

# Impairment Rating Ambiguity in the United States: The Utah Impairment Guides for Calculating Workers' Compensation Impairments

Since the implementation of workers' compensation, accurately and consistently rating impairment has been a concern for the employee and employer, as well as rating physicians. In an attempt to standardize and classify impairments, the American Medical Association (AMA) publishes the AMA Guides ("Guides"), and recently published its 6th edition of the *AMA Guides*. Common critiques of the *AMA Guides* 6th edition are that they are too complex, lacking in evidence-based methods, and rarely yield consistent ratings. Many states mandate use of some edition of the *AMA Guides*, but few states are adopting the current edition due to the increasing difficulty and frustration with their implementation. A clearer, simpler approach is needed. Some states have begun to develop their own supplemental guides to combat problems in complexity and validity. Likewise studies in Korea show that past methods for rating impairment are outdated and inconsistent, and call for measures to adapt current methods to Korea's specific needs. The Utah Supplemental Guides to the *AMA Guides* have been effective in increasing consistency in rating impairment. It is estimated that litigation of permanent impairment has fallen below 1% and Utah is now one of the least costly states for obtaining workers' compensation insurance, while maintaining a medical fee schedule above the national average. Utah's guides serve as a model for national or international impairment guides.

**Key Words :** Impairment; Disability; AMA Impairment; AMA Guides; Workers' Compensation; Permanent Partial Impairment; Permanent Partial Disability; Ambiguity

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## INTRODUCTION

For almost a century, employers in the United States have been required by jurisdictional State Laws to provide compensation to injured employees. This compensation is intended to cover the employees' loss of wages, earning capacity and medical expenses resulting from an on-the-job injury (1). The basic concept of a workers' compensation is not new. The Babylonians had compensation systems 4,000 yr ago, and ancient Greeks provided compensation due to military service (2, 3). These systems had intuitive means for cash awards for permanent injury, with amputation of extremities being the easiest cases to assess and assign specific benefits (4). Although a form of "workers' compensation" existed officially in Europe as early as 1838 in Germany (1), it was not until the early Twentieth Century that "Workers' Compensation" became a legislated in the United States (5), with all 50 states adopting some form of workers' compensation legislation by 1949 (6).

### Basic principals in U.S. workers' compensation system

1) Exclusive remedy for employee

2) Employee gives up right to sue employer, except in extreme circumstances

3) Limited liability for employer

4) Employer enjoys immunity for civil action from employee

5) Employer's liability is predictable

6) Employee's right to sue third parties remains

In the United States, each individual state determines and administers its own workers' compensation system. These benefits include: 1) A statutory program. 2) Expeditious resolution of disputed issues. 3) Limited liability without fault: (Workers' compensation is a "no-fault" insurance program). 4) Automatic benefits, which include: a) medical treatment coverage including: medical care, services and supplies as necessary, such that the employee incurs no "out of pocket" medical expenses related to the injury. b) Indemnity payments replacing wages while the injured employee recovers to medical stability. c) Death benefits, for the surviving spouse and dependent children in the case of employee death. d) An impairment settlement giving compensation to an injured worker for permanent physical loss from a work-related injury, according to the state's defined compensation schedule.

Those injuries which are determined to result in a perma-

ment loss qualify for an “impairment rating”, includes a scoring system, which varies from one jurisdiction to another (6), upon which the permanent partial and permanent total disability payments are determined for each case (6-8).

Impairment ratings are a legal process whereby a physician or other qualified individual examines a patient and determines the permanent physical loss resulting from a workplace injury. These impairment numbers or percentages that are assigned are mostly consensus derived and have little medical evidence as to their origin. The rating percentage is given to administratively help understand the extent of an injured worker’s residual limitations from injuries. It is a bridge between medical issues and legal determinations of fault, compensability, or benefit entitlements.

Impairment ratings are to be performed after a worker attains “maximum medical improvement”, a point at which medical recovery from injury has reached a plateau with no foreseeable significant medical improvement in the patient’s future (Fig. 1).

Not all measured impairments are directly related to a specific event and an apportionment to other identified pre-existing conditions is at times needed (Fig. 2).

