STATE OF MINNESOTA
DEPARTMENT OF LABOR AND INDUSTRY

In the Matter of the Proposed Adoption
of Workers' Compensation Rules:
Permanent Partial Disability Schedule

STATEMENT OF NEED
AND REASONABLENESS

I. INTRODUCTION

The Permanent Partial Disability Schedule in chapter 5223 is revised in accordance with 1992 Minn. Laws, chapter 510, article 2, section 4. Chapter 5223 assigns permanent impairment ratings to the body as a whole for loss of function of a part of the body from a work-related injury. The new schedule would apply only to injuries occurring on and after July 1, 1993, provided that the rules are effective by that date. Several new categories have been added to the musculoskeletal sections. New sections governing the following impairments have been added: face, nose, mouth and throat, hematopoietic and endocrine systems, heat and cold injuries, and motor loss alone due to nerve damage. Nearly every part of the rules has been revised in some way. The eye and finger schedules have been changed considerably. The ratings of the new permanent partial disability schedule are based on the resulting permanent impairment rather than the cause of the impairment.

II. STATUTORY AUTHORITY

Minnesota Statutes, section 176.105, requires the Commissioner of the Department of Labor and Industry to establish by rule a schedule of degrees of disability resulting from different kinds of injuries based on objective medical evidence in order to promote objectivity and consistency in the evaluation of permanent functional impairment.

Minnesota Statutes, section 176.105, subdivision 4, requires the Commissioner of the Department of Labor and Industry to develop a disability schedule based on the benefit level which existed on January 1, 1983 such that the aggregate total of impairment compensation and economic recovery compensation benefits be approximately equal to the total aggregate amount payable for permanent partial disability as the schedule was listed at section 176.101, subdivision 3 of the 1983 law, assuming the same number and distribution of severity of injuries. Subdivision 4 further requires that the schedule be determined by sound actuarial evaluation, however, awards for a specific injury under the impairment schedule are not required to be the same as they were for the same injuries under the schedule that existed prior to January 1, 1984.

The attached actuarial analysis shows that the proposed schedule meets the requirements of Minnesota Statutes, section 176.105, subdivision 4. Pursuant to Minnesota Statutes, section 176.105, subdivision 4, clauses a and b, the Commissioner conducted an analysis of the permanent disability schedule which existed prior to January 1, 1984 and based on the benefit level existing on January 1, 1983, for the purpose of determining the number and distribution of permanent partial disabilities and the average compensation for various permanent partial

disabilities. The Commissioner had also performed a written analysis of the disability schedules of other states as suggested by Minnesota Statutes, section 176.105, subdivision 4, clause b(3). These documents were made part of the rulemaking record at the public hearing held on November 4, 1983, pursuant to Minnesota Statutes, section 176.105, subdivision 4 (1984). The Statement of Need and Reasonableness for the temporary rules at 8MCAR which existed from January 1, 1984 through November 17, 1985, also documented the Commissioner's consideration of the factors listed in Minnesota Statutes, section 176.105, subdivision 4(b)(1)-(7).

The proposed permanent partial disability schedule follows the current schedule at Minnesota Rules, Chapter 5223. The proposed schedule is the result of Department review and assessment of the effectiveness of the current schedule at Chapter 5223.

III. Development of Proposed Rules

Work on the proposed schedule began in 1987 at the request of the Department of Labor and Industry to the Medical Services Review Board, which is composed of employers, employees, insurers, and health care professionals, and serves as an advisory group to the Department of Labor and Industry on medical issues within the workers' compensation system. The Medical Services Review Board (MSRB) then empaneled a subcommittee (the Task Force) to review the deficiencies of the current permanent partial disability (PPD) schedule and set out recommendations for a new schedule. A list of the members of the MSRB and the Task Force are attached to this Statement of Need and Reasonableness.

All of the Task Force's final recommendations were developed from an overall consensus of opinion among the members. The Task Force worked to achieve consensus on an issue by issue basis starting with the most basic assumptions and then going on to develop ever greater detail. At the level of greatest detail (i.e. the specific category) there was often a great deal of initial controversy. The Task Force often had to stipulate to all of the relevant assumptions and framework up to that point, and then confine the discussion within the set of assumptions in order to reach consensus on a specific category. The Task Force would then review whether the particular category raised any questions regarding the validity of the initial assumptions and framework. Sometimes, the category did raise such questions, in which case the Task Force would begin the process anew.

The Task Force regularly solicited opinion from a much wider group of interested parties. The Task Force went over its preliminary recommendation with the full membership of the MSRB and also with a group of physicians from the community chosen for their interest and expertise. The comments and criticism from this initial review were taken back to the Task Force and used to refine the recommendations further. This process was repeated on several occasions.

Finally, the Task Force developed a relatively mature draft of the proposed new schedule and this was forwarded to the Minnesota Medical Association's Interspecialty Council. From there it was sent to all the relevant component's societies and specialty groups, including but not limited to: The Minnesota Allergy Society; The Minnesota Obstetrics and Gynecology Society; The Minnesota Neurologic Society; The Minnesota ENT Society; The Minnesota Academy of Ophthalmology; The Minnesota Physiotric Society; The Minnesota Pulmonary Society; The

Minnesota Orthopedic Society; and The North Central Occupational Medicine Association.

These groups then widely disseminated the appropriate sections of the schedule to their memberships for comment. All comments were collated by these specialty societies and then referred back to the Task Force. In particular, the Orthopedic Society members convened for two days to review the proposed changes and develop its own consensus response.

In addition, the proposals were disseminated to insurers, employers, plaintiff attorneys, defense attorneys and other health care professionals. The following individuals reviewed the proposed rules: G. Peltier, M.D.; S. Stoltman, Special Compensation Fund; R. Bass, International Association of Fire Fighters; B. Eberhardt, Fred S. James; R. Yaeger, Stich, Auyell, Breider and Muth; P. Johnson, State Fund Mutual; M. Modak, Midwest Spine Institute; J. Sweere, Northwestern College of Chiropractic; M. Arneson, M.D., Abbott-Northwestern Hospital; S. Silverstein, M.D., The Duluth Clinic; L. Jensen, Thurston, Sperry, and Jensen; P. Strauss, Alliance of America Insurers; L. Robison, The Travelers; C.R. Carlquist, Wausau Insurance Company; R. Jurisch, CNA; R. Johnson, Insurance Federation; The St. Paul Companies; J. Kroll, Western National; R. Fitch, Fitch, Johnson, Larson and Walsh; L. Jakobitz, Federated Insurance; S. Isernhagen, Isernhagen Association; T. Capistrant, Neurological Associates of St. Paul; Noran Neurological Clinic; and Minnesota Chiropractic Association.

All of the comments received were then directed back to the Task Force that proceeded to review each category in light of all the comments received on that category. Again, the Task Force attempted to settle issues on a category by category basis within the basic assumptions that had been stipulated to at the beginning of the process. In the end, there was a fair amount of overall agreement within the Task Force and then subsequently within the MSRB on the proposed schedule. There was certainly not, however, unanimity everywhere. One of the members of the Task Force summed it up by saying, "There are some items on which I vehemently disagree, but I still think that this is a very good schedule."

The process of developing consensus challenged each expert to provide theoretical motivation and literature citation to validate their expert opinions. The Task Force membership was drawn from a number of different specialties that added breadth and depth to the expert opinions brought to bear on any single subject. This interdisciplinary effort often led to insights that resolved differences of opinion and provided the basis for consensus.

Assumptions and Guidelines

There were several sets of assumptions and guidelines used in the development of the proposed schedule. First and foremost were the directives handed down by the Minnesota legislature at Minnesota Statutes, section 176.105 that empowered the Commissioner to create a schedule for rating permanent partial disability. The legislature, first of all, directed that the percentages reflect the **loss of function** of a part of the body based on the body as a whole.

Furthermore, the legislature indicated that the rules should promote **objectivity** and **consistency** in the rating of permanent partial disability. The legislature also asked the Commissioner to take the following factors into consideration in drawing up a schedule:

(1) The workability and simplicity of the schedule's practical application.

(2) The consistency of the schedule with accepted medical standards.

(3) The implications of what other workers' compensation jurisdictions had done regarding permanent partial disability determination.

(4) The implications of the schedules of disability determination devised by medical professional organizations.

(5) The effect of the proposed schedule on litigation within the workers' compensation system.

(6) The development of a uniform approach to pre-existing disability.

(7) Patient symptomatology and loss of function and use of the injured member.

The 1992 legislature also permitted the use of zero ratings for minor impairments, and required exclusive use of the permanency schedule except in cases where the schedule fails to rate the impairment. In such a situation, the legislature directed that the impairment be rated by analogy to the provisions in the permanent impairment schedule.

Secondly, the Task Force decided to continue the format developed in the first Minnesota schedule of using categories to define impairment rather than using scales to measure impairment.

Next, the Task Force decided that categories of impairment should refer to loss of function only where function could be objectively measured. In the Task Force's opinion this meant that it was not possible to incorporate "pain and suffering" straightforwardly into the rating of impairment. Likewise, activity restrictions based on pain or discomfort would not be accommodated within the proposed rating system. In those cases in which function cannot be objectively measured, the Task Force decided to use objectively demonstrated abnormalities as a proxy for loss of function. Therefore, anatomic loss or alteration is generally required as a prerequisite to a disability rating. This promotes objectivity and uniformity in ratings.

Fourth, the Task Force decided whenever possible to avoid reference to specific diagnoses, etiologies, and treatments in the categories rating impairment. Instead, it was decided the schedule should address the final impairments and/or abnormalities created by the pathological process regardless of original diagnosis or etiology. (For example, the proposed schedule does not take into account the etiology of a balance disorder but rather the severity of loss of balance).

Fifth, the Task Force also felt that wherever possible, a series of categories should be created to reflect gradation of severity within impairments and allow a mechanism reflecting variation in individual clinical outcomes.

Sixth, the Task Force also decided that all categories should be characterized by specific

and objective criteria based upon physical findings and the results of laboratory, medical imaging or other ancillary testing modalities. The Task Force made a consistent effort to avoid all "terms of art" that can be subject to variable interpretation by individual practitioners.

Seventh, the Task Force also consistently attempted to develop all possible outcomes to similar levels of detail in order to avoid gaps, inconsistencies and confusions.

And finally, every attempt was made to keep the proposed schedule accessible to, and useable by the general community of health care providers. The committee therefore rejected the use of specialized equipment or specialized techniques for evaluating function unless they were widely considered to be valid methodologies and were absolutely necessary to adequately categorize the impairment.

There certainly remain some significant controversies that could not be resolved with the consensus building approach. Some members of the Task Force and some members of the community continued to be very concerned that our system does not consider pain as an independent determinant of impairment. The Task Force wrestled with this issue throughout the three years that it was working on this project. For many of the pain syndromes, there is no good standard for defining the underlying abnormality, and the loss of function cannot be measured independently of the patient's motivation. (For example, chronic lateral epicondylitis).

General Comments

Only provisions in the rules which have been changed are addressed in this Statement of Need and Reasonableness. Where the rule parallels existing language, no explanation has generally been given.

Provisions which generally required a patient history and examination prior to the assignment of a rating were deleted. Since a patient history and examination are essential elements for all initial evaluations as a standard medical practice, it is unnecessary to include such language in the rules. The current schedule is inconsistent on this point; some parts include the language while others do not. The inconsistent and unnecessary provisions are therefore deleted.

Many provisions throughout the rules add the word "organic" before a description of the condition being rated. The use of the word "organic" emphasizes that the ratings are appropriate when physical damage to the affected body part has occurred. This distinguishes symptoms of a psychological process expressed through a body part from organic physical disability. Psychological disturbances are appropriately rated under part 5223.0360, the central nervous system rule.

The main purpose of specifying disability for categories of permanent functional impairment is to promote consistency and objectivity in the rating of permanent impairments, thereby reducing litigation regarding disability ratings.

Unless indicated otherwise, all changes made to this chapter as compared with similar existing language at Minnesota Rules, Parts 5223.0010 to 5223.0250 are based on consensus

opinion of the Medical Services Review Board's (MSRB's) Permanent Partial Disability Task Force (Task Force). The Task Force, as a representative body of knowledgeable and experienced workers' compensation players and professionals, have developed reasonable rules through the arduous process described above.

Part 5223.0300 (Old 5223.0010) WORKERS' COMPENSATION PERMANENT PARTIAL DISABILITY SCHEDULES.

Subpart 2. This subpart specifies, for the benefit of the user, the effective date of the rules. Because the schedule applies to injuries on or after the effective date, it is important to provide this critical piece of information in the rule. July 1, 1993 was chosen as a date subsequent to the rulemaking process which is easy to apply.

Subpart 3A directs the user of the schedule to refer to the schedule by analogy where a category which applies to the impaired condition cannot be found in the actual schedule. This direction is consistent with the Supreme Court's decision in Weber v. City of Inver Grove Heights, 461 N.W.2d 918, 43 W.C.D. 471 (1990), and is also consistent with the 1992 legislative direction at Minnesota Statutes, section 176.105, subdivision 1, clause c.

Subpart 3D: Additional language is added to clarify when and how multiple categories may be used to rate an injury. This subpart discourages the use of multiple schedule categories to rate a disability unless the impairing conditions are truly mutually exclusive. This is also consistent with subpart 3, item B.

Subpart 3E: Additional language is added to clarify how the combining formula is used when combining more than two disability percentages. The proposed language follows current practice and the statutory formula under Minnesota Statutes, section 176.105, subdivision 4(c).

Subpart 3F: This item is added to indicate that in certain specific circumstances, percentages can be added by simple addition rather than combined under the statutory formula of Minnesota Statutes, section 176.105, subdivision 4(c). The American Medical Association Guides, 3rd Edition (AMA Guides), also provides some instances where percentages are directly added together rather than combined using a formula. In these situations, the add-on ratings already reflect an accurate rating when combined with the complementary category. The overall percentage of disability is taken into account in developing the add-on ratings.

