Born in Toronto, Ontario, Canada, Dr. Robert P. Landsberg enjoys dual citizenship and has been practicing medicine in the United States since 1984. He is board certified as an orthopaedic surgeon in Canada and the United States and is the owner of Rivergate Sports Medicine and Orthopaedic Surgery in Hendersonville, Tennessee. An active and steadfast member of the Medical Impairment Rating Registry since 2008, Dr. Landsberg meets Bureau requirements to issue MIR Reports in both the 5th and 6th Editions of the AMA Guides.

Dr. Landsberg is an arthroscopic surgeon, having performed arthroscopic knee and shoulder surgery for over twenty years. He also performs elbow arthroscopy, ankle arthroscopy and wrist arthroscopy, including endoscopic carpal tunnel release. He has extensive shoulder surgery experience with respect to arthroscopic rotator cuff repairs, arthroscopic labral repairs, and arthroscopic repairs for dislocating shoulders.

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For his research study entitled “The Effect of Endoprosthctic Mismatch and Metal and Non-Metal Backed Acetabular Components of ‘In Vitro’ Pelvic Stress,” Dr. Landsberg won the John Charnley award, an international recognition given annually to the best research publication in orthopaedic surgery. During residency, Dr. Landsberg trained with Dr. Richard J. Hawkins of the Steadman-Hawkins Clinic of Vail, Colorado, and Greenville, South Carolina. He also trained with Dr. Peter Fowler, of the world-famous Fowler-Kennedy Sports Medicine Clinic in London, Ontario, Canada.

Dr. Landsberg earned both his Bachelors of Science Degree and Medical Degree from the University of Toronto. He is a Fellow of the Royal College of Physicians and Surgeons of Canada and Diplomat of the American Board of Orthopaedic Surgery. He is honored and humbled to serve on the Board of Directors for Hendersonville Medical Center and is on the Tri-Star Orthopaedic Advisory Board. He has been a member of the Hendersonville Chamber of Commerce since 1993. He is also a member of the Ontario Medical Association, Canadian Medical Association, American Medical Association, Sumner County Medical Society, and the Tennessee Medical Association.
Shoulder injuries are among the most common claims found in the Tennessee Workers’ Compensation system. Greater familiarity with the methodology found in Chapter 15 of the AMA Guides, 6th Edition, will help physicians avoid common pitfalls associated with rating the shoulder and improve the continuity of medical impairment rating reports across the state.

**ROM OR DBI**

One source of confusion associated with rating the shoulder is determining whether to use the range of motion (ROM) method or the diagnosis-based impairment (DBI) method. The authors clearly state that “[d]iagnosis-based impairment is the primary method of evaluation for the upper limb” and that “range of motion is used primarily as a physical examination adjustment factor and only to determine actual impairment values when a grid permits its use as an option” (387). They further expound by stating, “[r]ange of motion may, under specific circumstances, be selected as an alternative approach to rating impairment. Diagnoses in the grid that may be rated using range of motion are followed by an asterisk (‘)”. An impairment rating that is calculated using range of motion may not be combined with the DBI; it stands alone as a rating” (390). Thus the reader might have the impression that the DBI method should be used “primarily” and the ROM method should be used only “under specific circumstances,” as indicated with an asterisk. On closer inquiry, however, the shoulder regional grid (Table 15-5, p.401) shows that seventeen of the nineteen di-
agnoses have an asterisk next to them, thereby indicating that ROM may be used as the principle rating method. Furthermore, according to the “Fundamental Principles of the Guides” (Table 2-1, p.20), “[i]f the Guides provides more than one method to rate a particular impairment or condition, the method producing the higher rating must be used.” Consequently, in practice, rather than using “primarily” the DBI method, the evaluator, with few exceptions, will apply both methods and then choose the method that produces the highest rating.