Measures of impairment are fundamentally different from measures in disability. Two workers with identical injuries will have the same impairment score, but may be assessed at drastically different levels of disability. For example, a professional piano player and an administrator may each lose their little finger. Their impairment rating could be identical; however, the professional piano player will be left with a significant impact on their earning capacity, while the administrator will probably see a minimal effect in their work performance. Impairment compensation relates solely to the effect of the injury on the body, while disability compensation includes the injury’s specific effect on employment, social and recreational performance (Fig. 1, 2). Physicians, whose expertise lies in the body’s physical function, are only to assess

impairment, while experts in the field of disability use their domain-specific expertise, including the impairment score from the physician, to assess disability. Currently there are significant disparities of impairment ratings and post disability settlements raising serious questions about social justice with the disability determination processes (9-11). The consistent objectification of a physical loss is impairment. When the impairment rating has been fairly and consistently established then the impact on life of that impairment can be discussed. It is the authors’ opinion that only when a comprehensive and consistent impairment rating methodology has been developed to assess physical loss can then models of disability be adequately explored. The impairment rating is the beginning foundation for any disability discussion. This article will focus on the physician’s role of determining impairment.

### THE PROBLEM

As the long list of critical papers in the literature shows, the calculation of impairment is not an objective science and is based largely on consensus rather than on scientific evidence (12-16). The purpose of worker’s compensation is to deliver quick and elementary benefits to an injured worker, and it is not intended to be comprehensive.

A persistent problem in the current systems of impairment ratings is the lack of consistent and reliable metrics of the nature and extent of the loss of use of a body part or bodily system (12). This leads to variability in the impairment ratings themselves and has many negative, rippling effects, including frustration to patients, physicians, risk managers, state administrators and payers (17). For example, studies have shown that the same patient can receive impairment ratings from three different physicians and receive a score of no impairment, one of moderate impairment, and one of total

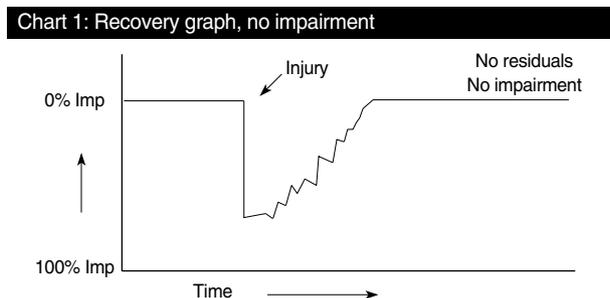


Fig. 1. This figure demonstrates injury recovery for an individual who shows no signs of impairment. The left-hand coordinate measures the percentage of total body impairment, with the abbreviation imp representing impairment. The right-hand coordinate measures time. An injured individual may show impairment at the time of the injury, but after a recovery period may show no signs of impairment.

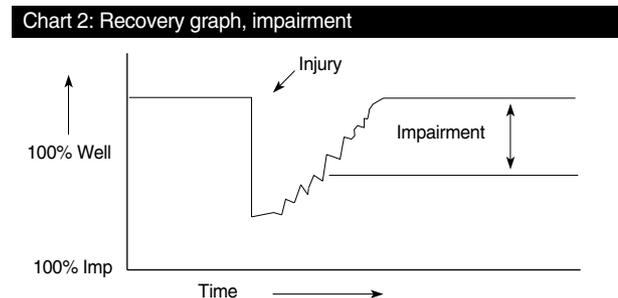


Fig. 2. This figure demonstrates injury recovery for an individual who shows permanent impairment. The left-hand coordinate measures wellness or impairment, with the abbreviation imp representing impairment. The right-hand coordinate measures time. The recovery path from Fig. 1 is shown in comparison to a patient who plateaus in their recovery period at less than 100% wellness. The difference between the patient’s plateau and 100% wellness is defined as impairment.

impairment. This variability causes disputes and is preventable. This variability and lack of reliable assessments of impairment often lead to unnecessary stress and cost to the injured worker. Likewise disputes over impairment ratings are costly to the employer, insurer, and state regulator in the form of litigation. Doctors do not set the benefit levels for the injured workers, but the impairment measurements provided by the doctors of the permanent physical loss does directly impact the worker's benefit and dollar settlement. Studies have also shown that workers' compensation can also have an adverse effect upon patient recovery (18-21), increase disability (22-25), and decrease potential return to work (25-27).