Subpart 3 of the old rule is deleted. See the discussion at subpart 3A of this part which replaces subpart 3.

Subpart 4: Language is added to indicate where the reference materials are available. All materials referenced are available at University of Minnesota Biomedical Library.

Subparts 4A through K: References to the Minnesota State Law Library are removed, as not all of the most current references are at that library.

Subpart 4B: The citation for the AMA Guide is updated.

Subpart 4F: Reference to the Kenny scale is removed as it is no longer used in the rules. A reference to Plum and Posner "Diagnosis of Stupor and Coma" is added as a reputable source of general background information on central nervous system disorders. It was used to develop the definitions of coma and stupor.

Subparts 4G through K: All references to the University of Minnesota Biomedical Library are removed, as this reference is redundant with the additional language having been added to the first paragraph of subpart 4.

Old subpart 4. Severability. This paragraph is repealed as unnecessary. Minnesota Statutes, sections 645.20 and 645.001 provide that all rules are severable unless the rule states otherwise.

Part 5223.0310 (Old 5223.0020) DEFINITIONS.

Unless stated otherwise, changes made to this section are based upon the consensus opinion of the MSRB and are therefore reasonable. Additional definitions and changes to existing definitions are necessary to "promote objectivity and consistency in the evaluation of permanent functional impairment due to personal injury and in the assignment of a numerical rating to the functional impairment" as mandated by Minnesota Statutes, section 176.105, subdivision 4(b). Generally, medical dictionary definitions were derived from Dorland's and Stedman's Medical Dictionaries. These publications are incorporated by reference in part 5223.0300, subpart 3.

Subpart 2: The definition of "acromioclavicular grade 1" is unchanged.

Subpart 3: The definition of "acromioclavicular grade 2" is expanded to provide a baseline for comparison with standard x-ray views or to x-ray comparison with the uninjured side. This should help promote consistency and objectivity in ratings.

Subpart 4: The changes are made for the same reasons given in subpart 3 above.

Subpart 5: A definition of "Activities of Daily Living" is changed to bring it into conformity with the definition found in the AMA Guides, 3rd Edition.

Subpart 6: A definition for "adaptive equipment for ambulation" is added. The definition is based on the consensus opinion of the MSRB. This phrase is used at part 5223.0360, subpart 7.E.(3)(c).

Subpart 7: The definition for "ankylosis" is changed to bring it into conformity with standard medical usage as found in dictionaries of medical terminology.

Subpart 8: A definition for "appropriate, consistent, and reproducible clinical findings" is added. The definition is based on the consensus opinion of the MSRB and incorporates the generally accepted concepts of inter- and intra-examiner reliability, sensitivity, and specificity.

Subpart 9: (Old subpart 7). The definition of "ANSI" is unchanged.

Subpart 10: A definition for "articulation" is added. The definition is based on current standard medical usage.

Subpart 11: The phrase "resulting from burns" is deleted from the definition of "banding." Whenever possible, etiology of the injury is not referred to in these proposed rules. Instead, the focus is on the resulting impairment.

Subpart 12: A definition for "cardiopulmonary exercise testing" is added. The definition is based on current medical usage as found in the AMA Guides, 3rd Edition.

Subpart 13: A definition for "carpal instability" is added. The definition is taken from the orthopedic literature and current medical usage.

Subpart 14: (Old subpart 9). The definition of "category" is slightly altered to distinguish between the medical concept of functional impairment and the legal concept of permanent partial disability.

Subpart 15: (Old subpart 10). The definition of "chronic" is unchanged.

Subpart 16: A definition for "colostomy" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Subpart 17: A definition for "coma" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Subpart 18: A definition for "contracture" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Subpart 19: A definition for "DCO" is added. The definition is based on current medical usage as found in the AMA Guides, 3rd Edition.

Subpart 20: A definition for "delirium" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Old subpart 11: The definition of "demonstrable degenerative changes" is deleted. No reference is made to this term in any category of the schedule.

Subpart 21: (Old subpart 12). The definition for "desirable level of weight" is expanded by including the Table for Desirable Levels of Weight, for males and females, at different heights and for different sizes of frame as published by Metropolitan Life Insurance Company. Inclusion of the table in the rule provides immediate access to the information, aiding the user of the rule.

Subpart 22: (Old subpart 13). The definition of "disarticulation" is unchanged.

Subpart 23: (Old subpart 14). The definition of "distance vision" is expanded to include any vision chart which is the equivalent of the Snellen and AMA Charts. The publisher of the

chart is unimportant so long as the substance is the same. This is in keeping with the recommendation of the AMA Guides, 3rd Edition.

Subpart 24: A definition for "dysequilibrium" is added. The definition is taken from standard medical usage as found in dictionaries of medical terminology.

Subpart 25: A definition for "esophagostomy" is added. The definition is taken from standard medical usage as found in dictionaries of medical terminology.

Subpart 26: A definition for "executive functions" is added. The definition is based on the consensus opinion of the MSRB.

Subpart 27: The definition of "family member" is unchanged.

Subpart 28: The definition for "FEV1" is added. The definition is based on current medical usage as found in the AMA Guides, 3rd Edition.

Subpart 29: The definition of "14/14" is slightly modified to clarify that it refers to the Snellen rating system. No change in substance is intended.

Old subpart 16: The definition of "forequarter" is deleted. The use of the word "forequarter" has been eliminated from the schedule.

Subpart 30: (Old subpart 17). "Fusion" is redefined to bring it into conformity with the standard medical definition as found in dictionaries of medical terminology.

Subpart 31: A definition for "FVC" is added. The definition is based on current medical usage as found in the AMA Guides, 3rd Edition.

Subpart 32: (Old subpart 18). "Gastrostomy" is redefined to bring it into conformity with standard medical usage, as found in dictionaries of medical terminology.

Old subpart 19: The definition of "glossopharyngeal" is deleted. No reference is made to this term in any category of the schedule.

Old subpart 20: The definition of "gross motor weakness" is deleted. No reference is made to this term in any category of the schedule.

Subpart 33: (Old subpart 21). No change is made in the definition of "hypertrophic scar."

Old subpart 22: The definition of "hypoglossal" is deleted. No reference is made to this term in any category of the schedule.

Subpart 34: A definition for "ileostomy" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Subpart 35: A definition for "jejunostomy" is added. The definition is taken from standard medical usage, as found in dictionaries of medical terminology.

Old subpart 23: The definition of "Kenny scale" is deleted. The "Kenny scale" is no longer used in any section in the calculation or categorization of impairment.

Old subpart 24: The definition of "laminectomy" is deleted. No reference is made to this term in any category of the schedule.

Subpart 36: (Old subpart 25). The definition of "lethargy" is unchanged.

Subpart 37: The definition for "Method of Lund and Browder" is added along with the table defining surface body area by body part. The definition and tables are taken from standard medical textbooks.

Subpart 38: A definition for "motility chart" is added. The definition is based on current medical usage as found in the AMA Guides, 3rd Edition.

Old subpart 26: The definition of "moderate referred shoulder and arm pain" is removed. No reference is made to this term in any category of the schedule.

Old subpart 27: The definition of "moderate partial dislocation" is removed. No reference is made to this term in any category of the schedule.

Subpart 39: (Old subpart 28). "Near vision" is redefined to bring it into conformity with current medical usage, as found in the AMA Guides, 3rd Edition.

Subpart 40: A definition of "nine hole peg test" is added. The definition is based on the consensus opinion of the MSRB.

Old subpart 29: The definition of "nonpreferred extremity" is deleted. The term "nonpreferred extremity" is replaced by the term "nondominant" in conformity with current medical usage.

Subpart 41: A definition for "painful organic syndrome" is added. The definition is based on the consensus opinion of the MSRB.

Old subpart 30: The definition of "objective clinical findings" is deleted. No reference is made to this term in any category of this schedule.

Old subpart 31: The definition of "postural abnormality" is deleted. No reference is made to this term in any category of this schedule.

Old subpart 32: The definition of "preferred extremity" is deleted. No reference is made to this term in any category of this schedule.

Subpart 42: (Old subpart 33). The definition of "presbycusis" is unchanged.

Subpart 43: (Old subpart 34). The definition of "pseudophakia" is unchanged.

Subpart 44: A definition for "radicular pain" is added. The definition is based on the consensus opinion of the MSRB.

Subpart 45: A definition for "radicular paresthesia" is added. The definition is based on the consensus opinion of the MSRB.

Subpart 46: (Old subpart 35). The definition for "self cares" is altered to bring it into conformity with current medical usage as found in the AMA Guides, 3rd Edition, and with the definition for activities of daily life previously added at subpart 5.

Subpart 47: A definition for "speech intensity" is added. The definition is taken from current medical usage as found in the AMA Guides, 3rd Edition.

Subpart 48: (Old subpart 36). The definition of "spinal stenosis" is unchanged.

Subpart 49: (Old subpart 37). The "spondylolisthesis" definition is altered to bring it into conformity with standard medical usage, as found in dictionaries of medical terminology.

Subpart 50, 51, 52, and 53: (Old subparts 38, 39, 40, 41). The definitions of the grades of spondylolisthesis are expanded to include a reference to comparison with standard x-ray views to promote consistent permanent partial disability ratings.

Subpart 54: (Old subpart 42). The definition of "stupor" is unchanged.

Subpart 55: A definition is added for "Table for loss of central visual acuity". The definition is taken from current medical usage, as found in the AMA Guides, 3rd Edition.

Subpart 56: A definition for "tandem gait" is added. The definition is based on current medical usage, as found in textbooks of neurology.

Subpart 57: (Old subpart 43). The definition of "tinnitus" is unchanged.

Subpart 58: A definition for "trigeminal neuralgia" is added. The definition is based on current medical usage, as found in textbooks of neurology.

Old subpart 44: The definition of "trigeminal" is deleted. No reference is made to this term in any category of the schedule.

Subpart 59: The definition of "20/20 Snellen" is slightly modified to remove unnecessary language. No change in substance is intended.

Subpart 60: (Old subpart 45). The definition of "vertigo" is unchanged.

Old Subpart 46: The definition for "vestibular" is deleted. No reference is made to this term in any category of the schedule.

Subpart 61: A definition for "visual field chart" is added. The definition is based on current medical usage, as found in the AMA Guides, 3rd Edition.

Subpart 62: A definition is added for "VO2 max". The definition is based on current medical usage, as found in the AMA Guides, 3rd Edition.

Subpart 63: (Old subpart 47). The definition for "wrinkling" is altered to remove the qualification that it must result from a burn. This is in keeping with removal of the categories for disfigurement from the burn schedule and making them available for disfigurement of any origin.

Part 5223.0315 (Old 5223.0250) PREEXISTING IMPAIRMENTS.

Additional language is added to indicate that this section is only for the rating of pre-existing impairments. It is not to be used for permanent partial disability ratings instead of parts 5223.0320 - 5223.0650. This clarifies that the apportionment section of the rules is not an alternative way to creatively determine a permanent partial disability rating where the schedule already provides a rating or a similar category. This part merely provides information concerning the calculations of preexisting impairments which cannot be rated under the main body of the schedule.

A.(3): The final sentence with example is removed as misleading.

C: In the first paragraph, the words "and the rating was made prior to the current injury" are added for clarification of application. This item applies to conditions which have already been rated before the injury. Conditions which are rated after the current injury are spelled out under item A of this subpart. This amendment simply clarifies the current meaning of the item and prevents confusion between items.

D.(2): The reference to Minnesota Statutes, section 176.105, subdivision 4 paragraph C is replaced with a reference to 5223.0300, subpart 3E, which not only sets out the combining formula but explains its application.

Part 5223.0320 FACE, NOSE, MOUTH, OR THROAT.

A new section is introduced to the schedule to accommodate impairments to the face, nose, mouth, throat and related structures. This brings together some impairments previously rated under other sections but also allows for general rating of end organ impairment in these areas.

Subpart 1: This is an introductory paragraph indicating the scope of this section. It also indicates that cosmetic disfigurement to these areas is to be rated as provided in 5223.0650 and may be combined with ratings under this part.

Subpart 2: Ratings for disorders of chewing and swallowing are provided. These are similar to the ratings for disorders of the glossopharyngeal, vagus, spinal accessory, and hypoglossal nerves in the current schedule under 5223.0060, subparts 5 and 6. Injuries to these

nerves are not the only reasons for having chewing and swallowing disorders. Rather than rating each particular injury that could lead to these kinds of problem, the problem itself is rated, and the rating is applicable to any kind of injury that could lead to this result. The percentages provided are the same as were provided in the previous schedule for the commensurate impairments.

Subpart 3: Ratings are provided for disorders of articulation. Again as in new subpart 2, these replace ratings previously available under 5223.0060, subparts 5 and 6 for disorders of the glossopharyngeal, vagus, spinal accessory, and hypoglossal nerves. Injuries to these nerves are not the only causes of disorders of articulation. The rating, therefore, is allowed for any cause of this disorder. Six levels of disability are provided under this subpart. They were created by the Task Force using the AMA Guides, 3rd Edition as a guideline. They provide the same range of disability (minimum 3%, maximum 35%) as in the current schedule, though the levels are differently characterized and defined. The new levels and definitions better represent various impairments of articulation.

Subpart 4: A new section is added for disorders of breathing due to upper respiratory tract problems in the nose, nasal cavities, sinuses, eustachian tubes, mouth, pharynx, larynx, upper trachea or lower trachea. There is no provision in the current schedule for impairment in these areas. The schedule is, therefore, enlarged to include these recognizable impairments. Three categories are included under this subpart:

Subpart 4A: All incomplete or unilateral obstructions of the upper respiratory tract are brought together and given a 2 percent rating. Two percent was the consensus opinion of the MSRB based on a comparison of the relative severity of this kind of impairment compared to other pulmonary impairments and compared to other body impairments in general.

