AdMIRable REVIEW

JOURNAL OF THE TENNESSEE MEDICAL IMPAIRMENT RATING REGISTRY

VOLUME 6
Fall Issue
2017

MIR PHYSICIAN SPOTLIGHT
MARK HARRIMAN, MD

IMPAIRMENTS OF THE KNEE

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EDUCATIONAL CONFERENCE

ENCRYPTED HEALTH RECORDS AND "[SECURE EMAIL]"

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Want to stay up-to-date on all things workers' compensation for Tennessee? Interested in upcoming Bureau events, legislative changes, and rule revisions? If so, **subscribe to our external newsletter today**. You'll find a trove of informational gems with each edition. Highlighting breaking news, updates, and event notices, the BWC newsletter makes it easier than ever to stay in the loop with what's happening at the Tennessee Bureau of Workers' Compensation.

LEGISLATIVE CHANGES IN WORKERS' COMPENSATION

A general overview regarding the workers' compensation legislation passed by the 2017 session of the 110th General Assembly is available for your convenience. Governor Haslam signed Public Chapter 344 into law on May 9, 2017, and it became effective upon signing. For a complete, detailed review of this information and all workers' compensation bills introduced in this legislative session, please visit www.capitol.tn.gov.

4TH ANNUAL PHYSICIANS' CONFERENCE

This year's annual conference will be a one-day event at the Music City Sheraton, Nashville. Save the date for Saturday, March 24, 2018. Continuing Medical Education (CME) credits will be available. To Register, or for more details, please contact Jay.Blaisdell@tn.gov.

The 21st Tennessee Workers' Compensation Educational Conference

June 6-8, 2018

Embassy Suites Hotel, Nashville Southeast

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MIR PHYSICIAN SPOTLIGHT
MARK HARRIMAN, MD

A lauded member of the MIRR since December 2005, orthopedic surgeon Mark Harriman is one of several physicians at Memphis Orthopedic Group (MOG) to serve on the registry. He has helped organize an annual workers' compensation conference at MOG, to which he has invited industry leaders and participants to speak and share. His active involvement in the TN workers' compensation system and the MIRR helps to keep him abreast of new developments that he can readily share with his colleagues and the greater Memphis medical community.

"I've been very pleased with my experience on the MIRR overall," says Dr. Harriman. "I believe that my ratings have been accurate because the MIR peer review process demands it. The quality of my reports has improved over the years due to the very honest yet positive feedback from MIRR staff and consultants. The disparate ratings that a MIR Physician sees haven't really been a surprise to me. But the degree of disparity has been shocking at times. The challenge, which I enjoy and take very seriously, is to figure out why one or both of the previous ratings are wrong and to carefully document the reasons and, most importantly, to then prove through use of the *Guides*, why I agree or disagree with the other ratings."

After obtaining his medical degree from the University of Arkansas, Dr. Harriman completed his residency as a staff orthopedist at the Naval Hospital in San Diego, California.

"I met my wife there as she was a Navy nurse. Our first son was Navy born."

As a Navy officer and specialist in trauma knee reconstruction at the Naval Hospital, he established the facility's knee reconstruction and rehabilitation protocol. He also temporarily served at the Naval Hospital in Yokosuka, Japan, and on board the U.S.S. Okinawa during a West-Pacific deployment. Thereafter, he served as Chairman of the Department of Orthopedics at Oschner Clinic of Baton Rouge before finally settling in Memphis. He became board certified in Orthopedic Surgery in 1985.

Dr. Harriman and his wife Patty are active in Germantown United Methodist Church, having been members there for the last twenty-eight years.

MARK HARRIMAN, MD

"By now, we've served on most of the committees. I try to never miss our men's prayer group at church every Wednesday morning at 6:30."

Twenty years ago, the Harrimans started the Harriman Family Fund through The Community Foundation of Greater Memphis. They have been able to use the fund to help support their church and multiple other organizations such as Saint Jude Children's Research Hospital, Junior Achievement of Memphis, Memphis area school lunch programs, orthopedic research, Upper Room Ministries, and the Memphis Church Health Center, where they are also volunteers.