An estimate of the national costs associated with occupational injuries and illnesses in the United States in 1992 showed direct costs in excess of \$65 billion dollars, while both direct and indirect costs exceed \$171 billion (28). This has been shown to represent about two-thirds of all indemnity benefits paid in the U.S. and is greater than the cost of cancer to the U.S. economy (29) (Fig. 3).

### THE AMERICAN MEDICAL ASSOCIATION GUIDES

The American Medical Association (AMA) *Guides* ("Guides") were first published as a series of articles in *the Journal of American Medical Association (JAMA)* starting in 1958. The *Guides* were first published in book form (as a compilation of these articles) in 1971 (30). The original book went through several publications until it was updated and republished in 1984. Since then, it has been re-worked and published as the 3rd edition (1988), 3rd revised edition (1990), 4th edition (1993), 5th edition (2001), and now in 2008, the 6th



**Fig. 3.** This figure demonstrates the impact of impairment on an individual's career opportunities. The impairment serves as a baseline measurement of impaired function, but the true impact of impairment depends on the other factors listed on top of the impairment foundation. An individual with limited education and geographical opportunities will be much more affected by impairment than an individual with extensive education who lives in a metropolitan area.

edition (31-35). It is interesting to note that the first edition of the AMA *Guides* was published in 1971, was 164 pages and sold for \$5.00. The Sixth Edition, published in 2008, is 634 pages and sells for \$189.00 to nonmembers (10). The goal of each edition was published in response to a public need for a standardized, objective approach to evaluating medical impairment. The stated reason for each revision is "to update the diagnostic criteria and evaluation processes used in impairment assessment, incorporating available scientific evidence and prevailing medical opinion" (29). Each of the six editions makes mention of the use of the latest science and, where lacking, consensus statements from individuals in each of the specialties are used.

The *Guides* have been helpful in taking steps to standardize and solidify impairment ratings across the country; however consistency continues to remain an issue. Texas reported significant variation using the *Guides* for workers receiving more than one rating of impairment for the same condition, showing 25 percent of these ratings could differ more than 10 percent (36), with 65% of those who disputed their ratings, doing so on the methodology of how the rating was calculated (36). Some states have noted disparities reflect a lack of consensus on the criteria physicians' use, the objectivity of the criteria, and the understanding of how it is to be applied. They also suggest that calculated ratings often take into account factors other than just clinical findings. These factors may include the competency and experience of the examiner, the patient's personality, and even financial motives.

With time the *Guides* have also become more and more complex, and increasingly difficult to interpret and apply in practice. There have been calls for major revisions of the *Guides* (17). The 5th edition of the *Guides* included impairments for pain and psychological effects of injuries. These are extremely hard to assess with any sort of consistency, and issues continually arise in relation to relative pain and the validity of qualitative claims. Currently 38 states use some version of the *AMA Guides*, and it is estimated that over half of the states ("28") currently use the 5th edition. Since the 6th edition was released, it has faced unprecedented resistance to its acceptance as a replacement for the 5th edition in workers' compensation. It is estimated that less than 15 states will adopt the new 6th edition of the *AMA Guides* (37).

New Hampshire, Vermont, and Rhode Island commissioned the National Council on Workers' Compensation Insurance (NCCI) to review the 6th edition for actuarial impact on their workers' compensation costs. These studies concluded: "NCCI is unable to provide an estimate of the potential impact on indemnity costs related to the adoption of the 6th edition of the *AMA Guides*. The ultimate impact from a change in average disability ratings under the 6th edition will flow through loss experience and will be reflected in future loss cost filings" (38-40).

In March, 2008, Kentucky, one of 16 states that use the

“latest edition” of the Guides, passed a statute that delayed use of the 6th edition until at least July of 2009, pending a report from the Office of Worker Claims. In the same month, Vermont’s Department of Labor followed suit and indefinitely delayed implementation of the 6th edition.

In April 2008, Iowa’s Labor Commissioner opted to maintain the applicability of the 5th Edition for assessing impairment in that state’s workers’ compensation system until a task force had thoroughly reviewed the 6th edition and made recommendations to the state for adoption. To do this review Iowa’s Labor Commission appointed an eight member task force committee of various stake holders to review testimony and make recommendations for adoption. Now completed, this is the most extensive non-biased review of the 6th edition to date. In the end, the committee recommended against adopting the AMA 6th edition (41). Rhode Island is delaying implementation of the 6th Edition until it is fully reviewed by its Workers’ Compensation Medical Advisory Board. In June 2008, New Hampshire’s governor signed a bill replacing the language “most recent” with “5th Edition” in its compensation statute mandating use of the *AMA guides*. Other states have also acted through informal processes to delay or reject the 6th Edition (42). In addition, the Department of Labor’s Energy Employees Occupational Injury and Illness Compensation Program does not recognize the 6th edition of the *AMA Guides*. At this time there is a significant demand for a specific workers’ compensation guide which is both current and straight-forward, enabling physicians to give consistent, reliable impairment ratings.