Subpart 4B: All complete and bilateral obstructions of the upper respiratory tract are brought together to a single category and given a percentage of 5 percent. Again, the percentage is based upon a comparison of the relative severity of these impairments with other impairing disorders of the respiratory tract and upon a comparison with other impairing disorders in general.

Subpart 4C: Any disorders not covered by subpart 4.A. and 4.B. regarding upper respiratory tract obstructions are to be rated according to the system set forth in 5223.0560 for other respiratory disorders. Part 5223.0560 concerns general respiratory impairments which are not the result of upper respiratory tract obstructions.

Subpart 5: Specific reference is made to temporomandibular joint disorders which are to be rated according to subpart 2 for disorders of chewing and swallowing. If there is no impairment of speech, chewing and swallowing, and no cosmetic disfigurement, the TMJ disorders do not cause any loss of function.

Subpart 6: Specific reference is made to jaw and facial bones. They are to be rated under subparts 2, 3 and 4 for disorders of chewing and swallowing, speech, or upper respiratory tract. They can also be rated under 5223.0330 for loss of vision and under 5223.0650 for cosmetic disfigurement. These additional ratings represent separate impairments and are,

therefore, not duplicative ratings. If there is no impairment of chewing, swallowing, speech, or upper respiratory tract, there is no loss of function.

Subpart 7: A new section is added for loss of teeth. The category is exclusive in that it is not to be used with any other subpart of this part. An upper limit of 10 percent is imposed for loss of teeth.

If an injury includes permanent loss of teeth and other impairments rateable under other categories of this section (e.g., subpart 2 chewing and swallowing), the individual may be rated under whichever category provides the higher impairment. The two categories may not be combined. The limit of 10% for loss of all teeth was based on the opinion of the MSRB that this was equivalent to restriction to a mechanical soft diet to which a rating of 10% is assigned in subpart 2.

Item A: One percent is given for the loss of an upper incisor. This percentage was a consensus of the MSRB derived from consideration of the relative severity of this impairment compared to other impairments of the face, nose, mouth and throat, and of other impairments due to cosmetic disfigurement.

Item B: A percentage of 0.5 percent is given for loss of other teeth. This was based on a consideration of the relative severity of this impairment versus a loss of a upper incisor.

Part 5223.0330 (Old 5223.0030) EYE.

Subpart 1: New general instructions are given for the use of this part clarifying that this part rates impairment of the function of the eye. Impairment due to cosmetic disfigurement and due to jaw and facial bone impairment are provided in other sections and can be combined with ratings under this section. The instructions accurately describe that these impairments are separate and distinct and are therefore combined with eye ratings under the formula provided in Minnesota Statutes, section 176.105, subdivision 4.

Subpart 2B: (Old subpart 1). The definition of the category is improved to indicate it only applies where vision in the other eye is completely normal in regard to acuity, motility and visual field. This clarifies the original intent of the rule. If the other eye is also impaired, the disability would be greater. The final sentence is also deleted as being unnecessary.

Subpart 2C: A new category is added for enucleation. Two subcategories of impairment are allowed. Enucleation is not specifically referenced in the current schedule and this oversight has created some confusion as to its appropriate rating.

Subpart 2C(1): Unilateral enucleation is rated at 24 percent which is the same as the percentage for complete loss of vision in one eye where the other eye is normal. The MSRB rates these impairments as equivalent.

Subpart 2C(2): Bilateral enucleation is rated at 85 percent which is the same percentage given for complete loss of vision in both eyes. Again, the MSRB finds these conditions equivalent.

Subpart 2D: A section is added indicating that in all other cases except for complete losses and enucleations, the system in subpart 3 is to be used. All visual losses are assigned to either subpart 2 or 3 for rating. This sentence delineates the division between ratings under each subpart, thereby discouraging ratings under subpart 2 as a percentage of complete loss. The Department intends that incomplete loss of vision must be rated under subpart 3.

Subpart 3: A new organization is provided for old subparts 2 through 6. They are now combined into one subpart 3. All items and subitems are renumbered. Substantive changes are made in the following:

Subpart 3B(1)(b): (Old subpart 3A(2)). The words "down and outward 85 degrees" are added. They are necessary to complete the description of the visual field and were inadvertently omitted from the current schedule.

Subpart 3B(2)(b)and (c): (Subpart 3B(2) and (3)). The last sentence of each provision is deleted as unnecessary due to other changes in the calculations under this part.

Subpart 3C(1): (Old subpart 4A). the language is slightly modified to omit references to Snellen charts and AMA cards. The meaning remains the same since the Snellen rating system is the standard of measurement.

Subpart 3C(1)(a): (Old subpart 4A(1)). The Table for Loss of Central Visual Acuity of the AMA Guide, 3rd Edition is substituted for Table 1 of the old schedule. The AMA Guides table is updated with newer information about visual efficiency and also accommodates cases of aphakia and pseudophakia which in the old schedule require complicated adjustments.

Subpart 3C(1)(b): (Old subpart 4A(2)). A paragraph is added indicating that in cases of aphakia or pseudophakia, the proper figures in the AMA table are to be used to determine visual efficiency. This replaces the cumbersome adjustments of the old schedule.

Old subpart 4A: This section is deleted in its entirety since the use of the AMA Guide Table for Loss of Central Visual Acuity makes it unnecessary. The adjustment for aphakia and pseudophakia is available directly from the Table and the Table automatically provides the loss of central visual acuity based on the far vision and near vision without any additional calculations.

Subpart 3C(2): (Old subpart 4B). Changes are made throughout this section so that calculations of field of vision are made in terms of percentage lost rather than percentage retained. This eliminates the need to convert all of the answers at the end of the calculations from percentage retained to percentage lost.

Subpart 3C(3): (Old subpart 4C). This section is rewritten so that all measurements of ocular motility are made in terms of percentages lost rather than percentages retained.

Subpart 3D: (Old subpart 5). This section is rewritten and simplified since the measurements of the component functions of visual impairment have been calculated in terms of percentages lost rather than percentages retained so that no conversions are necessary at the

end of the calculations from percentage retained to percentage lost.

Old subpart. 5B(1): References to aphakia and pseudophakia are eliminated as unnecessary since they are now taken into account directly in the estimation of loss of visual acuity.

Old subpart 5B(2) and (3): These sections are eliminated since it was the opinion of the MSRB that the use of glasses is already taken into account in the rating of impairment from loss of visual acuity and that to provide an additional impairment percentage for the use of glasses would be to rate the loss of visual acuity twice.

Subpart 4: This section is added to explicitly outline the rating of impairments of the extraocular muscles. They are rateable only for any disorder they create in visual efficiency. This is in keeping with the overall goal of rating end organ impairment as opposed to assigning ratings for the existence of a particular diagnosis or condition.

Subpart 5: This new section is added to explicitly outline the rating of impairment of the eyelids, eyelashes, conjunctiva, lacrimal duct and/or lacrimal gland. These are only rateable for any alteration of visual efficiency created or cosmetic disfigurement for the same reason described in subpart 4.

Part 5223.0340 (Old 5223.0040) EAR.

Additional language is added to Subpart 1 indicating that permanent partial disability due to cosmetic disfigurement of ears is covered in another section and can be combined with this part. Language is also added indicating that permanent partial disability due to a vestibular dysfunction is provided in another part (5223.0360, subpart 5) and could be combined with ratings under this part.

Old subpart 2 is deleted since it is irrelevant. The old language attempts to set out standards for general examination of persons with hearing problems. The standards are not exhaustive, nor are they always necessary and sufficient. It is noteworthy that standards for general examination are not set out in other parts. Accepted medical practice requires a health care provider to exercise judgment and discretion in examining patients.

Subpart 4A: (Old subpart 5A(1)). Subpart 4A clarifies that the hearing thresholds for determination of impairment are to be measured by pure tone air conduction testing. This language reflects current practice.

The old subpart 5B is deleted as being irrelevant since the examples are replaced by a new worksheet to lead the rater through the calculation.

Subpart 5: A worksheet is added for the calculation of binaural hearing loss. The substance of the rating method remains the same; it is simply more clearly set out in the worksheet.

Part 5223.0350 (Old 5223.0050) SKULL DEFECTS.

Subpart 1 is added indicating that associated nervous system impairments are to be rated in the appropriate parts (e.g., 5223.0360) and can be combined with ratings under this part as distinct and separate impairments.

Subpart 2A: (Old subpart 1). A new series of categories for unfilled skull defects are created based on square centimeters instead of square inches. Rules are given for rounding appropriately to the nearest square centimeter. The lowest category is given 1 percent instead of 0 percent since all unfilled skull defects represent some impairment in the opinion of the MSRB. The maximum rating has remained at 20 percent. A new level with a rating of 3 percent has been added to represent an objectively distinguishable gradation in severity. The 5 percent, 10 percent and 15 percent categories have been kept, though the definitions have been altered slightly.

Subpart 2B: All filled skull defects are given 0 percent since the function of the skull is to protect the brain and a filled skull defect provides the necessary protection. Therefore, no impairment is suffered if the defect is filled with an adequate replacement for the missing skull bone. This category does note, however, that a cosmetic deformity due to filled skull defect could be rated under the appropriate part of the schedule (5223.0650).

Subpart 3: (Old subpart 2). Introductory language indicates that deforming fractures of the face and skull should be rated in the appropriate area.

Old subpart 2A is eliminated since this condition does not occur.

Subpart 3B: A section referring to all other fractures of the skull is added and is rated at 0 percent since it was the consensus of the MSRB that without any cosmetic deformity, which would be rated elsewhere in the schedule anyway, there is no impairment.

Part 5223.0360 (Old 5223.0060) CENTRAL NERVOUS SYSTEM.

Subpart 2B: The complete unilateral sensory loss rating was raised from 5 to 10 percent by consensus of the MSRB to more appropriately reflect the impairment compared to other impairment ratings regarding the trigeminal nerve.

Subpart 2G through J: Additional language is added to the current definitions specifying the meanings of "partial" and "complete" motor loss, in order to promote consistency in application of the rules.

Subpart 3B: The category for total loss of smell is added here and deleted at old subpart 8L. It is rated at one percent commensurate with the rating for total loss of taste. The rating was reduced from 3 percent to one percent based on the MSRB's opinion of relative severity of impairment.

Subpart 4: A new subpart 4 is created. Language is added to the introductory paragraph

indicating how facial nerve injuries are to be rated in order to promote agreement between examiners.

Subpart 4B: The current category is subdivided into subcategories based upon the ability to close the eye. The major motor function of the facial nerve is the ability to close the eye and protect the eyeball with the eyelid. The category is subdivided on the individual's ability to close the eye without assistance. A lesser category is created and rated at 7 percent and a greater category is created which retains the 10 percent rating under the current schedule. The 7 percent rating is based on the MSRB's opinion of the relative severity of the lesser category compared to the greater category.

Subpart 4D and E are deleted since the new introductory rules to subpart 4 make them redundant.

Subpart 5: (Old subpart 4) is rewritten. Vertigo and dysequilibrium are now rated for any underlying cause and not just for neurologic disorders. The Kenny scale is eliminated as a means of rating vertigo and dysequilibrium. The Kenny scale is dropped because it is no longer the current medical standard and is not widely available. The current four categories under the Kenny scale are replaced with five categories. The range of impairment is increased from a maximum rating of 70 percent to a maximum rating of 95 percent. The categories are created in a hierarchical fashion based on increasing functional disturbance. It was the opinion of the MSRB that vertigo and dysequilibrium could lead to the same levels of impairment as found in brain disorders. The five categories of this subpart were therefore arranged to show the same hierarchical progression of severity and rating percentage as the categories used in the section on brain disorders.

Old subpart 5 is deleted since these impairments are now combined with the impairments rated in 5223.0320.

Old subpart 6 is deleted since these impairments are now combined with the impairments rated under 5223.0320.

Old subpart 7 is deleted and replaced with a new subpart 6. The old subpart 7 had a unique system for defining disability due to spinal cord injury. It resulted in ratings which were different in cases of spinal cord injury for the exact same impairments as under other sections of the schedule for cases of other kinds of injury. It used the Kenny scale which has been dropped because it is outmoded and no longer widely available. The old subpart has been replaced with directions which show the rater how to go to the various specific parts of the current schedule in order to rate all of the relevant consequences of spinal cord injury. This keeps the rating of a specific impairment the same for individuals with that impairment regardless of the cause of the impairment. It also allows the rater maximum flexibility to accommodate all of the specific impairments suffered by an individual with a spinal cord injury.

Subpart 7: (Old subpart 8). New introductory language is used which shows that this section may be used for rating impairment due to organic brain dysfunction whether it is due to illness or injury. This is consistent with the emphasis in these rules on resulting impairment caused by the work injury or disease rather than the specific etiology of the condition. It also

specifies that a rating under this subpart is the combination of the ratings assigned by the items of this subpart using the statutory formula of Minnesota Statutes, section 176.105, subdivision 4(c). The formula is necessary to avoid an inflated overall rating for separate and distinct impairments when the ratings were not created as add-on ratings to complement another category of ratings.

Subpart 7A: Several changes are made in the definitions in order to make them easier to apply. None of these are substantive changes.

Subpart 7B(1): The percentage impairment of this category is changed from 40 percent to 35 percent to make it equivalent to the rating given under subpart A(2) which is an equivalent impairment, in the opinion of the MSRB.

Subpart 7B(3): The percentage impairment of this category is changed from 90 percent to 95 percent to make it commensurate with the maximum ratings under other items of this subpart since it is an impairment of equal magnitude, in the opinion of the MSRB.