Dr. Harriman and Mrs. Harriman

When not treating patients or serving a good cause, Dr. Harriman has an array of interests that keep him thoroughly entertained. For starters, he is an avid reader of history and historical fiction. His favorite authors include John Meacham, Walter Isaacson, Patrick O'Brian, and Coleen McCullough.

"Occasionally I'll veer off into the fantasy world of children's stories like L. M. Montgomery's *Anne of Green Gables* and Norton Juster's *The Phantom Tollbooth*."

He also enjoys a challenging crossword puzzle.

"I love crazy long words like cruciverbalist and sesquipedalian."

He is also is an "incurable fan" of the New York Yankees and an avid amateur birdwatcher.

"I don't go on trips to Costa Rica or Ecuador, but I am pretty serious about identifying the birds I see and hear. I enjoy knowing the identity of the birds, what their habits are including their flight patterns, and what they sound like. I've built nesting boxes for birds and bats which are mounted around our lake cabin property."

Dr. Harriman's woodshop.

But by far, Dr. Harriman's greatest hobby is woodworking and furniture making. The same attention to detail that has made him a successful surgeon and MIR Physician has also made him a superior craftsman. (Continued on Page 7)

Dr. Harriman and his family.

KNEE IMPAIRMENTS, AMA *Guides*, 6th Edition

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

For AMA *Guides*, 6th Edition, impairment rating purposes, the knee is defined as the region of the lower limb spanning from the middle of the femur to the middle of the tibia.[1] Diagnoses pertaining to the knee, whether bone or soft tissue, are rated using Table 16-3, the Knee Regional Grid, found on pages 509-511 of the lower extremity chapter. Workers' compensation knee injuries may certainly be caused by a direct blow from an outside force and by falls, but since the joint itself is held in place by ligaments and tendons, and has no natural socket, as does the hip, it is especially susceptible to sudden twisting and stretching movements that take it past the limits of its natural range of motion. Workers who kneel for major portions of their work day, such as floor and roof installers, may be more prone to inflammation of knee bursae and patellofemoral pain. Knee osteoarthritis, the most common type of degenerative arthritis in the United States, is also one of the most common causes of adult disability. It is usually age-related, and female sex, genetic predisposition, and obesity are the major risk factors. Work injuries that produce chondral or osteochondral fractures that leave residual instability (either in varus-valgus or anterior-posterior directions) and injuries that require removal of a significant portion of a meniscus can aggravate pre-existing osteoarthritis.

DEFINITIONS:

Active Range of Motion (AROM): "the range of movement through which a patient can actively (without assistance) move a joint using the adjacent muscles. Movement occurs because of the contraction of skeletal muscle."[2]

Impairment Class: one of 5 different possible ranges of permanent functional loss to the knee, as expressed in a percentage of the lower extremity, spanning from Class 0, the least severe class, to Class 4, the most severe.

Grade Modifier: a variable, expressed as an integer, based on the injured workers' physical examination, clinical studies, or functional history; it has the potential to modify an impairment rating from its default value within the range of its impairment class.

Contracture: "an abnormal, usually permanent condition of a joint, characterized by flexion and fixation. It may be caused by atrophy and shortening of muscle fibers resulting from immobilization or by loss of the normal elasticity of connective tissues or the skin, as from the formation of extensive scar tissue over a joint."[3]

Passive Range of Motion (PROM): "the moving of a joint through its range of motion without exertion by the subject, usually done by an examiner who moves the person's body part manually."[4]

Stand-alone Method: a *Guides* methodology for assigning an impairment rating that is usually not combined with the results of other impairment ratings methodologies for the body part, organ system, or diagnosis based table in question.