### IMPAIRMENT CALCULATION METHODOLOGY IN THE 6TH EDITION

A recent study by Christopher Brigham, MD provides an overview of the 6th edition of the *AMA Guides*. Dr. Brigham comments that the 6th edition “reflects very substantial change, more significant than any prior edition change” (43). His paper also demonstrates the extensive complexities of the Guides, as shown in Table 1-3. These revisions were made without sensitivity as to the actuarial impact on workers’ compensation costs. Brigham postulates that under the new edition of the guides, ratings will be inaccurate unless physicians undergo training (43). One knowledgeable practitioner and user of the *AMA Guides* has indicated that it may take in excess of 40 hr for a physician to read and comprehend the 6th edition of the *AMA Guides* (38-40). Dr. Brigham also states that while studies have been performed on the 3rd, 4th, and 5th editions of the *Guides*, conclusive studies on the efficacy of the 6th edition are yet to be seen. Indeed, Brigham states that “the full impact of the *Guides* will not be available until a large number of cases have been rated, or comparative studies are performed” (43). The efficacy of the 6th edition is still “not yet known” (43). Unfortunately those states that automatically mandate the use of the most recent edition of the *AMA guides* relegate their injured workers and physicians as test subjects for the AMA’s unproven impairment rating methodology. The AMA has now published a 52 page documentation of corrections for the 6th edition (44). It is anticipated that it would take a physician approximately 3 1/2 hr to make the 52 pages of necessary corrections in their sixth edition.

Brigham is not alone in his analysis of the 6th edition of

Table 1. Diagnosis-based grid template

Diagnostic criteria	Class 0	Class 1	Class 2	Class 3	Class 4
Ranges	0%	Minimal %	Moderate %	Severe %	Very severe %
Grade	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E
History	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Physical findings	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Test results	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem

Source: Dr. C. Brigham, *AMA Guides* 6th Edition: New Concepts, Challenges, and Opportunities. *IAIABC Journal* 2008; 45:13-57 (32).

Table 2. Diagnosis-based grid structure for extremities

Diagnostic criteria	Class 0	Class 1	Class 2	Class 3	Class 4
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 (diagnosis description-general)	No significant objective findings	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)
Muscle/tendon (diagnosis description-general)	No significant objective findings	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)
Ligament/bone/joint (diagnosis description-general)	No significant objective findings	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)	(Diagnosis-specific definition)

Source: Dr. C. Brigham, *AMA Guides* 6th Edition: New Concepts, Challenges, and Opportunities. *IAIABC Journal* 2008; 45:13-57 (32).

Table 3. Adjustment grid: summary

Non-key factor	Grade modifier 0	Grade modifier 1	Grade modifier 2	Grade modifier 3	Grade modifier 4
Functional history	No problem	Mild Problem	Moderate problem	Severe problem	Very severe problem
Physical exam	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem
Clinical studies	No problem	Mild problem	Moderate problem	Severe problem	Very severe problem

Source: Dr. C. Brigham, *AMA Guides* 6th Edition: New Concepts, Challenges, and Opportunities. *IAIABC Journal* 2008; 45:13-57 (32).

the *AMA Guides*. The 6th edition has generated sharp criticism of its bias toward the injured workers and claimant attorneys who claim the work “touts a new approach to rating impairment...via a hybrid methodology, at the expense of validity and old, *flat* ratings, only at lower values” (45). The 6th edition consists of 17 chapters and 634 pages compared to the 5th edition’s 18 chapters and 613 pages. There are 223 tables and 68 figures and for the most part, rating under the 6th edition is complex and confusing, and results in lower impairment values when compared to previous editions (45). Causey, McFarren, and Nimlos have stated that “Based on our review of their writings and public statements, we believe that the production of the 6th edition has been entrusted to physicians with a professional bias toward stricter, and generally lower, impairment ratings. Dr. Brigham, in particular, has made no secret of his advocacy of positions that are welcome to insurers and employers, but are chilling to plaintiff attorneys and those representing the interests of injured workers” (11).