APPLYING THE ROM METHOD

Since the evaluator may use ROM findings to determine the correct Physical Examination Adjustment Modifier (GMPE), which is necessary for applying the DBI method, the evaluator may want to determine the impairment rating with ROM method first and then with the DBI method. A step-by-step methodology for obtaining ROM is given in the Summer 2014 issue of The AdMIrable Review. The evaluator should be particularly mindful to (1) rate the uninjured shoulder to obtain a baseline and (2) document the measurements of shoulder ROM in each of the six directions shoulders move before the patient leaves the office: flexion, extension, abduction, adduction, internal rotation, external rotation. Otherwise, the evaluator may need to schedule another appointment with the patient to obtain measurements of the directions of motion not documented in the MIR Report. Remember that if the contralateral shoulder was not injured, it serves as a baseline to reflect the loss of motion that occurs with age, and the “impairment” of the contralateral shoulder for age-related loss of motion is subtracted from the loss of motion impairment in the involved shoulder being rated.

APPLYING THE DBI METHOD

Since multiple pathologies are often diagnosable in a shoulder with an injury, evaluators may be tempted to rate more than one diagnosis from the shoulder regional grid, and then combine those ratings for a higher impairment rating. However, the Guides repeatedly and
unequivocally state that, with rare exceptions, the evaluator should choose only one diagnosis from the shoulder regional grid:

1. “If a patient has 2 significant diagnoses, for instance rotator cuff tear and biceps tendinitis, the examiner should use the diagnosis with the highest causally-related impairment rating for the impairment calculation. Thus, when rating rotator cuff injury/impingement or glenohumeral pathology/surgery, incidental resection arthroplasty of the AC joint is not rated” (387).

2. “If more than 1 diagnosis can be used, the highest causally-related impairment rating should be used: this will generally be the more specific diagnosis” (389).

3. “In the shoulder, it is not uncommon for rotator cuff tears, a superior labrum from anterior to posterior (SLAP) lesion or other labral lesions, and biceps tendon pathology to all be present simultaneously. The evaluator is expected to choose the most significant diagnosis and to rate only that diagnosis using the DBI method that has been described. If clinical studies confirm more than 1 of the following symptomatic diagnoses—rotator cuff tear, SLAP or other labral lesion, or biceps tendon pathology—the grade can be modified according to the Clinical Studies Adjustment Table (15-9)” (390).

Once the evaluator has chosen the most significant causally-related diagnosis using the shoulder regional grid, he or she should then choose the appropriate impairment class using the same grid. This impairment class is separated into five increments or “grades” (A, B, C, D, and E) and will give the possible range of the impairment, as ex-

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pressed in upper extremity percentage, with grade “C” being the default value. Grade “A” is the lowest value, and grade “E” is the highest value. Depending on the Functional History (GMFH), Physical Examination (GMPE), and Clinical Studies (GMCS) grade modifiers, the evaluator may move the impairment grade higher or lower than the default value, but never into another impairment class.

The Functional History grade modifier incorporates “the extent to which functional symptoms interfere with activities of daily living” and is obtained using Table 15-7 (406). Please note that, pursuant to the Tennessee Workers’ Compensation Reform Act of 2013, specifically Tennessee Code 50-6-204 (k) (2), evaluators “shall not consider complaints of pain in calculating the degree of permanent impairment” for Tennessee workers’ compensation injuries that occur on or after July 1, 2014. No one really knows exactly what this part of the law means until a judge tells us what it means, but in the meantime, the Bureau Medical Directors have provided evaluators with some impairment rating pain guidelines, which can be found in the Spring 2014 issue of The AdMIrable Review. Regarding shoulder impairment ratings and the musculoskeletal chapters in general, the Medical Directors suggest that the evaluator should “not consider pain in determining the GMFH, [. . .but] instead rely on concepts such as how limited motion and motor weakness limit function [. . .] If function is limited by pain and not other factors, there would be no use of Grade Modifier Functional History (GMFH)” (4). The Medical Directors also recommend that evaluators should not use the Quick-DASH since questions nine and eleven are exclusively about pain, and the form itself cannot be used if two or more questions are omitted.

The Physical Examination grade modifier incorporates “the significance of findings related to the impairment being evaluated” and is obtained using Table 15-8 on page 408 of the AMA Guides, 6th Edition, with greater weight given to objective results such at ROM and muscle atrophy. Like ROM, muscle atrophy should be measured using the uninjured arm as a baseline (407).