Subpart 7C: Disturbances of consciousness and disturbances of complex integrated cerebral function are combined into one item. Rating these separately resulted in rating the same impairment twice. New introductory language is added defining disturbances of complex integrated cerebral function and disturbances of consciousness. Six subcategories are created from the current schedule with a range of percentage impairment from 10 percent to 99 percent. This represents a similar range as existed in the two current items which have been combined. The mild impairment level in C(1) is changed from 20 to 10 percent. A ten percent rating is more consistent with other mild impairment categories in the brain dysfunction section.

Subpart 7D: New introductory language has been added to more fully define emotional disturbances and personality changes. The current four subcategories have been increased to five to allow better gradation of impairment. The range of percentage impairment continues to be 10 to 95 percent. A new subcategory (3) has been added with a rating of 40 percent and represents an impairment equivalent to impairments in other items of this subpart. The rating for the old subitem (3), which becomes the new subitem (4), has been changed from 65 to 75 percent since it was the opinion of the MSRB that this impairment was the equivalent of other impairments in this subpart now rated at 75 percent.

The old item E is deleted since these situations are already rated under item D.

The old item F is deleted since this has been combined with item B.

The old item G is rewritten as item E specifically for ataxia/movement disorder/spasticity. The old item also included several other motor dysfunctions which are of a dissimilar nature to those listed and needed to be handled separately. Under this item, new rating schemes are proposed for the upper extremity, based upon performance of the 9 hole peg test, and for the lower extremity, based upon gait. For the upper extremity five levels of impairment are identified. These are arranged in the same hierarchical fashion as for other items under this subpart and given the same progression of percentage impairment as other items in this subpart with a range from 0 to 95 percent. The 9 hold peg test is a widely accepted

objective measurement of movement disorder in the upper extremity. The relevant normative 25 values for performance of the 9 hole peg test are included. These are derived from widely accepted normative values determined by population testing.

For the lower extremity, five subcategories of impairment are rated. These are also ranged in hierarchical fashion with a range of percentage impairment from 0 percent to 95 percent. These are coordinated with the subcategories for impairment due to movement disorder in the upper extremity and are also coordinated with the subcategorization of impairment under other items of this part. The current scheme of using the Kenny scale is deleted for the reasons stated in subpart 5 of this document and to avoid resulting impairment ratings which are inconsistent with ratings for the same impairment in other sections of the schedule when the impairment results from another cause.

The old item H becomes the new item F. The current scheme of using the Kenny scale is deleted for the reasons stated in the preceding paragraph, and impairments of respiration, urinary bladder function, anorectal function, and sexual function are to be rated under those specific provisions in the schedule under parts 5223.0560 through 5223.0600. In this way, the same end organ impairments are given the same rating regardless of the cause of the impairment.

The old item I becomes the new item G. The category is expanded to include all episodic neurologic disorders and not simply epilepsy. The current five subcategories are kept. The definitions of these subcategories are rewritten to make for easier application and also to make them equivalent to subcategories under other items of this subpart. Again, they are arranged in hierarchical fashion of ascending impairment. The 10 percent episodic neurologic disorder category is increased to 20 percent to more accurately reflect the extent of impairment in comparison to other brain impairments. A 30 percent category is added, providing an intermediate category between the 20 and 40 percent categories. This fills a gap in the existing schedule between two very different functional levels of disability. The 30 percent rating is appropriate based on comparable brain dysfunction categories. The number of seizures experienced by persons with more than a 30 percent impairment is not indicative of the level of impairment. Therefore, reference in the schedule to the number of seizures per year is deleted for the 40 to 95 percent categories.

The old item J becomes the new item H. New introductory language is added to more specifically define headache. The percentage impairment for headache is reduced from 5 percent to 2 percent since it was the MSRB's opinion that the current percentage overvalues a headache relative to other impairments of this part.

A new item I is added which indicates that peripheral motor and peripheral sensory impairments are to be rated as provided in the specific sections 5223.0400 through 5223.0430. This cross-reference aids the user of the rules in finding other appropriate sections of the rules.

Old item K is deleted since it now appears under subpart 3 of this part.

Old item L is deleted since it appears under subpart 3 of this part.

Part 5223.0070 MUSCULOSKELETAL SCHEDULE; BACK.

This part is deleted in its entirety since it is replaced by parts 5223.0370 for the cervical spine, 5223.0380 for the thoracic spine, and 5223.0390 for the lumbar spine. These changes are made in order to make the schedule more readable.

The new back schedule emphasizes the extent of resulting impairment as the basis for assigning permanent partial disability ratings rather than using the etiology of the condition or the specific diagnosis of the employee's condition as the basis for the rating. Clinically observable results are significant in the rating process, including the location and extent of the employee's complaints as well as the results of relevant tests. The disability ratings in the back sections are roughly equivalent overall to the current schedule. Some conditions are rated at a higher or lower percentage. The new rules more accurately pinpoint the resulting extent of functional impairment. In addition, the back schedule is more internally consistent.

Part 5223.0370 (Old 5223.0070, Subpart 2) MUSCULOSKELETAL SCHEDULE; CERVICAL SPINE.

Subpart 1: This subpart specifies how the part is to be applied to impairments of the cervical spine. Specific language is introduced which states that only one category of subpart 2, 3 or 4 may be used for an injury. Use of more than one category would result in repetitive rating of the same impairment. The categories and assigned rating percentages were designed to be mutually exclusive. The new instructions give needed guidance to the user concerning when ratings may be added by simple addition to accurately represent the whole impairment and when to use the combining formula for separate and distinct impairments. These discourage unnecessary litigation over the calculation of permanent partial disability benefits.

Subpart 1A: This item recognizes that there may be injury to the spinal cord in addition to the musculo-skeletal injury of the cervical spine and that this should be rated as provided by 5223.0360, subpart 6. This item and other items in subpart 1 simply cross-reference other relevant provisions to aid the user of the schedule.

Subpart 1B recognizes that there may be injury to the nerve roots in addition to the musculo-skeletal injury to the cervical spine. If the injury to the nerve root results in complete loss, it is to be rated as defined in 5223.0400, subpart 1A and/or 5223.0410, subpart 1A. Less than complete loss to nerve roots has been taken into account in the ratings under this part and, therefore, additional ratings would not be required in that instance.

Subpart 1C: This item recognizes that there may be permanent partial impairment due to bladder dysfunction in addition to the musculo-skeletal injury to the cervical spine, and that it should be rated as provided in 5223.0600, subpart 4.

Subpart 1D: This item recognizes the fact that there may be permanent partial impairment to sexual function as well as the musculo-skeletal impairment of the cervical spine and that this should be rated under 5223.0600, subpart 7 or 10.

Subpart 1E: This item recognizes that there may be permanent partial impairment to anal function and that this should be rated as provided in 5223.0590, subpart 4.

Subpart 2A(1): (Old 5223.0070, subpart 2E(1)). The rating percentage of impairment for compression fracture with loss of up to 10 percent of vertebral height is reduced from 6 percent to 0 percent. This is reduced because the MSRB felt that 6 percent overvalued the impairment in comparison to the impairment from other fractures of the spine.

Subpart 2A(2): (Old 5223.0070, subpart 2E(2)). Compression fractures with loss of 10 to 25 percent of vertebral height are rated at 6 percent. This is a reduction from 14 percent under the current schedule. Again, the MSRB felt that 14 percent overvalued these impairments in comparison to other fractures of the cervical spine.

Subpart 2A(3) and (4) are introduced to replace the current 5223.0070, subpart 2E(3). The new subitem (3) covers compression fractures with decreases in vertebral height from 26 to 50 percent. A rating of 14 percent is given for these. The new item (4) covers vertebral fractures with compression of greater than 50 percent in vertebral height. These are rated at the same 19 percent which is the highest percentage for compression fracture under the current schedule. The new categories are created to separate distinguishable levels of impairment not recognized in the current schedule.

Subpart 2B: This item replaces the current 5223.0070, subpart 2E(4) and (5). The distinction between moderate dislocation and severe dislocation is dropped. These fractures are subcategorized on the basis of whether normal reduction could be achieved and whether surgery was required. The current range of percent impairment from 10.5 through 17.5 is expanded to 10.5 to 19 percent. Four categories are proposed to replace the current five, and to exhaustively categorize vertebral fractures of posterior elements based upon the two factors of reduction and surgery. A fracture with persistent pain must fall under another category of subpart 2B to be rated. Elimination of old item E(4)(b), therefore, removes an unnecessary category. References in the current schedule for nerve root involvement are not necessary since the introductory language of subpart 1 indicates that nerve root involvement is to be separately rated if complete.

Subpart 2C: A category is added to deal with other vertebral fractures not already listed. These are rated at 4 percent.

Subpart 2D: Specific language is added to this item to clarify the rating of fractures of multiple vertebral levels. This is unclear in the current schedule. Three percent is to be added to whatever other category is applicable, if there are multiple vertebral levels involved. Three percent total is to be added no matter how many vertebral levels are involved so long as there are more than one per the consensus of the MSRB.

Subpart 3: A new subpart 3 is created to cover impairments due to cervical pain syndrome. Cervical pain syndrome represents musculo-skeletal problems of the cervical spine which are confined to the region of the cervical spine and do not involve any symptoms or physical findings in the upper or lower extremities. Three categories are proposed. They follow the hierarchical arrangement of the current schedule in 5223.0070, subpart 2A(1) through (3).

Subpart 3A: This category covers situations in which there is complaint of pain or stiffness in the cervical spine which is not substantiated by persistent objective clinical findings. Zero percent is given for this category, per the consensus of the MSRB. If there are no

persistent objective clinical findings on physical examination, then radiographic findings are not relevant for the rating of cervical pain syndrome. Therefore, the rule indicates that radiographic findings are irrelevant in such circumstances. Even if the x-rays in this situation were to show abnormalities as listed in item 3C, they could not result in a rating since there are no persistent objective clinical findings. Clinical findings must be persistent. Even if objective clinical findings were present at the time of injury and even for some time thereafter, if they resolve or become intermittent to the point of being rare or infrequent, they are not to be taken into account in rating permanent impairment under this subpart. A medical history of complaints or infrequent current complaints does not justify a rating for a permanent disability.

Subpart 3B: This category rates impairment to the cervical spine when there are persistent objective clinical findings. The specific objective clinical findings necessary are enumerated in the item. They are involuntary muscle tightness in the paracervical muscle and decreased passive range of motion in the cervical spine. Only one of these has to be present, but it must be persistent. Cases are rated under item 3B if there is no associated radiographic abnormality. Some permanent impairment is present in such cases, and compared to other cervical ratings, is set at 3.5 percent.

Subpart 3C: This category rates impairment to the cervical spine which is associated with the same persistent objective clinic findings referenced in item 3B, but **in addition** is also associated with radiographic/myelographic/CT scan, or MRI scan abnormality if the condition is not specifically listed in any other category. Two subcategories are offered. One subcategory is for situations in which the medical imaging abnormalities exist at a single vertebral level. In this case, the percentage impairment is 7 percent. The other subcategory covers all cases where more than a single vertebral level shows a medical imaging abnormality. In these instances, the percentage impairment is 10 percent. These percentages are nearly identical to the current schedule in part 5223.0070, subpart 2.A.3.

Subpart 4: A new subpart 4 is added to cover radicular syndromes. Radicular syndromes are characterized by radicular pain and/or paresthesia. These are given precise definitions by 5223.0310, subparts 46 and 47. Radicular pain is described as radiating distally into an extremity (in this case the upper extremity) in the distribution of a nerve root, and is characterized by consistent findings on provocation testing. Radicular paresthesia is defined as an abnormal sensation in the involved extremity in the distribution of a nerve root. Radicular syndromes may exist with or without the presence of cervical pain syndrome. If the individual has a radicular syndrome, they must be rated under subpart 4, whether or not there is a cervical pain syndrome in addition. The fact that a cervical pain syndrome might also be present is taken into account in the percentages provided under subpart 4 for radicular syndrome.

Subpart 4A: This category covers presentation of radicular pain and/or paresthesia with or without cervical pain syndrome where there are no substantiating persistent clinical findings. This category is to be construed in exactly the same fashion as item 3A.

Subpart 4B: This category covers the case where there is radicular pain and/or paresthesia and there are also persistent objective clinical findings, but these clinical findings are confined to the cervical spine. This is the situation which is parallel to item 3B and this category is to be construed in exactly the same fashion as that one.

Subpart 4C: This category is to be used when there is radicular pain and paresthesia and objective clinic findings but the objective clinical findings are confined to the region of the cervical spine. In addition, there are radiographic abnormalities. This category is parallel to item 3C. However, in this instance, there are four subitems. The first two subitems are the same as those under item 3C. In addition, there is a third subitem to cover the instance where there has been surgery at one level. This is rated at 10 percent. This reflects the fact that even though there are not specific findings of nerve root compression in these cases, there is still the possibility that a reasonable surgeon might perform surgery for the relief of radicular symptoms. The consensus of the MSRB was that the surgery itself creates a biomechanical abnormality which is greater than the impairment that would otherwise exist. Therefore, the impairment rating is raised from 7 percent to 10 percent. Finally, a fourth subitem is offered for surgery at multiple levels. In this case, the impairment rating is raised from 10 percent to 13 percent.

Subpart 4D: This category covers the very specific situation in which there is radicular pain and/or paresthesia and there are objective radicular findings. In addition to the objective radicular findings, there is myelographic, CT scan or MRI scan evidence of a disorder of the intervertebral disc which impinges on the cervical nerve root and which correlates anatomically with the objective radicular finding. This set of specific circumstances results in a 9 percent permanent partial impairment whether or not there is a cervical pain syndrome and whether or not there are objective clinical findings confined to the neck. No additional percentage is warranted for the cervical pain syndrome or the objective clinical findings in the neck since they are taken into account in the 9 percent already awarded. The impairment is created by the existence of this set of circumstances at some point in the course of the injury and is not altered by the fact that the individual may have their symptoms resolved either through conservative or surgical treatment. This is consistent with the current schedule. An employee with these findings has clearly sustained a permanent physical disability which may or may not be causing current symptoms. **All** of the circumstances set forth in this category **must** exist for the condition to be rated under this category; otherwise, the condition **must** be rated under some other category of this part. Where surgery is performed, the consensus of the MSRB was that surgery itself creates a biomechanical abnormality which is greater than the impairment that would otherwise exist.