### INHERENT PROBLEMS WITH VARIABILITY

In another study conducted by Christopher Brigham, MD, submitted to the *AMA Guides Newsletter*, March-April 2006 it was found that 80% of 5th edition ratings and 79% of 4th edition ratings were judged to be erroneous. In addition, of the 80% erroneous 5th edition ratings, 90% had higher ratings than appropriate based on the provided information. Further, upon expert re-rating, 37% were found to have no impairment at all. This sort of high variability among physicians has been widely observed (5, 46-49).

In Dr. Brigham’s study, he mentions some possible causes of the erroneous ratings. Citing as the possible causes of variability, he includes bias, errors in clinical and causation analysis, and errors in the rating process, itself. Brigham, in noting the nature of medical school training and residency programs that do not include instruction on the assessment of impairment, disability, or causation, stated “(t)herefore many physicians lack an adequate ability to assess the issue(s)” relating to impairment ratings.

Reducing this variability in impairment ratings will yield significant benefits to the workers’ compensation system, including:

1) Greater equity across injured workers, regardless of who rated their impairment.

2) Speedier payments to workers because of fewer questions and challenges by claims adjusters.

3) Resolution of injured workers frustrations, which facilitates the moving forward with their lives.

4) Lower administrative costs.

5) Comparable statistics permitting jurisdictional comparisons, tracking, and research.

6) Evolution of an international, collaborative standard for jurisdictions to consider.

7) Reduced litigation over impairment percentages.

Unfortunately, the latest *AMA* 6th edition appears to fall significantly short of its stated goals. Hartford Workers’ Compensation recently conducted a review of 50 impairment ratings that were done using the 6th edition of the *AMA Guides*. All of these ratings were musculoskeletal, except one. Of the 50 claims, 38% were valid with 62% being incorrect.

It was Hartford’s conclusion that the change in methodology of the 6th edition has created significant confusion and inaccuracy in ratings.

Hartford summarized the following were common errors seen in use of the *AMA Guides* 6th edition:

1) Incomplete understanding of new methodology.

2) Failure to match the diagnosis with the correct impairment class.

3) Incorrectly combining multiple impairments for the same anatomic region instead of choosing the “primary” diagnosis and then using other conditions as modifiers.

4) In one instance the rating provider chose multiple conditions from the associated table and then added them to arrive at the final rating.

5) Failure to reference the tables from which the impairment class was taken.

6) Inappropriate or inaccurate application of modifiers.

7) Lack of understanding regarding the rating of entrapment neuropathies, specifically carpal tunnel syndrome (50).

As previously noted, benefits have been realized in the State of Utah by developing and utilizing specific workers’ compensation impairment rating methodology. Utah has dramatically reduced litigation over impairment disputes since a revised impairment guide was adopted in 1997. It is estimated that less than 1% of claims with permanent disability have been litigated. This revision has produced a dramatic cost savings to the Utah Labor Commission based on the

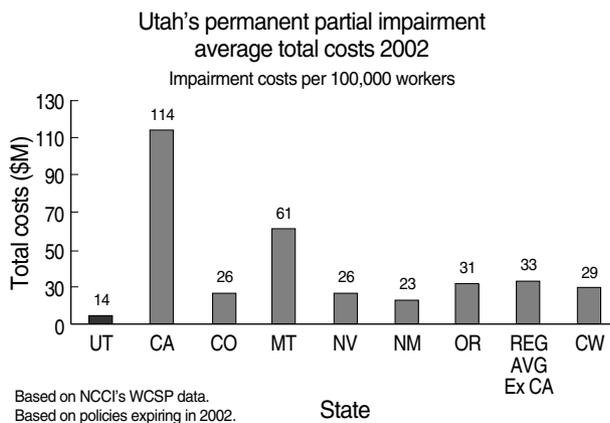


Fig. 4. This figure demonstrates the State of Utah's average costs per 100,000 workers related to permanent partial impairment in comparison to several other states in the western United States. The left-hand coordinate measures total costs in millions of U.S. dollars. The right-hand coordinate represents individual states. UT, Utah; CA, California; CO, Colorado; MT, Montana; NV, Nevada; NM, New Mexico; OR, Oregon; REG AVG Ex CA, Regular average excluding California; CW, weighted average of states excluding California.

state's cost of \$5,200 per litigated case, making Utah one of the least expensive states for an employer to obtain workers compensation insurance. This has been done while maintaining the medical fee schedule at national average (5) (Fig. 4).