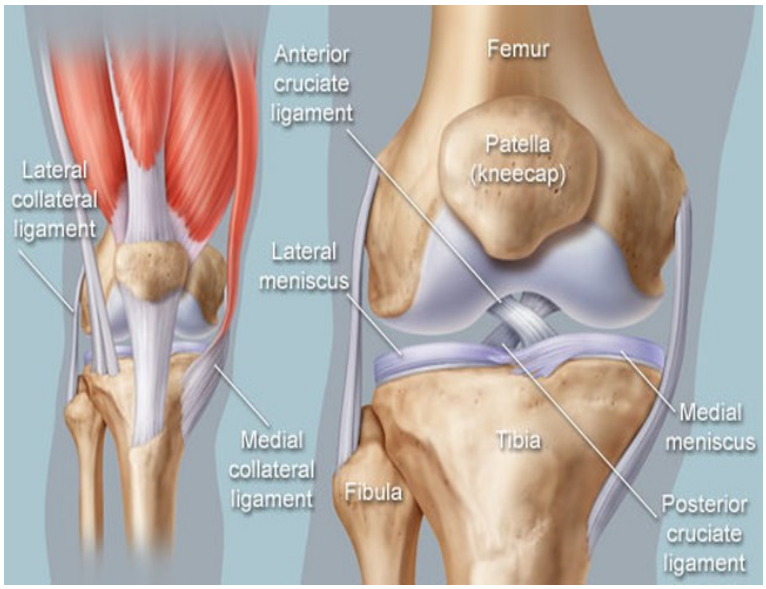
ROM OR DBI?

Range of Motion (ROM) and Diagnosis-Based Impairment (DBI) are two possible stand-alone methods for rating knee impairment in the AMA *Guides*, 6th Edition. While the ROM method has a strong precedent from earlier editions of the AMA *Guides*, the DBI method, although relatively new, is now "the method of choice" for calculating impairment. Range of Motion is used "principally as a factor" in determining the Physical Examination Grade modifier.[1(543)]

Unlike the Upper Extremity Chapter, which is very clear as to which diagnoses may be alternatively rated through ROM (usually marked with an asterisk in the regional grid), the lower extremity chapter is less precise, reserving ROM for "very rare cases" such as residual compartment syndrome, severe burns, scarring, tendon injuries, or crush injuries which impose significant motion and functional loss.[1(543)] If ROM is to be used as a stand-alone method to derive a knee impairment, the MIR Report discussion section on the last page must articulate a medically logical rationale for this decision grounded in the knee's pathology.

Section 16.7 permits using ROM to derive the final rating when all of the following conditions are met: (1) Using the Physical Examination Adjustment Table 16-7 on page 517, the measured PASSIVE ROM for the injured knee would qualify for a Grade 3 or Grade 4 (even though ACTIVE, not Passive, ROM is actually used in Table 16-7 to assign the physical examination modifier); (2) Active ROM is within 10 degrees of the passive ROM; and (3) The impairment rating by ROM exceeds the impairment by diagnosis. The most common scenarios for this, other than those listed in the preceding paragraph, are major intra-articular fracture and knee joint infection.

In addition to meeting and citing the criteria above, the MIR Physician may successfully support the use ROM as a stand-alone rating by citing Table 2-1, Fundamental Principles of the *Guides*: "If the Guides provides more than one method to rate a particular impairment or condition, the method producing the higher rating must be used".[1(20)] Again, the key is to explain medically how the pathology present limits knee motion to justify using this method, since lack of effort on testing knee flexion can simulate a loss of motion that is not real.



(Continued from page 4)

The MIR Physician should note that the knee joint is unique in *Guides* ROM methodology because Figure 16-8 on page 546 requires the examiner to use GRAVITY assisted active flexion and PASSIVE flexion contracture, with the patient in supine position, instead of active knee flexion and knee extension. The measurements are then applied to Table 16-23, which does not even have a column for extension, only "flexion" and "flexion contracture." This practice is an exception to the general rule that active range of motion is always used to measure ROM.

To determine a baseline of what constitutes normal ROM for the knee, the *Guides* requires the examiner to measure the contralateral knee ROM. If the contralateral knee has not had a prior significant injury or disease, then presumably any loss of motion in the contralateral knee reflects aging, osteoarthritis, and genetics, and is used to define normal (or pre-injury status) for the knee being rated. The unstated assumption would be to subtract any impairment for loss of motion in the contralateral knee from the impairment due to motion loss in the knee being rated.

