

The AMA Guides *4th Edition*, published in 1993, provides definitions of impairment paralleling those of the World Health Organization at the time. The *6th edition*, published in 2007, presents an updated approach, reflecting changes in the WHO's approach adopted 2001, the International Classification of Functioning, Disability, and Health. This integrated model addresses the complexities of the relationship between impairment, activity limitations and participation, and does not assume a linear relationship between impairment and disability.

While the definition of impairment has not significantly changed from the *4th* to the *6th Edition*, the *6th Edition* does address some criticisms of the earlier editions of the *Guides*. Recognizing the dearth of evidence-based criteria on which to base impairment ratings, the *6th Edition* does reflect an evidence-based approach to diagnoses for which impairment ratings are provided. There has been improvement in internal consistency, using consensus-based decisions.

The approach to impairment has been simplified and the methodology used in the *6th Edition* is based primarily on diagnoses, an approach that is more intuitive for physicians and non-physician users as well. The importance of functional assessment is controversial; however, the *Guides 6th* methodology includes a functional self-assessment as one component of impairment rating, again reflecting the updated approach embraced by the WHO. Physicians are advised to use their clinical experience to determine if self-report is accurate. The Pain Disability Questionnaire is recommended as a functional assessment tool for spinal disorders and the QuickDASH is recommended for upper extremity assessment.

In an effort to address the need for internal consistency and to provide a methodology that would improve inter and intra-rater consistency, the *Guides 6th* impairment ratings are based on a template that provides 5 classes of impairment ranging from 0 or “no problem” to 4 “complete problem.” Each impairment class is associated with a range of impairment values. The value within the range is determined based upon consideration of the functional assessment (discussed above), physical examination findings and the results of objective tests including imaging and electrodiagnostic studies.

The method of determining impairment for musculoskeletal conditions in the fourth edition is complex and variable. In the spine, impairment ratings are determined using Diagnosis Related Estimates, which is based on the Injury Model where a given physiologic or structural condition is rated considering factors called differentiators, which include guarding, loss of reflexes, atrophy, electrodiagnostic studies, and imaging. The physician is advised that if he or she cannot determine which Diagnosis Related Estimate category is appropriate, he/she may refer to the range of motion model, which includes a diagnosis, range of motion and neurologic impairment. This requires that the physician first determine if the clinical presentation of the condition matches a DRE category, and if not, he or she should calculate the impairment using the range of motion method, and then assess which DRE category is most representative.

Lumbosacral DRE Categories address complaints or symptoms including muscle guarding or non-verifiable radicular complaints and structural changes such as fractures or instability. Additional categories are provided to rate “cauda equina-like syndrome,” true cauda equina

syndrome and paraplegia. The Range of Motion method includes diagnosis, range of motion and a neurologic assessment and provides additional impairment for surgical treatment.

In contrast, the *6th Edition* simplifies classification, by basing it primarily on diagnoses. This may be considered an evolution of the previous diagnosis related estimates method. There are, at most, five classes of impairment within categories of pathology. In the spine, these categories include soft tissue and other non-specific conditions (sprain/strain type injuries and axial pain), motion segment lesions (disc herniation and alteration of motion segment integrity), pseudoarthrosis after spinal surgery intended for fusion, spondylolisthesis, spinal stenosis, fractures, and post-operative complications of deep spinal wound infections. These categories cover the most common spine-related diagnoses. The category of motion segment lesions has been updated to include fusions and disc arthroplasty.

After identifying a diagnosis, the associated clinical and/or pathological findings are used to determine a class of impairment. Within each class of impairment, the actual rating is determined based on the functional self-assessment tool, physical examination findings, and imaging studies or electrodiagnostic studies. The “differentiators” described in the *4th Edition* have been modified and expanded to determine the actual impairment rating within the range associated with a specific diagnosis. For example, the impairment rating for a diagnosis of lumbar disc herniation is quantified based on resolution or persistence of radiculopathy, and the number of affected levels.

Significant differences between the more current *6th Edition* and the *4th Edition* include: 1) the *6th Edition* methodology employs a single method of classifying impairment in the musculoskeletal and other organ systems using 5 classes of impairment, based on diagnosis, in to provide consistency; 2) elimination of range of motion of the spine as a determining factor for impairment, based on current medical literature which shows that range of motion is neither predictive of diagnosis or function; and 3) elimination of increased impairment rating for surgical procedures, recognizing that surgery is intended to be restorative, and that impairment ratings should be based on outcomes, rather than the need for surgical treatment.

Other notable difference in the musculoskeletal system include the adoption of a diagnosis based approach to rating the upper and lower extremities and a single method for rating compression neuropathy and chronic regional pain syndrome. For many upper and lower extremity diagnoses (unlike the spine), the associated impairment may be most accurately reflected by loss of range of motion. In those cases, which are clearly identified in the diagnosis based impairment grids, there are specific provisions for evaluating range of motion.

In summary, the *Guides, 6th Edition* approach to rating impairment is diagnosis-based and consistent with providers’ clinical practice. The diagnosis-based methodology and use of well-defined grade modifiers, enhances inter and intra-rater reliability and reproducibility of ratings. The *6th Edition* reflects an evolution of the *4th Edition* method of impairment rating and includes updated concepts and clinical information, as well as the more modern WHO approach to impairment, disability, and function.