## UTAH'S IMPAIRMENT GUIDES

Impairment guides are tools that can be used to convert medical information about permanent losses into numerical values. These impairment values are to be used for permanent rating purposes only and are not to be used for causation determinations, nor should they alone reflect any rating of disability. In 1993, the Utah Labor Commission's Workers' Compensation Advisory Council appointed the Impairment Rating Committee ("committee") to address the needs of workers' compensation claims payers and system administrators in rating permanent impairment. It was believed that by improving the rating criteria, physicians would produce more reliable, less variable impairment ratings. It was also noted that experience and a certain skill level was necessary to produce consistent and accurate impairment ratings. The committee's mission was to identify the best practices in rating methodology in an effort to improve upon the current system, and make it work for Utah's needs.

In 1994, after reviewing different rating systems, utilizing examples and different unique models, the committee developed and the State of Utah adopted a completely new Utah impairment rating system to be used to clarify confusion in the 4th edition of the *AMA Guides*. These impairment guides were updated in 1997 and again in 2001 and 2006 to clarify

ratings for spinal conditions, upper extremity peripheral neuropathies, temporomandibular joint dysfunction, dental loss, burns, and painful upper and lower extremity conditions (51). Utah is currently developing a comprehensive specific workers' compensation impairment guide for adoption in 2009.

The goal of the Utah Guides is to improve the uniformity and accuracy of impairment ratings (5). The standard impairment schedule considers percentage of loss on an arbitrary continuum, with 0% reflecting no residual or loss and 100% whole person impairment representing a state approaching death. For example, a complete amputation of the ring or little finger equals 5% whole person impairment. For the complete loss of an eye, one is awarded 24%, and for the complete loss of a leg at the hip, 40% whole person is awarded. Impairment is considered a purely medical condition, reflecting any anatomical or functional abnormality or loss. Impairment may be temporary or permanent, industrial or non-industrial. The Utah 2006 Guides are primarily used for impairment ratings calculated in Utah. For impairments not listed in the Utah Guides, the *AMA Guides* 5th edition is used.

The Utah Labor Commission states the following conditions must be in place in order for permanent injury benefits to be equitable and effectively awarded:

- 1) A clear trigger for when permanent injury can be evaluated.
- 2) Well defined responsibilities for the physician who is to make the legally required medical determinations.
- 3) Uniform procedures for the measurement and evaluation of the parameters of permanent impairment to the body.
- 4) An objective way to express the basis for the impairment rating.

## HOW PHYSICIANS RATE IMPAIRMENT WITH THE AID OF THE UTAH GUIDES

Evaluating physicians in Utah depend on the Utah Guides to assist them in determining consistent and reliable impairment ratings. Physicians should wait, however, until the patient has reached maximum medical improvement (MMI) before performing an impairment rating. Some examples for the time periods of specific conditions to reach MMI are listed below:

**Soft tissue spinal complaints:** The majority of patients with soft tissue spinal complaints recover without any permanent residual loss, or "impairment" (7, 52). Therefore, before considering any patient with residual soft tissue, developmental and degenerative spine complaints for an impairment rating, the patient's symptoms must have been present for a minimum of six consecutive months.

**Range of motion:** Often, maximum range of motion is not obtained until one year from the time of the accident or surgery. Loss of motion is not to be considered permanent until it is demonstrated that the patient is at least six months

**Table 4.** Soft tissue, developmental, and degenerative spine conditions (whole person) Schedule 1 should only be used if no surgery has been performed. Schedule 1 requires a minimum of six months duration of symptoms from the time of the injury to the impairment rating. The rater is to use only one condition from 1A category through 1E, one time