The rest of this article focuses on the DBI method. For an accessible, step-by-step approach to the ROM method, please see the Summer 2014 issue of *AdMIRable Review*.

OVERVIEW OF DBI

The DBI rating method for the lower extremity is consistent with the approach found in the upper extremity and spine chapters. To rate a knee injury according to the DBI method, the MIR Physician diagnoses the injury or condition using Table 16-3, selects the appropriate impairment class and grade modifiers, applies the net adjustment formula, and finally converts the lower extremity percentage to whole person impairment.

STEP 1: CHOOSE THE APPROPRIATE DIAGNOSIS FROM THE KNEE REGIONAL GRID.

Knee injuries, like shoulder injuries, often have multiple pathologies present on examination. Instead of rating each distinct diagnosis from the knee regional grid, the MIR Physician should rate the single most impairing diagnosis because "it is probable this will incorporate the functional losses of the less impairing diagnoses."[1(529)] Furthermore, the evaluator should choose the causally-related diagnosis that will yield the highest rating.[1(449)] Some attorneys might assert, pursuant to Tennessee Rules and Regulations 0800-2-20-.02, that the MIR Physician should not provide an opinion on causation because it is beyond the scope of the MIRR. While this may be true, generally speaking, the same rule now provides an important exception: "If multiple pathologies are present in the same disputed body part or organ system, the MIR Physician may address causation solely as a means of obtaining the correct degree of permanent medical impairment, as stipulated by AMA *Guides* methodology."

An example would be an individual who was injured in high school football and had an anterior cruciate ligament (ACL) reconstruction with a good outcome. Years later there is a twisting, weight bearing injury to the same knee at work that results in an acute vertical meniscal tear. The post-work injury MRI and Operation Report from the meniscectomy confirm the anterior cruciate graft is intact and uninjured. A case like this would logically be rated using the diagnosis of a torn meniscus/partial meniscectomy, and not as an anterior cruciate ligament injury.

KNEE IMPAIRMENT DBI RATING PROCESS

STEP 1: CHOOSE THE APPROPRIATE DIAGNOSIS FROM THE KNEE REGIONAL GRID.

STEP 2: CHOOSE THE APPROPRIATE IMPAIRMENT CLASS FOR THE DIAGNOSIS.

STEP 3. SELECT THE APPROPRIATE GRADE MODIFIERS.

STEP 4. APPLY THE NET ADJUSTMENT FORMULA TO DETERMINE LOWER EXTREMITY IMPAIRMENT.

STEP 5. CONVERT FINAL LOWER EXTREMITY IMPAIRMENT TO WHOLE PERSON IMPAIRMENT.

Since 6th Edition methodology requires the evaluator to choose the causally-related diagnosis that will yield the highest rating, the MIR Physician should be clear whether, for example, the injury event(s) in question caused a meniscal tear or, more likely than not, caused or aggravated degenerative arthritis. To aggravate arthritis logically requires objective proof of chondral/osteochondral acute injury or meniscal injury, or ligamentous injury with residual increased instability, and not just the assertion that pain is new or worse. This is consistent with the legislative mandate that examiners are not to consider subjective reports of pain in deriving the impairment rating. If the injury caused both conditions, then the one that yields the highest rating should be used (in this instance, perhaps the arthritis).

Remember that Operation Reports may be used as objective proof of a diagnosis, or as the equivalent of a clinical study. If evaluating an injury that resulted in surgery, and if the Operation Report is not in the file provided, it should be requested, received, and considered before assigning a rating, as there may be information in the Operation Report that changes (usually increases) the rating.

STEP 2: CHOOSE THE APPROPRIATE IMPAIRMENT CLASS FOR THE DIAGNOSIS.