Subpart 4D(1): If the circumstances of subpart 4D persist despite treatment, then an additional 3 percent is awarded for the chronic condition.

Subpart 4D(2): If in addition to the facts of subpart 4D, a surgery other than fusion has been performed because of this condition, an additional 2 percent is awarded.

Subpart 4D(3): If more than one surgery, other than a fusion, has been performed an additional 2 percent is given over and above the 2 percent which has been given for the first surgery. Two percent total is given no matter how many more additional surgeries have been performed.

Subitems (1), (2), and (3) may all be used, if indicated, but each may be used only once in the rating of an injury. Any further additions would overrate the condition.

Subpart 4D(4): If there are additional concurrent lesions either on the contralateral side,

at the same vertebral level, or at other vertebral levels which meet all of the criteria of item 4D or item 4E, an additional 9 percent is given. This is the total award even if this concurrent lesion leads to chronic pain and paresthesia and/or leads to single or multiple surgeries. This category may be used only once no matter how many concurrent lesions exist. The rating already accounts for one or more concurrent lesions.

Subpart 4E: This category is used in situations where there is radicular pain and paresthesia with or without cervical pain syndrome, and there are objective radicular findings, and there are myelographic/CT scans or MRI scan findings of spinal stenosis with impingement on the cervical nerve root or the spinal cord, and the imaging findings correlate with the findings on neurological examination. If this set of circumstances exists, then a 10 percent permanent partial impairment is appropriate. **All** of the circumstances set forth in this category **must** exist for the condition to be rated under this category; otherwise, the condition **must** be rated under some other category of this part. Where surgery is performed, the consensus of the MSRB was that surgery itself creates a biomechanical abnormality which is greater than the impairment that would otherwise exist.

Subpart 4E(1): If the circumstances of subpart 4E become chronic, then an additional 3 percent is awarded.

Subpart 4E(2): If surgery, other than a fusion is performed, then an additional 5 percent is awarded.

Subpart 4E(3): If additional surgery other than a fusion after a first surgery is performed, then an additional 3 percent is given. This is the total award no matter how many additional surgeries are done.

Subpart 4E(4): This is the parallel situation for subpart 4D(4).

When there is more than one lesion that meets the criteria of 4D and/or 4E, the rater must choose one to use as the "main impairment" and all the others become "concurrent lesions." The lesion chosen as the "main impairment" should be chosen on the basis of clinical significance. If all lesions are equally significant then a lesion meeting the criteria of 4E should be chosen as the main impairment, if one exists, since this would result in the higher rating percentage. Once a main lesion has been chosen 4D, or 4E, (1) through (3) should be added if applicable. Then 4D, or 4E, (4) should be added to account for the concurrent lesions.

Subpart 5: A new subpart 5 is added for fusions. This subpart is to be considered whenever fusion spinal fusion surgery has been done as part of the surgical treatment for any of the conditions coming under this part, except fractures under subpart 2. Surgery is already figured into the ratings for fractures. It was the opinion of the MSRB that spinal fusion creates a very significant biomechanical abnormality and could be expected to adversely impact the function of the spine. If subpart 5 is used to adjust the impairment under subparts 3 or 4, then no other adjustments for surgery for that instance of surgery are to be used except as provided for in subpart 4E. If spinal fusion was performed as the first surgery for an injury meeting the criteria of 4D, then the correct rating would be subpart 5A in addition to subpart 4D rather than adding subpart 4D(2) to subpart 4D. In the case of subpart 4E(2) and (3), the ratings provided

may be added to any rating for fusion.

Subpart 5A: If fusion at one level is performed, 2.5 percent is added to the otherwise prorated rating from subpart 3 or 4.

Subpart 5B: If fusion is performed at multiple levels, 5 percent is added to the otherwise applicable category. Five percent is the total that is added no matter how many levels of the cervical spine are fused so long as it is more than one. Five percent represents the maximum additional impairment resulting from fusion of additional vertebral levels.

Part 5223.0380 (Old 5223.0070, Subpart 3) MUSCULOSKELETAL SCHEDULE; THORACIC SPINE.

Subpart 1: Subpart 1 specifies how the part is to be applied to impairments of the thoracic spine. Specific language is introduced which states that only one category of subpart 2, 3 or 4 may be used for an injury. Use of more than one category would result in repetitive rating of the same impairment. The categories and assigned rating percentages were designed to be mutually exclusive. The new instructions give needed guidance to the user concerning when ratings may be added by simple addition to accurately represent the whole impairment and when to use the combining formula for separate and distinct impairments. The directions promote uniform ratings and discourage litigation over the calculation of permanent partial disability benefits.

Subpart 1A: This item recognizes that there may be injury to the spinal cord in addition to the musculo-skeletal injury of the thoracic spine and that this should be rated as provided by 5223.0360. All items in subpart 1 cross-reference other relevant provisions to aid the user of the rules.

Subpart 1B: This item recognizes that there may be permanent partial impairment due to bladder dysfunction in addition to the musculo-skeletal injury to the thoracic spine and that it should be rated as provided in 5223.0600, subpart 4.

Subpart 1C: This item recognizes the fact that there may be permanent partial impairment to sexual function as well as the musculo-skeletal impairment of the thoracic spine and that this should be rated under 5223.0600, subpart 7 or 10.

Subpart 1D: This item recognizes that there may be permanent partial impairment to anal function and should be rated as provided in 5223.0590, subpart 4.

Subpart 2A(1): (Old 5223.0070, subpart 3C(1)). The percentage of impairment for compression fracture of up to 10 percent and vertebral height is reduced from 4 percent to 0 percent. This is reduced because the MSRB felt that 4 percent overvalued the impairment in comparison to the impairment from other fractures of the spine.

Subpart 2A(2): (Old 5223.0070, subpart 3C(2)). Compression fractures of 10 to 25 percent vertebral height are rated at 4 percent. This is a reduction from 10.5 percent under the current schedule. Again, the MSRB felt that 10.5 percent overvalued these impairments in comparison to other fractures of the thoracic spine.

Subpart 2A(3) and (4) are introduced to replace the current 5223.0070, subpart 3C(3). The new subitem (3) covers compression fractures with decreases in vertebral height from 26 to 50 percent. A rating of 10.5 percent is given for these. The new item (4) covers vertebral fractures with compression of greater than 50 percent in vertebral height. These are rated at the same 15 percent which is the highest percentage for compression fracture under the current schedule. The new categories are created to separate distinguishable levels of impairment not recognized in the current schedule.

Subpart 2B: This item replaces the current 5223.0070, subpart 3C(4) and (5). The distinction between moderate dislocation and severe dislocation is dropped. These fractures are subcategorized on the basis of whether normal reduction could be achieved and whether surgery was required. The current range of percent impairment from 10.5 through 17.5 is expanded to 10.5 to 19 percent. Four categories are proposed to replace the current five, and to exhaustively categorize vertebral fractures of posterior elements based upon the two factors of reduction and surgery. A fracture with persistent pain must fall under another category of subpart 2B to be rated. Elimination of current item C(4)(b), therefore, removes an unnecessary category. References in the current schedule for nerve root involvement are not necessary since the introductory language of subpart 1 indicates that nerve root involvement is to be separately rated if complete.

Subpart 2C: A category is added to deal with other vertebral fractures not already listed. These are rated at 4 percent.

Subpart 2D: Specific language is added to this item to clarify the rating of fractures of multiple vertebral levels. This is unclear in the current schedule. Three percent is to be added to whatever other category is applicable, if there are multiple vertebral levels involved. Three percent total is to be added no matter how many vertebral levels are involved so long as there are more than one, per the consensus of the MSRB.

Subpart 3: A new subpart 3 is created to cover impairments due to thoracic pain syndrome. Thoracic pain syndrome represents musculo-skeletal problems of the thoracic spine which are confined to the region of the thoracic spine and do not involve any symptoms or physical findings of radiculopathy. Two categories are proposed. They follow the hierarchical arrangement under the current schedule in 5223.0070, subpart 3A(1) and (2).

Subpart 3A: This category covers situations in which there is complaint of pain or stiffness in the thoracic spine which is not substantiated by persistent objective clinical findings. Zero percent is given for this category per the consensus of the MSRB. If there are no persistent objective clinical findings on physical examination, then radiographic findings are not relevant for the rating of thoracic pain syndrome. Therefore, the rule indicates that radiographic findings are irrelevant in such circumstances. Even if the x-rays in this situation were to show abnormalities, they could not result in a rating since there are no persistent objective clinical findings. Clinical findings must be persistent. Even if objective clinical findings were present at the time of injury and even for some time thereafter, if they resolve or become intermittent to the point of being rare or infrequent, they are not to be taken into account in rating permanent impairment under this subpart. A medical history of complaints or infrequent current complaints does not justify a rating for a permanent disability.

Subpart 3B: This category rates impairment to the thoracic spine when there are persistent objective clinical findings. The specific objective clinical findings necessary are enumerated in the item. They have to be persistent. Cases are rated under item 3B whether or not there are associated radiographic abnormalities. Radiographic abnormalities in the thoracic spine do not result in any increased impairment in the opinion of the MSRB; this is also the position taken by the current schedule.

Subpart 4: A new subpart 4 is added to cover radicular syndromes. Radicular syndromes are characterized by radicular pain and/or paresthesia. These are given precise definitions by 5223.0310, subparts. 46 and 47. Radicular pain in described as radiating distally into the distribution of a nerve root and is characterized by consistent findings on provocation testing. Radicular paresthesia is defined as an abnormal sensation in the distribution of a nerve root. Radicular syndromes may exist with or without the presence of thoracic pain syndrome. If the individual has a radicular syndrome, he or she must be rated under subpart 4, whether or not the employee also experience thoracic pain syndrome. The fact that a thoracic pain syndrome might also be present is taken into account in the percentages provided under subpart 4 for radicular syndrome.

Subpart 4A: This category covers presentation of radicular pain and/or paresthesia with or without thoracic pain syndrome where there are no substantiating persistent clinical findings. This category is to be construed in exactly the same fashion as item 3A.

Subpart 4B: This category covers the case where there is radicular pain and/or paresthesia and there are also persistent objective clinical findings, but these clinical findings are confined to the thoracic spine. This is the situation which is parallel to item 3B and this category is to be construed in exactly the same fashion as that one.

Subpart 4C: This category is to be used when there is radicular pain and paresthesia and objective clinic findings, but the objective clinical findings are confined to the region of the thoracic spine. In this category, radiographic, myelographic, CT scan, or MRI scan substantiates a permanent abnormality. Therefore, a disability rating greater than that provided in items 4A and 4B are warranted.

Subpart 4D: This category covers the very specific situation in which there is radicular pain and/or paresthesia and there is myelographic, CT scan or MRI scan evidence of a disorder of the intervertebral disc which impinges on the thoracic nerve root and which correlates with the radicular pain and paresthesia. This set of specific circumstances results in a 3 percent permanent partial impairment whether or not there is a thoracic pain syndrome and whether or not there are objective clinical findings confined to the thoracic spine. No additional percentage is warranted for the thoracic pain syndrome or the objective clinical findings in the thoracic spine since they are taken into account in the 3 percent already awarded. The impairment is created by the existence of this set of circumstances at some point in the course of the injury and is not altered by the fact that the individual may have their symptoms resolved either through conservative or surgical treatment. This is consistent with the current schedule. An employee with these findings has clearly sustained a permanent physical disability which may or may not be causing current symptoms.

Subpart 4D(1): If the circumstances of subpart 4D persist despite treatment, then an additional 3 percent is awarded for the chronic condition.

Subpart 4D(2): If in addition to the facts of subpart 4D, a surgery has been performed because of this condition an additional 2 percent is awarded.

Subpart 4D(3): If more than one surgery other than a fusion has been performed, an additional 2 percent is given over and above the 2 percent which has been given for the first surgery. Two percent total is given no matter how many more additional surgeries have been performed.

Subitems (1), (2), and (3) may all be used if indicated, but each may only be used once in the rating of an injury. Any further additions would overrate the condition.

Subpart 4D(4): If there are additional concurrent lesions either on the contralateral side of the same vertebral level or at other vertebral levels which meet all of the criteria of item 4D, an additional 3 percent is given. This is the total award even if this concurrent lesion leads to chronic pain and paresthesia and/or leads to single or multiple surgeries. This category may be used only once no matter how many levels are involved. The rating already accounts for one or more concurrent lesions.

Part 5223.0390 (Old 5223.0070, Subpart 1) MUSCULOSKELETAL SCHEDULE; LUMBAR SPINE.

Subpart 1: This subpart specifies how the part is to be applied to impairments of the lumbar spine. Specific language is introduced which states that only one category of subpart 2, 3 or 4 may be used for an injury. Use of more than one category would result in repetitive rating of the same impairment. The categories and assigned rating percentages were designed to be mutually exclusive. The new instructions give needed guidance to the user concerning when ratings may be added by simple addition to accurately represent the whole impairment, and when to use the combining formula for separate and distinct impairments. These directions promote uniform ratings and discourage unnecessary litigation over the calculation of permanent partial disability benefits.

Subpart 1A: This item recognizes that there may be injury to the spinal cord in addition to the musculo-skeletal injury of the lumbar spine and that this should be rated as provided by 5223.0360. This item and other items in subpart 1 simply cross-reference other relevant provisions to aid the user of the schedule.