Placement of a patient within one of these categories is dependent primarily on the history and physical findings The physician should also consider any "pain behaviors" that may be present	Cervical Thoracic	Thoracic Lumbar
I-A. Medically documented injury and subjective symptoms for a minimum of six months with a clinical history of a relative minor injury event. No evidence of acute changes on imaging and none to minimal activity modifications required	0%	
I-B. Medically documented injury and subjective symptoms for a minimum of six months with a clinical history of a moderate injury event. May have evidence of mild degenerative changes on imaging and may have permanent activity restrictions	3%	
I-C. Medically documented injury and subjective symptoms for a minimum of six months with a clinical history of a significant injury event. May have imaging evidence of moderate to severe degenerative changes, including spondylolisthesis. Should have permanent activity restrictions	5%	
I-D. Medically documented injury and subjective symptoms for a minimum of six months with a clinical history of a significant injury event. This would include evidence of objectifiable, disc herniation(s) that displaced nervous tissue treated without surgery, spondylolisthesis, and segmental instability. Should have permanent activity restrictions	7%	
I-E. Medically documented injury and subjective symptoms for a minimum of six months with a clinical history of a significant injury event and a spondylolisthesis, Grade III or IV	8%	
ADD-ONS for above conditions in Schedule 1 (whole person)		
I-F. Medically documented and subjective symptoms persisting for a minimum of six months with continued pain, herniation, rigidity, and imaging evidence of objectifiable disc herniation that displaces nervous tissue and has occurred from a subsequent injury, at another level than the first, and was treated without surgery	3 % per level	
I-G. Neurological: Radiculopathy* (If, after one year, the neurological deficits exceed 3% WP, then calculate the deficits as described in tables 11 and 12 and combine the new radiculopathy rating, in place of the 3% listed here (See Radiculopathy Schedule, page 9)*)		

Pain behaviors: 1. embellishment of medical history. 2. exaggerated pain drawings. 3. providing responses during the physical examination inconsistent with known pathology.

(or applicable statutory limits) from accident or surgery, and has reached a plateau in his/her progress.

Upper and lower extremity painful organic syndromes: These schedules are for musculoskeletal condition characterized by pain (and weakness) with use of the affected member, attributed to a lesion in the soft tissue (capsule, ligament, tendon, fascia, muscle) and documented by clinical findings that have been present for longer than six months.

### Capabilities assessment

When requested, the physician/rater should discuss any restriction of work activities, and give clear examples. For example, if after knee surgery, an examinee has no restriction other than downhill skiing, that restriction should be clearly stated. The impairment rating report should reflect how the actual impairment impacts daily living. The physician/rater should make a statement as to the current functional capacity of the patient as it relates to the impairment's impact on their activities of daily living, ADLs. It is the physician/rater's responsibility to determine if the impairment results in functional limitations and to inform the employee and the employer about an individual's abilities and limitations. The physician/rater should state whether or not there are work restrictions or work limitations.

Work limitations are based on limited capacity. Work restrictions are based on risk of harm. Deciding to work or not

to work based on subjective patient tolerance for the activity in question is best left as a patient's decision, and is not a basis for physician/rater imposed work restrictions or comments about work limitations. It is the employer's responsibility to identify and determine if reasonable accommodations are possible to enable the individual's performance of the essential job functions.

Physician/raters may be asked to suggest possible reasonable work accommodations. If so, physicians should identify physical abilities considering all body systems available. This information facilitates the patient/employer relationship for return to work. *The Workplace Functional Ability Medical Guidelines*, published by the Utah Medical Association and currently utilized by the Utah Health Department, provides an excellent, comprehensive system review and report form. Functional capability evaluations (FCE) should be only performed when requested and must be pre-authorized. Currently, the validity of FCE has not been established (53-55).

Depending on the individual case, the physician/rater may be required to state a prognosis and the need for any possible required medical treatment in the future as a direct result of the industrial accident. This information is critical in those cases that may require lifetime medical benefits for the establishment of financial reserves. For this reason, the physician should be as specific as possible. This would also certainly be the case if a lump sum settlement of the claim was being negotiated by the claimant and payer.