Once the diagnosis is chosen, the MIR Physician locates it in the far-left column of the knee regional grid on pages 509-511, and then chooses the appropriate impairment class from the cells to the right of the diagnosis, based on the requirements of each class. Impairment classes range from Class 0 to Class 4, for a total of 5 classes. A higher impairment class corresponds with a higher rating. Within each class (except Class 0), there are 5 different grades—A,B,C,D, and E—which correspond with percentages that represent the range of possible impairment. The center percentage, Grade C, is the default value. This is the injured workers' impairment percentage before any modification.

(Continued on Page 6)

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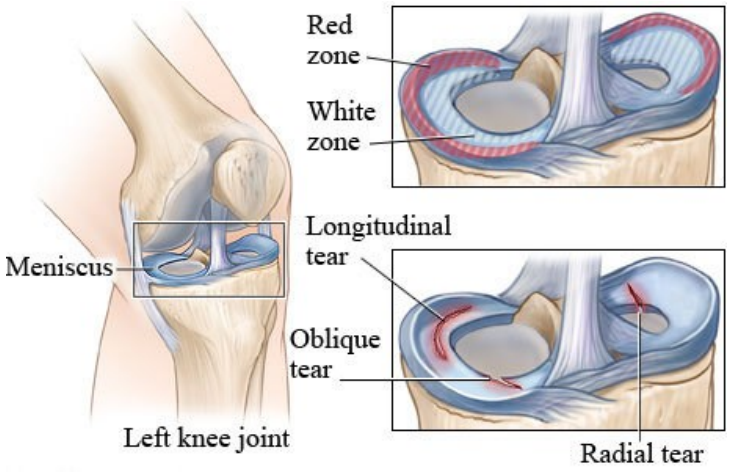
STEP 3. SELECT THE APPROPRIATE GRADE MODIFIERS.

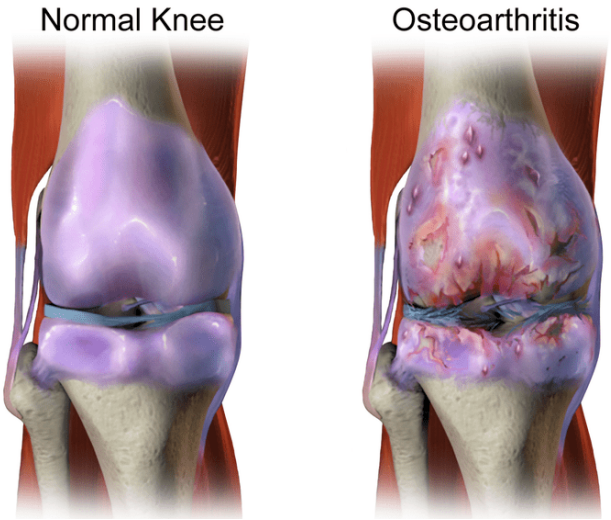
Three different grade modifiers have the potential to either raise or lower the impairment rating from its default value within its impairment class. Before the grade modifier can be used to modify the rating, it must be found to be reliable (reproducible). Ideally this means other examiners documented the same finding(s). The MIR Report should document which other examiner on which day found the same or similar critical findings used in this impairment assessment. If a finding is not reliable, it cannot be used.

The physical examination grade modifier (GMPE) incorporates the bilateral findings of the injured knee in comparison with the opposite knee upon physical examination. Atrophy, range of motion, stability, palpatory findings, and limb length discrepancy are all recorded and considered within the context of Table 16-7 on page 517. The MIR Physician applies the single category of physical findings within the table that will yield the greatest value for the GMPE.

The clinical studies modifier (GMCS) incorporates the results of x-rays and MRIs, EMG testing, and nerve conduction studies and is assigned using Table 16-9 on page 519. If a particular finding on clinical studies is used to diagnose or assign an impairment class (for example arthritis), then that particular finding cannot be used to choose a grade modifier. By analogy from the instructions in the Upper Extremity Chapter, if multiple pathologies exist in the knee, once the diagnosis and impairment class are determined, the examiner may choose to account for the presence of the additional pathology (other diagnoses) by increasing the GMCS. The rationale behind this decision must be articulated on the MIR Report form in the discussion section on the last page.