Subpart 1B: Subpart 1B recognizes that there may be injury to the nerve roots in addition to the musculo-skeletal injury to the lumbar spine. If the injury to the nerve root results in complete loss, it is to be rated as defined in 5223.0400, subpart 1A and/or 5223.0410, subpart 1A. Less than complete loss to nerve roots has been taken into account in the ratings under this part and, therefore, additional ratings would not be required in that instance.

Subpart 1C: This item recognizes that there may be permanent partial impairment due to bladder dysfunction in addition to the musculo-skeletal injury to the lumbar spine and that it should be rated as provided in 5223.0600, subpart 4.

Subpart 1D: This item recognizes the fact that there may be permanent partial impairment to sexual function as well as the musculo-skeletal impairment of the lumbar spine and that this should be rated under 5223.0600, subpart 7 or 10.

Subpart 1E: This item recognizes that there may be permanent partial impairment to anal function and that this should be rated as provided in 5223.0590, subpart 4.

Subpart 2A(1): (Old 5223.0070, subpart 1E(1)). The percentage of impairment for compression fracture with loss of up to 10 percent of vertebral height is reduced from 4 percent to 0 percent. This is reduced because the MSRB felt that 4 percent overvalued the impairment in comparison to the impairment from other fractures of the spine.

Subpart 2A(2): (Old 5223.0070, subpart 1E(2)). Compression fractures with loss of 10 to 25 percent vertebral height are rated at 4 percent. This is a reduction from 10.5 percent under the current schedule. Again, the MSRB felt that 10.5 percent overvalued these impairments in comparison to other fractures of the lumbar spine.

Subpart 2A(3) and (4) are introduced to replace the current 5223.0070, subpart 1E(3). The new subitem (3) covers compression fractures with decreases in vertebral height from 26 to 50 percent. A rating of 10.5 percent is given for these. The new item (4) covers vertebral fractures with compression of greater than 50 percent in vertebral height. These are rated at the same 15 percent which is the highest percentage for compression fracture under the current schedule. The new categories are created to separate distinguishable levels of impairment not recognized in the current schedule.

Subpart 2B: This item replaces the current 5223.0070, subpart 2E(4) and (5). The distinction between moderate dislocation and severe dislocation is dropped. These fractures are subcategorized on the basis of whether normal reduction could be achieved and whether surgery was required. The current range of percent impairment from 10.5 through 17.5 is expanded to 10.5 to 19 percent. Four categories are proposed to replace the current five and to exhaustively categorize vertebral fractures of posterior elements based upon the two factors of reduction and surgery. A fracture with persistent pain must fall under another category of subpart 2B to be rated. Elimination of current item E(4)(b), therefore, removes an unnecessary category. References in the current schedule for nerve root involvement are not necessary since the introductory language of subpart 1 indicates that nerve root involvement is to be separately rated if complete.

Subpart 2C: A category is added to deal with other vertebral fractures not already listed. These are rated at 4 percent.

Subpart 2D: Specific language is added to this item to clarify the rating of fractures of multiple vertebral levels. This is unclear in the current schedule. Three percent is to be added to whatever other category is applicable, if there are multiple vertebral levels involved. Three percent total is to be added no matter how many vertebral levels are involved so long as there are more than one per the consensus of the MSRB.

Subpart 3: A new subpart 3 is created to cover impairments due to lumbar pain

syndrome. Lumbar pain syndrome represents musculo-skeletal problems of the lumbar spine which are confined to the region of the lumbar spine and do not involve any symptoms or physical findings in the lower extremities. Four categories are proposed. They follow the hierarchical arrangement of the current schedule as evidenced in 5223.0070, subpart 1A(1) through (4).

Subpart 3A: This category covers situations in which there is complaint of pain or stiffness in the lumbar spine which is not substantiated by persistent objective clinical findings. Zero percent is given for this category, per the consensus of the MSRB. If there are no persistent objective clinical findings on physical examination, then radiographic findings are not relevant for the rating of lumbar pain syndrome. Therefore, the rule indicates that radiographic findings are irrelevant in such circumstances. Even if the x-rays in this situation were to show abnormalities as listed in item 3C, they could not result in a rating since there are no persistent objective clinical findings. Clinical findings must be persistent. Even if objective clinical findings were present at the time of injury and even for some time thereafter, if they resolve or become intermittent to the point of being rare or infrequent, they are not to be taken into account in rating permanent impairment under this subpart. A medical history of complaints or current infrequent complaints does not justify a rating for a permanent disability.

Subpart 3B: This category rates impairment to the lumbar spine when there are persistent objective clinical findings. The specific objective clinical findings necessary are enumerated in the subpart. They are involuntary muscle tightness in the paracervical muscle and decreased passive range of motion in the lumbar spine. Only one of these has to be present but it must be persistent. Cases are rated under item 3B if there is no associated radiographic abnormality or no radiographic abnormality. Some permanent impairment is present in such cases, and compared to other lumbar spine ratings, is set at 3.5 percent.

Subpart 3C: This category rates impairment to the lumbar spine which is associated with the same persistent objective clinical findings referenced in item 3B but **in addition** is also associated with a radiographic/myelographic/CT scan or MRI scan abnormality if the condition is not specifically listed in any other category. Two subcategories are offered. One subcategory is for situations in which the medical imaging abnormalities exist at a single vertebral level. In this case, the percentage impairment is 7 percent. The other subcategory covers all cases where more than a single vertebral level shows a medical imaging abnormality. In these instances, the percentage impairment is 10 percent. These percentages are nearly identical to the current schedule in part 5223.0070, subpart 1.A.(3).

Subpart 3D: This category rates impairment to the lumbar spine in the specific instance where persistent objective clinical findings occur with a specific kind of radiographic abnormality, spondylolisthesis. It is the opinion of the MSRB and the orthopedic community of Minnesota that the radiographic presence of spondylolisthesis results in an increased impairment in individuals with regional lumbar pain who have persistent objective clinical findings. The rating percentages and subcategorizations of degrees of spondylolisthesis are the same as in the current schedule. Both persistent clinical and radiographic findings must be present.

Subpart 4: A new subpart 4 is added to cover radicular syndromes. Radicular

syndromes are characterized by radicular pain and/or paresthesia. These are given precise definitions by 5223.0310, subparts 46 and 47. Radicular pain is described as radiating distally into an extremity (in this case the upper extremity) in the distribution of a nerve root, and is characterized by consistent findings on provocation testing. Radicular paresthesia is defined as an abnormal sensation in the involved extremity in the distribution of a nerve root. Radicular syndromes may exist with or without the presence of lumbar pain syndrome. If the individual has a radicular syndrome he or she must be rated under subpart 4 whether or not the employee also experiences lumbar pain syndrome. The fact that a lumbar pain syndrome might also be present is taken into account in the percentages provided under subpart 4 for radicular syndrome.

Subpart 4A: This category covers presentation of radicular pain and/or paresthesia with or without lumbar pain syndrome where there are no substantiating persistent clinical findings. This category is to be construed in exactly the same fashion as 3A.

Subpart 4B: This category covers the case where there is radicular pain and/or paresthesia and there are also persistent objective clinical findings but these clinical findings are confined to the lumbar spine. This is the situation which is parallel to 3B and this category is to be construed in exactly the same fashion as that one.

Subpart 4C: This category is to be used when there is radicular pain and paresthesia and objective clinic findings but the objective clinical findings are confined to the region of the lumbar spine. In addition, there are radiographic abnormalities. This category is parallel to 3C. However, in this instance there are four subitems. The first two subitems are the same as those under 3C. In addition, there is a third subitem to cover the instance where there has been surgery at one level. This is rated at 10 percent. This reflects the fact that even though there are not specific findings of nerve root compression in these cases, there is still the possibility that a reasonable surgeon might perform surgery for the relief of radicular symptoms. The surgery itself does create a biomechanical abnormality which is greater than the impairment that would otherwise exist. Therefore, the impairment rating is raised from 7 percent to 10 percent. Finally, a fourth subitem is offered for surgery at multiple levels. In this case, the impairment rating is raised from 10 percent to 13 percent.

Subpart 4D: This category covers the very specific situation in which there is radicular pain and/or paresthesia and there are objective radicular findings. In addition to the objective radicular findings, there is myelographic, CT scan or MRI scan evidence of a disorder of the intervertebral disc which impinges on the lumbar nerve root and which correlates anatomically with the objective radicular finding. This set of specific circumstances results in a 9 percent permanent partial impairment whether or not there is a lumbar pain syndrome and whether or not there are objective clinical findings confined to the low back. No additional percentage is warranted for the lumbar pain syndrome or the objective clinical findings in the neck since they are taken into account in the 9 percent already awarded. The impairment is created by the existence of this set of circumstances at some point in the course of the injury and is not altered by the fact that the individual may have their symptoms resolved either through conservative or surgical treatment. This is consistent with the current schedule. An employee with these findings has clearly sustained a permanent physical disability which may or may not be causing current symptoms. **All** of the circumstances set forth in this category **must** exist for the condition to be rated under this category; otherwise, the condition **must** be rated under some

other category of this part. Where surgery is performed, the consensus of the MSRB was that surgery itself creates a biomechanical abnormality which is greater than the impairment that would otherwise exist.

Subpart 4D(1): If the circumstances of subpart 4D persist despite treatment, then an additional 3 percent is awarded for the chronic condition.

Subpart 4D(2): If in addition to the facts of subpart 4D a surgery other than fusion has been performed because of this condition, an additional 2 percent is awarded.

Subpart 4D(3): If more than one surgery, other than a fusion, has been performed an additional 2 percent is given over and above the 2 percent which has been given for the first surgery. Two percent total is given no matter how many more additional surgeries have been performed.

Subitems (1), (2), and (3) may all be used if indicated but each may be used only once in the rating of an injury. Any further additions would overrate the condition.

Subpart 4D(4): If there are additional concurrent lesions either on the contralateral side at the same vertebral level, or at other vertebral levels which meet all of the criteria of item 4D or item 4E, an additional 9 percent is given. This is the total award even if this concurrent lesion leads to chronic pain and paresthesia and/or leads to single or multiple surgeries. This category may be used only once no matter how many concurrent lesions exist. The rating already accounts for one or more concurrent lesions.

Subpart 4E: This category is used in situations where there is radicular pain and paresthesia with or without lumbar pain syndrome, and there are objective radicular findings, and there are myelographic/CT scans or MRI scan findings of spinal stenosis with impingement on the lumbar nerve root or the spinal cord, and the imagining findings correlate with the findings on neurological examination. If this set of circumstances exists, then a 10 percent permanent partial impairment is appropriate. **All** of the circumstances set forth in this category **must** exist for the condition to be rated under this category; otherwise, the condition **must** be rated under some other category of this part. Where surgery is performed, the consensus of the MSRB was that surgery itself creates a biomechanical abnormality which is greater than the impairment that would otherwise exist.

Subpart 4E(1): If the circumstances of subpart 4E become chronic, then an additional 3 percent is awarded.

Subpart 4E(2): If surgery other than a fusion is performed, then an additional 5 percent is awarded.

Subpart 4E(3): If additional surgery other than a fusion after a first surgery is performed, then an additional 3 percent is given. This is the total award no matter how many additional surgeries are done so long as none of them were fusions.

Subpart 4E(4) This is the parallel situation for 4D(4).

When there is more than one lesion that meets the criteria of 4D and/or 4E, the rater must choose one to use as the "main impairment" and all the others become "concurrent lesions". The lesion chosen as the "main impairment" should be chosen on the basis of clinical significance. If all lesions are equally significant then a lesion meeting the criteria of 4E should be chosen as the main impairment, if one exists, since this would result in the higher rating percentage. Once a main lesion has been chosen 4D, or 4E, (1) through (3) should be added if applicable. Then 4D, or 4E, (4) should be added to account for the concurrent lesions.

Subpart 5: A new subpart 5 is added for fusions. It was the opinion of the MSRB that spinal fusion creates a very significant biomechanical abnormality and could be expected to adversely impact the function of the spine. This subpart is to be considered whenever a fusion has been done as part of the surgical treatment for any of the conditions coming under this part except fractures under subpart 2. Surgery is already figured into the fracture ratings. If subpart 5 is used to adjust the impairment under subparts 3 or 4, then no other adjustments for surgery for that instance of surgery are to be used.

Subpart 5A: If fusion at one level is performed, 5 percent is added to the otherwise prorated rating from subpart 3 or 4.

Subpart 5B: If fusion is performed at multiple levels, 10 percent is added to the otherwise applicable category. Ten percent is the total that is added no matter how many levels of the lumbar spine are fused so long as it is more than one. Ten percent represents the maximum additional impairment resulting from fusion of additional vertebral levels.

Part 5223.0400 (Old 5223.0100) PERIPHERAL NERVOUS SYSTEM; UPPER EXTREMITY - MOTOR LOSS.

Current sections 5223.0090 and 5223.0100 are deleted and replaced. Instead of having one schedule for sensory loss and then the other for combined motor and sensory loss a schedule for sensory loss is maintained and a schedule for motor loss alone is added. The new part 5223.0400 is the new section for motor loss alone.

Subpart 1: Introductory language is included which indicates the application of this part.

Subpart 1A: This item defines total motor loss based on the generally accepted medical standard.

Subpart 1B: This item provides a cross-reference for sensory loss only as provided in 5223.0410.

Subpart 1C: This item instructs the user concerning combined ratings where motor loss occurs with sensory loss. In such cases, ratings are to be rated separately and then the ratings combined using the statutory formula as cited in the rule. These two impairments are separate and distinct; they do not already reflect add-on ratings by simple addition.

Subpart 1D: Item 1D indicates that the ratings in this part include any rating for restricted range of motion or ankylosis at any joint of an affected member where the restricted

range of motion or ankylosis is the sole result of the nerve lesion. This prevents rating for these range of motion losses in addition to the motor loss which would be an instance of double rating.