If a finding is used to place a diagnosis within an
impairment class or is deemed unreliable, it cannot be used to select the GMPE. The evaluator should provide the rationale for discounting findings due to unreliability and either use another, more reliable measurement to select the grade modifier, if provided in the table, or discount (not use) the modifier altogether. Shoulder stability is one of the physical exam findings in Table 15-8, yet it is rarely documented in IME reports. This is a significant report deficiency since the labrum’s ‘job’ (function) is to increase shoulder stability.

The Clinical Studies grade modifier incorporates the results of special tests, such as radiographic, magnetic resonance, and electrodiagnostic findings, and is obtained using Table 15-9 on page 410. The evaluator should review the actual studies when possible and provide the rationale for agreeing or disagreeing with previous interpretations (407). As with the other grade modifiers, if a clinical study is used to place a diagnosis within an impairment class, or is deemed unreliable, it cannot be used to select the GMCS. Note that in Table 15-9 (page 410), if more than 1 of 3 conditions is present, the GMCS used is Grade 4. The three conditions in this table are “rotator cuff tear, SLAP or other labral lesion, biceps tendon pathology.” Note also that AC joint arthritis/arthrosis is not one of these conditions, and unless AC joint pathology is the primary focus of treatment, per page 387 (previously quoted), “incidental resection arthroplasty of the AC joint is not rated” (387). If pre-operative records list AC joint arthritis as the first diagnosis, and the office notes reflect this is the primary focus of treatment, and if the Operation Report lists AC joint arthritis as the first diagnosis, then the diagnosis used for rating would be “AC joint injury or dis-
ease” (403). Otherwise, the AC joint resection arthroplasty is “incidental”, and is not rated. This is different than the methodology used in the 5th Edition of the AMA Guides.

Once the diagnosis, impairment class, and grade modifiers are determined, the evaluator applies the net adjustment formula to calculate whether the impairment rating is modified from the default value. The impairment class integer is subtracted from each grade modifier integer and the differences are added for a net adjustment. The default grade is “C,” which is in the middle of the five possible grades. A positive adjustment moves the final grade to the right of the default grade, and a negative adjustment moves the final grade to the left. Even if the net adjustment is more than the number two, it may never move the impairment rating into another impairment class. If the impairment class is class “4,” the evaluator adds +1 to each grade modifier before subtracting the impairment class integer and summatitng the differences for the net adjust-

\[ \text{Net Adjustment} = \sum (\text{Impairment Class Integer} - \text{Grade Modifier Integer}) \]

\[ \text{Final Grade} = \text{Default Grade} + \text{Net Adjustment} \]

A positive adjustment moves the final grade to the right of the default grade, and a negative adjustment moves the final grade to the left. Even if the net adjustment is more than the number two, it may never move the impairment rating into another impairment class. If the impairment class is class “4,” the evaluator adds +1 to each grade modifier before subtracting the impairment class integer and summaing the differences for the net adjust-

**SUMMARY**

Evaluators will employ both the ROM method and DBI method when rating a shoulder injury and choose the higher rating of the two, with few exceptions. When measuring ROM, evaluators should be mindful to record all six measurements of shoulder motion for each arm and to use the injured arm as a baseline. If two or more diagnoses are possible when applying the DBI method, evaluators should choose the highest causally-related impairment rating from the shoulder grid and modify the GMCS, pursuant to Table 15-9, to incorporate additional causally-related pathologies.

(END)
Dr. Landsberg believes that being active in his community helps him better understand its orthopaedic needs. He served as the team physician for Beach High School, Station Camp High School, and multiple high school teams in Bowling Green, Kentucky, and as the treating physician for Western Kentucky University’s dance team. An avid hockey fan, he coached in-line hockey for several years and now serves as team physician and assistant coach for the Hendersonville High School hockey team where his son, Reid, plays. Dr. Landsberg enjoys reading, cycling, snow skiing, and wind surfing. He and his wife Lori have five children: Shauna, Amanda, Morgan, Reid, and Ben.