Table 16-23 notes in a caption that a measurement of 3 degrees to 10 degrees valgus is normal in measuring the femoral-tibial angle for vargus/valgus deformity, but there is no impairment listed for alignment in the ROM table. If present, malalignment is considered in choosing the Clinical Studies Grade Modifier (GMCS) under x-rays in Table 16-8. Instability, if present, is considered in choosing a physical examination modifier (GMPE) from Table 16-7, although it may have already been "used" in Table 16-3 to place the case in a Class for the Diagnosis chosen. However, if a finding on physical exam or clinical study was used to choose the diagnosis or impairment class, that same finding cannot be used to derive a grade modifier.





Finally, the functional history grade modifier (GMFH) "is based on the extent to which functional symptoms interfere with different levels of activities" and is assigned using Table 16-6 on page 516.[1(516)] Note: If two conditions in a limb are being rated (for example an ankle fracture and a hip fracture in the same limb), the MIR Physician will need to determine the GMPE and GMCS for each. However, the GMFH is used only for the single, highest diagnosed-based impairment. If the GMFH differs from either the GMPE or CMCS by two or more grades, the MIR Physician should deem the GMFH unreliable and not use it to modify the impairment rating.[1(516)]

STEP 4. APPLY THE NET ADJUSTMENT FORMULA TO DETERMINE LOWER EXTREMITY IMPAIRMENT.

Once the diagnosis, impairment class, and grade modifiers are assigned, the MIR Physician uses the net adjustment formula to determine the final impairment rating. The impairment class integer is subtracted from each of the grade modifier integers and the differences are summated to arrive at the net adjustment. A positive net adjustment increases the rating from the default value (Grade C), and a negative net adjustment decreases the rating. A net adjustment of +1, for example, will move the impairment rating from Grade C to Grade D. A net adjustment of -2 will move the impairment rating from Grade C to Grade A. The MIR Physician should be mindful that the net adjustment cannot move a rating into a higher or lower impairment class, even if the net adjustment is more than the number +2 or minus -2. Also, special consideration is given for ratings that fall within Impairment Class 4, since a positive net adjustment is mathematically impossible, even with Grade 4 modifiers (Grade modifier 4 minus Impairment Class 4 = 0 Adjustment). For Impairment Class 4 only, the MIR Physician adds +1 to the value of each grade modifier before applying the net adjustment formula.

STEP 5. CONVERT FINAL LOWER EXTREMITY IMPAIRMENT TO WHOLE PERSON IMPAIRMENT.

The Knee Regional Grid (Table 16-3) expresses impairment as a percentage of the lower extremity. To convert to

KNEE IMPAIRMENTS, AMA *Guides*, 6th Edition

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whole person impairment, as is required by state law, the MIR Physician applies Table 16-10 on page 530.

CONCLUSION

The methodology used to assign a diagnosis-based impairment (DBI) for knee injuries is consistent with the DBI methodology found in the upper extremity and spine injuries of the AMA *Guides*, 6th Edition. Knee injuries in particular deserve special mention because multiple pathologies are often found in the joint, requiring the MIR Physician to make a causal assessment, which is not normally within the scope of the MIRR program. The MIR Physician should choose the single causally related diagnosis that will yield the highest impairment rating. Once the diagnosis is made, the impairment class and grade modifiers are assigned and applied to the net adjustment formula, with the MIR Physician being careful to use only reliable findings to choose modifiers, and findings that have not been already used to assign either the diagnosis or impairment class, as may be the case with knee osteoarthritis. Range of motion is typically considered to assign the physical examination grade modifier but may also be used as a stand-along methodology provided the MIR Physician offers a rationale, supported by the *Guides*, sufficient to persuade an administrative judge. (References on page 8)

MIR PHYSICIAN SPOTLIGHT, MARK HARRIMAN, MD

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"I started working with wood in high school when a house my family was renting had some old furniture in the garage that the home owner didn't want. I restored several pieces, and those projects fueled what is now a real love for building wood products from scratch, usually from rough wood that I hand plane."