Subpart 2A: Anatomically specific categories are used for characterizing impairments of the median nerve. The percentages are chosen to conform with the most recent recommendations from the AMA.

Subpart 2A(1): (Old 5223.0100 A(1)). Loss of the whole median nerve motor function is raised from 30 to 33 percent.

Subpart 2A(2): (Approximately old 5223.0100 A(2)). Loss of motor function involving muscles of forearm and hand is raised from 19 to 21 percent.

Subpart 2A(3): This category is added to cover loss in the anterior interosseous branch of the median nerve which is not covered in the old schedule.

Subpart 2B: Again, anatomically specific categories are used for characterizing impairments of the radial nerve. The percentages are chosen to conform with the most recent recommendations from the AMA.

Subpart 2B(1): (Old 5223.0100 A(3)). Loss of whole radial nerve motor function is raised from 19 to 25 percent.

Subpart 2B(2) and (3): These categories are added to deal with frequently occurring losses in parts of the radial nerve.

Subpart 2C: Anatomically specific categories are used for characterizing impairments of the ulnar nerve. The percentages are chosen to conform with the most recent recommendations from the AMA.

Subpart 2C(1): (Old 5223.0100 A(4)). Loss of whole ulnar nerve motor function is raised from 19 to 25 percent.

Subpart 2C(2): (Old 5223.0100 A(5)). Loss of motor function of the intrinsic muscles of hand is raised from 13.5 to 18 percent.

Subpart 2E: (Old 5223.0100 C(3)). The percentage of impairment for the axillary nerve is reduced to conform the most recent recommendations from the AMA.

Subpart 2H: (Old 5223.0100 C(6)). The percentage for the musculocutaneous nerve is adjusted to represent the most recent recommendations from the AMA.

Subpart 2J: (Old 5223.0100 C(8)). The rating for the suprascapular nerve is increased to represent the most recent current recommendations.

Subpart 2K: (Old 5223.0100 C(9)). The rating for the thoracodorsal nerve is reduced to represent the most recent recommendations.

Subpart 2D, F, G, I: Those items represent characterizations of motor loss and assigned rating percentage that are unchanged from the old schedule.

A new subpart 2L is added to allow for rating of the spinal accessory nerve. The percentage chosen conforms with the most recent recommendations of the AMA.

Subpart 3: This subpart categorizes the impairments due to complete motor losses from injuries of the brachial plexus. The specific categories under subpart 3 represent anatomically specific divisions of the brachial plexus. The percentages given are in keeping with the most recent recommendations of the AMA.

Subpart 3A: (Old 5223.0100 C(1)(a)). The rating percentage is lowered from 47 to 42 percent.

Subpart 3B: (Old 5223.0100 C(1)(b)). The rating percentage is lowered from 23 to 21 percent.

Subpart 3C: (Old 5223.0100 C(1)(c)). The rating percentage is lowered from 46 to 42 percent.

Subpart 3D: (Old 5223.0100 C(1)). There is no change in the rating percentage.

Subpart 4: This subpart categorizes the impairments from complete motor loss due to injuries of nerve roots. The categories in subpart 4 are the anatomically specific designations of the nerve roots which serve the upper extremity. The percentages given are in keeping with the most current recommendations of the AMA.

Subpart 4A: (Old 5223.0100, subpart 1D(1)). The rating percentage is raised from 11 to 18 percent.

Subpart 4B: (Old 5223.0100, subpart 1D(2)). The rating percentage is raised from 12 to 21 percent.

Subpart 4C: (Old 5223.0100, subpart 1D(3)). The rating percentage is raised from 11 to 21 percent.

Subpart 4D: (Old 5223.0100, subpart 1D(4)). The rating percentage is raised from 13 to 27 percent.

Subpart 4E: This category is added to cover impairments due to injuries of the T1 nerve root which is not covered in the old schedule.

Subpart 5: (Old 5223.0100, subpart 2). This subpart gives the details for the handling of incomplete motor loss. The current system of rating all incomplete loss at 25 percent of complete loss is replaced by a system of finer gradations of incomplete loss based on the consensus technique for the clinical characterization of motor strength. The gradation of motor loss is specified and for each gradation a corresponding percentage adjustment is specified. The

percentages range from 25 percent of the rating percentage for complete loss to 100 percent of the rating percentage for complete loss. The new ratings more accurately reflect the loss, replacing a somewhat arbitrary rating for all instances of partial motor loss of the upper extremities.

Subpart 6: (Old 5223.0090, subpart 4). This subpart covers reflex sympathetic dystrophy. An operational definition of reflex sympathetic dystrophy is provided in the introductory paragraph. In order to be rated under this subpart, five of the listed conditions must persist concurrently in the affected member. If the conditions of the introductory paragraph are met, then the case of reflex sympathetic dystrophy is ratable, per the consensus of the MSRB. Three subcategories are provided based on the severity of the reflex sympathetic dystrophy: mild, moderate, and severe. Definitions with objective criteria are provided for each subcategory. The rule is designed to more definitively specify what is and is not included in each category. This discourages litigation over whether or not the employee suffers from "causalgia" within the meaning of the current rule at part 5223.0090, subpart 4.

Part 5223.0410 (Old 5223.0090) PERIPHERAL NERVOUS SYSTEM; UPPER EXTREMITY - SENSORY LOSS.

This part covers sensory losses in the upper extremities.

Subpart 1: Introductory language is included which indicates the scope of the part.

Subpart 1A: This item defines sensory loss based on the generally accepted medical standard.

Subpart 1B: This item provides a cross-reference for motor loss only as rated under 5223.0400.

Subpart 1C: This item instructs the user concerning combined ratings where there is combined motor and sensory loss. See part 5223.0400, subpart 1C of this document.

Subpart 2A: This item provides a percentage impairment for sensory loss in the distribution of the axillary nerve of 1 percent; this is the AMA recommendation. Sensory loss due to injury of the axillary nerve is not covered in the current schedule.

Subpart 2B: (Old 5223.0090, subpart 2D). The percentage impairment for sensory loss in the distribution of the medial antebrachial cutaneous is reduced from 3 percent to 2 percent; this is the AMA recommendation.

Subpart 2C: (Old 5223.0090, subpart 2E). The percentage impairment for sensory loss in the distribution of the medial brachial cutaneous is reduced from 3 percent to 2 percent; this is the AMA recommendation.

Subpart 2D: This item provides a percentage impairment for sensory loss in the distribution of the musculocutaneous nerve of 1 percent; this is the AMA recommendation. Sensory loss due to injury of the musculocutaneous nerve is not covered in the old schedule.

Subpart 2E: (Old 5223.0090, subpart 2C). The percentage impairment for sensory loss in the distribution of the radial nerve is reduced from 5.5 percent to 3 percent; this is the AMA recommendation.

Subpart 2F: This item provides a percentage impairment for sensory loss in the distribution of the suprascapular nerve of 3 percent; this is the AMA recommendation. Sensory loss due to injury of the suprascapular nerve is not covered in the current schedule.

Subpart 2G: (Old 5223.0090, subpart 2A). The percentage impairment for sensory loss in the distribution of the median nerve is raised from 22.5 percent to 24 percent; this is the AMA recommendation.

Subpart 2H: (Old 5223.0090, subpart 2B). Three categories are used to provide percentage impairments for sensory loss in the distribution of the ulnar nerve, replacing a single category in the old schedule. The first category is for sensory loss in the entire distribution of the nerve and is given a rating of 10 percent. The second category is for sensory loss in the distribution of the dorsal ulnar sensory branch and is rated at 3 percent. These are both in keeping with AMA recommendations. A third category is for sensory loss in the distribution of the ulnar digital nerve to the fifth finger, both proximal and distal to the metacarpophalangeal joint of the fifth finger. If the sensory loss only occurs distal to the metacarpophalangeal joint, a rating under subpart 6A(5) for loss of sensation more accurately describes the condition. The rule provides this explanation to promote uniform and appropriate application of the rules. Subpart 2H and subpart 6A(5) cannot be used together. The percentage impairment of 5.5 percent for Subpart 2H was the consensus opinion of the MSRB based upon the relative impairment of this lesion in comparison to other sensory nerve losses in the hand.

Subpart 3: This subpart provides percentage impairments for sensory loss due to the lesions of the brachial plexus. It is divided into four categories based on the anatomy of the brachial plexus. The percentages are based on the current recommendations of the AMA. Sensory loss due to injuries of the brachial plexus is not covered in the current schedule.

Subpart 4: Subpart 4 provides percentage impairments for sensory loss due to injury to the nerve roots. It is divided into five categories based on the anatomy of the nerve roots supplying the upper extremity. The percentage impairments are those recommended by the AMA. Sensory loss due to injury of the nerve roots is not covered in the current schedule unless it occurs in combination with motor loss (Old 5223.0100, subpart 1D(1) through (4)). This subpart fills in a gap in the current schedule.

Subpart 5: (Old 5223.0090, subpart 2). Subpart 5 provides percentage impairment for partial sensory loss in the upper extremities. Partial sensory loss is rated at 25 percent of complete loss, except for partial sensory loss confined to the digits, which is provided for in Subpart 6. This is parallel to the scheme used in the current schedule for partial loss of combined motor and sensory function (Old 5223.0100, subpart 2). There is no provision in the current schedule for partial sensory loss except in the digits.

Subpart 6: (Old 5223.0090, subpart 2F through J). Subpart 6 provides percentage impairment for sensory loss in the digits. This section is only to be used when the sensory loss

is confined to the digits. Sensory losses which are rated using categories under subparts 2, 3 and 4 which include sensory loss in the digits are not to be rated again under subpart 6; this would represent double rating of the same impairment. Therefore, the proposed rule explains this application principle. The system for rating sensory loss in the digits used in the current schedule is preserved. The changes merely clarify the application of the categories and do not result in substantive changes in the rating percentages for sensory losses in the digits.

Subpart 6B and 6C: (Old 5223.0090, subpart 2K and 2L). The sensory loss ratings in subparts 6B and 6C are significantly raised by the MSRB to more accurately reflect the value of the loss compared to other finger ratings.

Subpart 7: This is the same as subpart 6 under part 5223.0400. A rating for reflex sympathetic dystrophy can only be given once for any member. It is included under each of the peripheral nervous system schedules for convenience only.

Part 5223.0420 PERIPHERAL NERVOUS SYSTEM; LOWER EXTREMITY - MOTOR LOSS.

5223.0420 and 5223.0430 replace the current 5223.0160. The same scheme is applied to the lower extremities that has already been applied to the upper extremities. A schedule is created for motor loss and a second schedule is created for sensory loss. This part covers motor loss in the lower extremities.

Subpart 1: Introductory language explains the scope of application of this part.

Subpart 1A: This item explains total motor loss based on the generally accepted medical standard.

Subpart 1B: This item provides a cross-reference for sensory loss alone as rated under part 5223.0430.

Subpart 1C: This item instructs the user concerning combined ratings where there is both sensory and motor loss. See part 5223.0400, subpart 1C of this document.

Subpart 1D: Item 1D indicates that the ratings in this part include any rating for restricted range of motion or ankylosis at any joint of an affected member where the restricted range of motion or ankylosis is the sole result of the nerve lesion. This prevents rating for the range of motion losses in addition to the motor loss which would be an instance of double rating.

Subpart 2A: (Old 5223.0160, subpart 1A and B). Anatomically specific categories are used for characterizing impairments of the femoral nerve. The percentages are changed to conform with the most recent recommendations from the AMA.

Subpart 2A(1): (Old 5223.0160, subpart 1A). The percentage impairment for motor loss in the entire femoral nerve is increased from 13 percent to 17 percent.

Subpart 2A(2): (Old 5223.0160, subpart 1B). The percentage impairment for motor loss if the iliacus is spared is increased from 11 percent to 14 percent.

Subpart 2B: A category is added to provide a percentage impairment for motor loss in the obturator nerve. It is subdivided to represent anatomically relevant subcategories. The percentages used are based on the current recommendations of the AMA.

Subpart 2C: (Old 5223.0160, subpart 1D). The percentage impairment for the inferior gluteal nerve is reduced from 9 percent to 6 percent; this represents the current recommendations of the AMA.

Subpart 2D: (Old 5223.0160, subpart 1G). The percentage for the superior gluteal nerve is increased from 7 percent to 8 percent; this represents the current recommendation of the AMA.

Subpart 2E: (Old 5223.0160, subpart 1H). The percentage for the sciatic nerve is reduced from 31 percent to 30 percent; this represents the current recommendations of the AMA, and is due to consideration of the motor function and the sensory function of the nerve separately (see 5223.0430, subpart 2E).

Subpart 2F: (Old 5223.0160, subpart 1I). The percentage for the common peroneal nerve is increased from 13 percent to 14 percent; this represents the current recommendations of the AMA.

Subpart 2G: (Old 5223.0160, subpart 1J and 1K). Anatomically specific categories for the deep peroneal nerve are used to characterize the impairments due to motor loss. The percentage impairments given are the current recommendations of the AMA. The percentage impairment for motor loss in the entire deep peroneal is increased from 9 percent to 10 percent. There is no change in the percentage impairment for motor loss in the peroneus tertius and extensor digitorum brevis.

Subpart 2H: (Old 5223.0160, subpart 1L). The percentage impairment for the superficial peroneal nerve is reduced from 5 percent to 4 percent; this represents the current recommendations of the AMA.

Subpart 2I: (Old 5223.0160, subpart 1M). Anatomically specific categories for the tibial nerve are used to characterize the impairments due to motor loss. The percentage impairments given are the current recommendations of the AMA.

Since motor function and sensory function will be considered separately (in 5223.0420 and 5223.0430 respectively), the percentage impairments are all reduced to reflect impairment due to motor loss only.

Subpart 2I(1): (Old 5223.0160, subpart 1M(1)). The percentage impairment for motor loss in the entire tibial nerve is reduced from 15 percent to 14 percent.

