### Keywords

AMA guide; DASH; Disability; Hand injuries; ICF; Link

PMID: 26578828 PMCID: [PMC4642479](https://pubmed.ncbi.nlm.nih.gov/PMC4642479/) DOI: [10.1007/s12593-015-0197-z](https://doi.org/10.1007/s12593-015-0197-z)



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# Abstract 4

*Selected by James B. Talmage, MD*

*Published verbatim from [PubMed.gov](https://pubmed.ncbi.nlm.nih.gov/), in the public domain.*

[BMJ](https://doi.org/10.1136/bmj.j14). 2017 Jan 25;356:j14. doi: 10.1136/bmj.j14.

## Inter-rater agreement in evaluation of disability: systematic review of reproducibility studies.

[Barth J](#), [de Boer WE](#), [Busse JW](#), [Hoving JL](#), [Kedzia S](#), [Couban R](#), [Fischer K](#), [von Allmen DY](#), [Spanjer J](#), [Kunz R](#).

### Objectives

To explore agreement among healthcare professionals assessing eligibility for work disability benefits.

### Design

Systematic review and narrative synthesis of reproducibility studies.

### Data Sources

Medline, Embase, and PsycINFO searched up to 16 March 2016, without language restrictions, and review of bibliographies of included studies.

### Eligibility Criteria

Observational studies investigating reproducibility among healthcare professionals performing disability evaluations using a global rating of working capacity and reporting inter-rater reliability by a statistical measure or descriptively. Studies could be conducted in insurance settings, where decisions on ability to work include normative judgments based on legal considerations, or in research settings, where decisions on ability to work disregard normative considerations. : Teams of paired reviewers identified eligible studies, appraised their methodological quality and generalisability, and abstracted results with pretested forms. As heterogeneity of research designs and findings impeded a quantitative analysis, a descriptive synthesis stratified by setting (insurance or research) was performed.

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## Results

From 4562 references, 101 full text articles were reviewed. Of these, 16 studies conducted in an insurance setting and seven in a research setting, performed in 12 countries, met the inclusion criteria. Studies in the insurance setting were conducted with medical experts assessing claimants who were actual disability claimants or played by actors, hypothetical cases, or short written scenarios. Conditions were mental (n=6, 38%), musculoskeletal (n=4, 25%), or mixed (n=6, 38%). Applicability of findings from studies conducted in an insurance setting to real life evaluations ranged from generalisable (n=7, 44%) and probably generalisable (n=3, 19%) to probably not generalisable (n=6, 37%). Median inter-rater reliability among experts was 0.45 (range intraclass correlation coefficient 0.86 to  $\kappa$ -0.10). Inter-rater reliability was poor in six studies (37%) and excellent in only two (13%). This contrasts with studies conducted in the research setting, where the median inter-rater reliability was 0.76 (range 0.91-0.53), and 71% (5/7) studies achieved excellent inter-rater reliability. Reliability between assessing professionals was higher when the evaluation was guided by a standardised instrument (23 studies,  $P=0.006$ ). No such association was detected for subjective or chronic health conditions or the studies' generalisability to real world evaluation of disability ( $P=0.46$ , 0.45, and 0.65, respectively).

## Conclusions

Despite their common use and far reaching consequences for workers claiming disabling injury or illness, research on the reliability of medical evaluations of disability for work is limited and indicates high variation in judgments among assessing professionals. Standardising the evaluation process could improve reliability. Development and testing of instruments and structured approaches to improve reliability in evaluation of disability are urgently needed.

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## Sarah Byrne, Esquire

Sarah Byrne is a staff attorney for the Court of Workers' Compensation Claims. She has a bachelors' degree in journalism from Belmont University and a masters' degree in English from Simmons College in Boston, Massachusetts. After working in religious publishing and then state government, she earned a law degree from Nashville School of Law in 2010. She first joined the Division of Workers' Compensation (now Bureau) in 2011 as a mediator for Benefit Review (now MOST).



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## Submission Guidelines

*AdMIRable Review* accepts electronic submissions for medicolegal articles related to Tennessee Workers' Compensation. Manuscripts prepared in accordance with the American Psychological Association (APA) guidelines are preferred and must not exceed 20 typewritten, double-spaced pages. Tables, charts, notes, and references should be on separate pages. A double-spaced summary of approximately 100 words as well as a biographical paragraph describing the author's affiliation, research interest, and recent publications is appreciated. Submission of a manuscript implies permission and commitment to publish in *AdMIRable Review*. Authors submitting manuscripts to *AdMIRable Review* should not simultaneously submit them to another public-administration journal. Submissions and inquiries should be directed to *AdMIRable Review*, Editorial Staff, at [Jay.Blaisdell@tn.gov](mailto:Jay.Blaisdell@tn.gov).

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