Over the years, Dr. Harriman has built English garden benches, whole bedroom suites, clocks, tables of all sorts, cabinets, bookcases, rocking chairs, bird houses, and a host of other items.

"All of my sons have slept a lot of years on beds that I made for them. Currently I'm working on two more rocking chairs for the back porch of our cabin at Greer's Ferry Lake."

When asked to name the professional accomplishment of which he is most proud, Dr. Harriman is reflective:

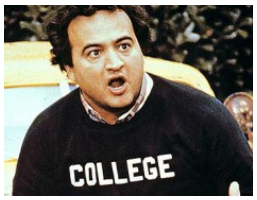
"Professionally, I think I'm most proud of the progress I've made over the years in truly listening to my patients—becoming a discerning physician rather than a reactive one. What we're told in the classroom and on rounds in medical school is true: the history and physical examination are of great importance but one should become such a discerning history taker that the physical examination can be used simply to confirm what one already knows. My gray hairs have taught me that as physicians we will sometimes be wrong—wrong about the diagnosis, wrong about the treatment, and sometimes wrong about our patient's intentions when we see patients whose behavior is outside the 'norm.' Being wrong is being human, and it's important to seriously reevaluate ourselves but to also learn from our missteps."

Dr. Harriman and his wife have three grown sons—David, Daniel, and Matthew—and have two eighteen-year old nephews—Mark and Eric—whom they have raised since age ten.

WHAT DOES "[SECURE EMAIL]" MEAN?
Jane Salem, Esquire

I've been asked to write about the fascinating topic of data security. While no one would ever call me "techy," I'm nonetheless going to give this the old college try.

But first, to make this an even more exciting read, I'm going to throw in some ethics. I'm a workers' compensation attorney. I don't concentrate in health law, so I don't hold myself out as any kind of expert on HIPAA. Rather, like most people, I'm reminded that privacy is a big deal in the medical as well as the legal world every time I go to the doctor and sign an acknowledgement of the provider's HIPAA policy (at least I think that's what that is). It's my understanding that physicians are advised to take precautions when storing and transmitting "protected health information," or PHI. I also see that the American Medical Association publishes a Code of Medical Ethics, in which Principle 1.1.3 (e) states that patients have the right "[t]o have the physician and other staff respect the patient's privacy and confidentiality."



In workers' compensation, we receive medical records, and many state forms require social security numbers. These are two types of information that very likely require a high degree of security. So, the Bureau and in particular the Court of Workers' Compensation Claims have recently undertaken greater efforts to ensure that no one's sensitive data is compromised.

The State of Tennessee uses Microsoft Office 365 Secure Message Encryption. Practically speaking, you'll know a message is encrypted with Office 365 if you receive an email from Bureau staff with "[secure email]" in the subject line. (We didn't choose this protocol, by the way; the State's I.T. staff did, and we assume they know best.)

The way the encryption works is, you'll receive an email from us with an attachment. After you open the attachment, you can sign in to a Microsoft account to view the message on the Office 365 Message Encryption portal. If you don't have a Microsoft account, you can create one associated with your email address. In order to view the encrypted message, the email address for your Microsoft account must match the address to which the encrypted message was sent.

The alternative is to use the passcode sent to you in the email message. Get the passcode, enter it, and then click "continue." The passcode expires after 15 minutes, so don't dilly-dally.

But what if you can't even get that far, i.e. you can't even open the attachment? If you're up for a little trouble-shooting, Google the search terms "Office 365 Message Encryption." In addition to Microsoft's basic help files, others have written blog posts or created YouTube videos. Another option is to tap your office's IT people (or your own children) for assistance. The last alternative is to contact the Bureau to request a copy by other means. (Note: While we at the Bureau always seek to be service-oriented, this last option is not particularly earth-friendly.)

Come on; give technology the old college try! (You don't want to be "worthless and weak," do you?)

We thank you in advance for your willingness to help us keep sensitive data secure.

KNEES IMPAIRMENTS, AMA *Guides*, 6th Edition
(Continued from page 7)

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