**Table 5.** Schedule II, surgically treated spine conditions (whole person) For conditions found in Schedules II and III, no amount of time is required from the injury and the calculation of an impairment. Apportionment for conditions listed below is direct and Table 5's methodology does not apply (See examples)

	Cervical-Thoracic-Lumbar
II-A. First spinal surgery at one level in a given spinal region, including herniated disks, severe degenerative or post traumatic changes, foraminal stenosis, spondylolysis, spondylolisthesis, segmental instability, and spinal stenosis (Assigned one time per patient)	10% (one time per patient)
ADD-ONS for schedule II-A (Whole person)	
II-B. Medically documented injury, with continued pain and rigidity and imaging evidence of objectifiable, disc herniation that displaces nervous tissue and has occurred from <i>the same or subsequent injury, at another level other than the first</i> , and was treated either conservatively or surgically. This would also include <b>surgery</b> for severe degenerative level per patient) or post traumatic changes, foraminal stenosis, spondylolysis, spondylolisthesis, segmental instability, and spinal stenosis (This is applied only one time per level per patient and not to be applied to levels explored)	Add 3% (one time per level per patient)
II-C. Second or subsequent spinal operation in a given spinal region, including herniated discs, severe degenerative or post traumatic changes, foraminal stenosis, spondylolysis, spondylolisthesis, segmental instability, and spinal stenosis	Add 2% per operation
II-D. Spinal fusions (for the first level fused)	Add 3% for first level (use one time only)
II-E. Fusions: Additional level(s) [i.e. 3 segments=2 levels]	Add 2% for each additional level. This is to be used only one time per level
II-F. Neurological: Radiculopathy* If, after one year, the neurological deficits exceed 3% WP, then calculate the deficits as described from tables 11 and 12 and combine the new radiculopathy rating, in place of the 3% listed here [See Schedule Below]*	Add 3% for each involved nerve root
II-G. Minor procedures or operations, such as hardware removal	0%

Physicians in Utah depend on the Utah Guides to aid them in performing impairment ratings. A few examples of rating matrixes for soft tissues and spinal injuries are shown below (Table 4, 5). The complete Utah Guides can be found at: <http://www.laborcommission.utah.gov/IndustrialAccidents/Publications/pdfs/2006UtahImpairmentGuides-May162006.pdf>

### IMPAIRMENT RATING IN KOREA

Studies have been performed in Korea on evaluating the methods of permanent impairment ratings used by Korean physicians. The review of the literature revealed that many of the current methods of impairment rating were outdated and not specific to the needs of the Korean system. The recommendation of the study was for Korea to use the model of the *AMA Guides* to assess impairment, but to adapt this model to fit the specific needs of Korean society (56, 57). It appears that this recommendation is for a system much like that in Utah, where the *AMA Guides* are adapted and supplemented for effectiveness in their specific region of implementation.

### CONCLUSION

The process of evaluating impairment has become more

complex and convoluted to provide reliable, consistent impairment ratings using the *AMA Guides*. Both the injured party and the employer spend unnecessary time and money deliberating over the validity of a physician's measure of impairment. A simpler, more straightforward approach is needed to satisfy the needs of all parties involved (physician, employer, injured worker). The workers' compensation system was established as an organization which would be able to quickly deliver limited benefits to workers who were injured on the job; however, the current guidelines set forward in the *AMA Guides* result in too slow a delivery of benefits to adequately serve the very workers for which the organization was established. Adjustments must be made to the system to rectify the current situation, and a general consensus is needed to ensure the satisfaction of all parties and avoid excessive litigation over permanent partial impairment benefits. More than two-thirds of all indemnity costs are due to occupational injuries and sicknesses, and this cost can be reduced if variability of impairment ratings is reduced.

The Utah Impairment Guides to been shown to reduced the variability of partial permanent impairment ratings in Utah dramatically. It is estimated that less than 1% of these claims are litigated, saving the employer and injured worker money, decreasing frustration surrounding an injury or sickness, and increasing the efficiency of the workers' compensation system. Utah is currently one of the least costly states for an employer to obtain workers' compensation insurance

while maintaining a medical fee schedule at the national average.

Clear, simple and direct rules work. They deliver compensation with efficiency and speed. Of course, some would object that "cookie cutter" justice is unfair. Yet, the very basis of workers' compensation is accepting administrative simplicity in benefit delivery instead of the individualistic tort based approach to equitable benefit determination. It is improbable to expect all physicians who treat injured workers to undergo complex, expensive training. The authors concur with Dr. Burton that only when a comprehensive and consistent impairment rating methodology is developed to assess physical loss can models of disability be adequately explored (10). A simpler rating approach is needed to empower treating physicians to accurately rate impairment. The Utah Workers' Compensation Guides currently serve as a model for the development of a comprehensive workers' compensation impairment guide. This work is currently in process based on the experience of over 100,000 impairment ratings and with input from all stake holders.

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