Subpart 2I(2): (Old 5223.0160, subpart 1M(2)). The percentage impairment for motor loss in the tibial nerve with the gastrocnemius spared is reduced from 11 percent to 8 percent.

Subpart 2I(3): (Old 5223.0160, subpart 1M(3)). The percentage impairment for motor

loss in the tibial nerve with both the gastrocnemius and soleus spared is reduced from 9 percent to 6 percent.

Subpart 2I(4): (Old 5223.0160, subpart 1M(4)). The percentage impairment for motor loss in the lateral plantar branch is reduced from 3 percent to 2 percent.

Subpart 2I(5): (Old 5223.0160, subpart 1M(5)). The percentage impairment for motor loss in the medial plantar branch is reduced from 3 percent to 2 percent.

Subpart 3: (Old 5223.0160, subpart 1R). Subpart 3 provides percentage impairments for motor loss due to lesions of the lumbosacral plexus. The percentage is increased from 40 percent to 50 percent; this is the recommendation of the AMA.

Subpart 4: (Old 5223.0160, subpart 1O through Q). Subpart 4 provides percentage impairments for motor loss due to the lesions of the nerve roots. It is divided into four categories based on the anatomy of the nerve roots serving the lower extremities. The percentage impairments are those recommended by the AMA.

Subpart 4A: A new category is added to provide percentage impairment for motor loss due to injuries of the L-3 nerve root; this is not covered in the old schedule.

Subpart 4B: (Old 5223.0160, subpart 1O). The percentage impairment for motor loss due to injury of the L-4 nerve root is increased from 11 percent to 14 percent.

Subpart 4C: (Old 5223.0160, subpart 1P). The percentage impairment for motor loss due to injury of the L-5 nerve root is increased from 13 percent to 15 percent.

Subpart 4D: (Old 5223.0160, subpart 1Q). The percentage impairment for motor loss due to injury of the S-1 nerve root is decreased from 15 percent to 12 percent.

Subpart 5: (Old 5223.0160, subpart 2). Subpart 5 uses the same system for rating incomplete loss as is used for the upper extremity in 5223.0400, subpart 5. See the explanation in this document for part 5223.0440, subpart 5.

Subpart 6: A category for rating reflex sympathetic dystrophy in the lower extremities is introduced. This condition is not currently rateable under 5223.0160 or elsewhere in the current schedule. The category added is exactly the same as would be used in the upper extremity. See the discussion for part 5223.0400, subpart 6 in this document.

Part 5223.0430 PERIPHERAL NERVOUS SYSTEM; LOWER EXTREMITY - SENSORY LOSS.

This section is added to provide percentage impairments for sensory loss in the lower extremities. The current schedule does not cover sensory loss unless it is combined with motor loss.

Subpart 1: Introductory language is included which indicates the application of this part.

Subpart 1A: This item defines complete sensory loss based on the generally accepted medical standard.

Subpart 1B: This item provides a cross-reference for motor loss as rated under part 5223.0420.

Subpart 1C: This item instructs the user concerning combined ratings where there is combined motor and sensory loss. See part 5223.0440, subpart 1C of this document.

Subpart 2A: This item provides a percentage impairment for sensory loss in the distribution of the anterior crural nerve of 2 percent; this is the AMA recommendation.

Subpart 2B: Subpart 2B provides a percentage impairment to sensory loss in the distribution of the genitofemoral nerve of 2 percent; this is the AMA recommendation.

Subpart 2C: Subpart 2C provides a percentage impairment for sensory loss in the distribution of the lateral femoral cutaneous nerve of 4 percent; this is the AMA recommendation.

Subpart 2D: Subpart 2D provides a percentage impairment for sensory loss in the distribution of the posterior cutaneous nerve of the thigh of 2 percent; this is the AMA recommendation.

Subpart 2E: Subpart 2E provides a percentage impairment for sensory loss in the distribution of the sciatic nerve of 10 percent; this is the AMA recommendation.

Subpart 2F: This item provides a percentage impairment for sensory loss in the distribution of the superficial peroneal nerve of 2 percent; this is the AMA recommendation.

Subpart 2G: Subpart 2G provides a percentage impairment for sensory loss in the distribution of the tibial nerve. Three subcategories are given representing anatomically specific regions of the tibial nerve; the percentages given are based on the AMA recommendations.

Subpart 2H: (Old 5223.0160, subpart 1N). This item provides a percentage impairment for sensory loss in the distribution of the sural nerve 1 percent; this is the AMA recommendation and is unchanged from the current schedule.

Subpart 3: (Old 5223.0160, subpart 1R). This subpart provides percentage impairments for sensory loss due to lesions of the lumbosacral plexus of 16 percent; this is the AMA recommendation. The current schedule only provides a rating for total motor and sensory loss of the lower extremity. A total sensory loss impairment only differs markedly from both losses covered by the current schedule.

Subpart 4: Subpart 4 provides percentage impairments for sensory loss due to injuries of the nerve roots. Five categories are given based on the anatomy of the nerve roots supplying the lower extremity. The percentages offered in A through D are based on the AMA recommendations.

Subpart 4E: Item 4E provides percentage impairment for the specific situation of sensory loss in the S-2, 3, 4, nerve roots resulting in saddle anaesthesia. This is given a rating of 2 percent based upon the MSRB's considerations of the relative impairment to this sensory compared to other sensory losses in the lower extremity. This category also specifies that for abnormalities of sexual function or anal function, specific additional ratings should be given as provided in 5223.0600 and/or 5223.0590 respectively.

Subpart 5: Subpart 5 provides for percentage impairments for partial sensory loss in the same manner in which they are calculated for partial sensory loss in the upper extremities. See the discussion under part 5223.0410, subpart 5.

Subpart 6: Subpart 6 repeats the categories for reflex sympathetic dystrophy in the lower extremity that have already been introduced in 5223.0420. They are repeated for the sake of convenience only. Reflex sympathetic dystrophy is not to be rated more than once in any affected member.

Part 5223.0440 MUSCULOSKELETAL SCHEDULE; TRUNK, EXCLUDING SPINE.

A new schedule is introduced for impairments of the trunk excluding the spine. Many of these impairments were not covered in the old schedule. Some minor abnormalities were not considered permanent impairments by the MSRB. While a condition listed in this part may entail work limitations due to pain, objective measurements of any permanent impairment is unavailable.

Subpart 1: Introductory language is included showing the application and scope of this part.

Subpart 2: This subpart provides for percentage impairments for injuries of the chest wall. It also indicates that any impairment of respiration should be rated separately under 5223.0560 and not under this part. The percentage impairments provided under this part represent this impairment exclusive of any impairment of respiration.

Subpart 2A: Item 2A provides percentage impairments for rating disorders of the scapula and acromioclavicular joint. The percentages were derived by the MSRB by weighing the relative impairment of these disorders versus other musculo-skeletal disorders.

Subpart 2B: Item 2B provides percentage impairments for rating disorders of the clavicle and associated sternoclavicular joint. Again, the percentages were derived by the MSRB by comparing the relative impairment of these disorders versus other musculo-skeletal disorders.

Subpart 2C: Item 2C provides percentage impairments for rating disorders of the sternum, manubriosternal joint, xiphisternal junction, and xiphoid. Again the percentages were derived by the MSRB by a comparison of the relative impairment of these disorders versus other musculo-skeletal disorders.

Subpart 2D: Item 2D provides percentage impairments for rating disorders of the ribs, the costal cartilage and the costal muscles. The percentages were derived by the MSRB from

a consideration of the relative impairment of these disorders versus other musculo-skeletal conditions.

Subpart 3A: Item 3A provides for percentage impairments for rating disorders of the abdominal muscle. The percentages were derived by the MSRB by a comparison of the relative impairment of these disorders versus other musculo-skeletal conditions.

Subpart 3B: (Old 5223.0220, subpart 7D). Item 3B provides percentage impairments for hernias. The percentage for an inguinal hernia recurrent after two or more repairs in the current schedule is lowered somewhat after comparison of the relative impairment versus other musculo-skeletal conditions. A new category is added clarifying that repaired and not recurrent inguinal hernias are rated at 0 percent. Categories and percentages are added for abdominal hernias and femoral hernias. The percentages were derived by the MSRB by comparison with the percentages given for inguinal hernia.

Part 5223.0450 (Old 5223.0110) MUSCULOSKELETAL SCHEDULE; SHOULDER AND UPPER ARM.

Subpart 1: Introductory language is introduced explaining the use of the **exclusive**, **combinable**, and **functional loss** categories. This language is repeated in subpart 1 of 5223.0450 through 5223.0530. Ratings are to be given each mutually exclusive impairing condition. No more than one rating can be given to any one mutually exclusive impairing condition. When the impairing condition is described by a category in subpart 2 -- an **exclusive** category -- then that category must be used and no other categories can be used. When an impairing condition is represented by a category in subpart 3 -- a **combinable** category -- it must be rated under that category but any loss of function as defined under subpart 4 can also be rated and those two ratings can then be combined. When a condition cannot be rated either under subpart 2 or subpart 3 then it must be rated under subpart 4. These instructions accurately set out procedures to assure that add-on ratings represent additional impairment rather than duplicating ratings for the same or a portion of the same condition.

Subpart 2A(2): (Old 5223.0110, subpart 3A(2)). The percentage for grade 2 acromio-clavicular separation is reduced from 3 percent to 1 percent based on the consensus opinion of the MSRB.

Subpart 2A(3): (Old 5223.0110, subpart 3A(3)). The percentage for grade 3 acromio-clavicular separation is reduced from 6 percent to 3 percent based on the consensus opinion of the MSRB.

Subpart 2B(1): (Old 5223.0110, subpart 3B). The definition of a single episode of shoulder dislocation is clarified to include a single episode or multiple episodes occurring less than three times in six months. There is no change in the percentage rating.

Subpart 2B(2): (Old 5223.0110, subpart 3C). The category for recurrent dislocation is rewritten to clarify that dislocation occurs at least three times in six months, but there has been no surgical repair. Dislocations resulting in surgery are more appropriately rated under 2B(3) or subpart 4. There is no change in the rating percentage.

Subpart 2B(3): This is a new category for rating dislocation recurring after attempted surgical repair. It is given the same 10 percent rating as recurrent dislocation since these were considered by the MSRB to be equivalent conditions. The amendment is needed to remove the threshold number of episodes as a qualifying factor post surgery.

Subpart 2B(4): (Old 5223.0110, subpart 3D(1) through (3)). This category directs the rater to refer to the categories for functional loss if there has been surgical repair of the dislocation and there has been no recurrence after that repair. This would result in a rating based on loss of range of motion which is consistent with the method of rating recurrent dislocation after repair in the current schedule. The new schedule is simply more explicit concerning its application.

Subpart 2D: A category is added for chronic bicipital tendon rupture. This condition is not rated in the current schedule. It is given a percentage impairment of 1 percent which was derived by the MSRB from comparison of the relative impairment due to this condition with that due to other musculo-skeletal conditions of the shoulder.

Subpart 2E: A new category is added for rating percentage impairment due to resection arthroplasty; this is not covered in the current schedule. The percentage is derived from the value of the shoulder as a part of the upper extremity. The shoulder is considered to be 60 percent of the upper extremity and the upper extremity is considered to be 60 percent of the whole body.

Subpart 2F: A new category is added to cover painful organic syndromes. Painful organic syndromes are specifically defined in 5223.0310 as musculo-skeletal conditions characterized by pain when using the affected member and with limitations of voluntary range of motion due to pain. Painful organic syndromes do not have any limitation of passive range of motion. Painful organic syndromes are usually due to soft tissue lesions. If there is limitation of passive range of motion, the condition must be rated under subpart 4. Painful organic syndromes must be substantiated by appropriate consistent and reproducible clinical and/or medical imaging findings. These are given specific definition in 5223.0310. Appropriate consistent and reproducible clinical findings mean that the findings are: (1) the same from one examination to another and (2) from one examiner or another and (3) that the majority of findings expected are present and (4) that few unexpected findings are present. In medical terms, this means there is intra examiner reliability, inter-examiner reliability, sensitivity, and specificity. Painful organic syndromes are rated at 0 percent. The MSRB recommended 0 percent if the condition resolves with treatment, and 1 percent if it persists despite treatment or recurs and persists after surgical correction. These percentages were derived by the MSRB based upon consideration of the relative impairment due to these conditions compared to that due to other musculo-skeletal conditions. The Department, in order to comply with the actuarial mandate of Minnesota Statutes, section 176.105, subdivision 4, determined that the rating must be reduced to zero. Because the number of employees who might qualify for this benefit is unknown, assignment of a rating for this condition poses a dilemma for the Department in obtaining a sound actuarial analysis pursuant to the statutory mandate. Rather than risk rejection of the entire set of rules for failure to follow statutory mandates, the Department elected to reduce this rating and others from the proposed rules. See Appendix 6 of the actuarial study which accompanies this document. A category of painful organic syndrome is used in each of

the musculo-skeletal sections from 5223.0450 through 5223.0530 since soft tissue lesions can affect any part of the upper or lower extremities.

Subpart 3A: A category is added to provide percentage impairments for injuries of the rotator cuff. This is divided into two subcategories for partial thickness tears and for full thickness tears. The percentages were derived by the MSRB based upon consideration of the relative impairment of the shoulder due to these conditions compared to that due to other musculo-skeletal conditions of the shoulder.

Subpart 3B: A category is added for implant arthroplasty. The percentage given was derived by the MSRB based on the consideration that implant arthroplasty is only half as impairing as resection arthroplasty in subpart 2E above.

Subpart 3C: A category is added for other fractures of the scapula, clavicle and/or humerus which are not otherwise rated under subpart 2 or 3, of this part or under 5223.0460. These are all given 0 percent unless there is a loss of function rateable under subpart 4. This is based on the MSRB's opinion that these fractures do not result in any impairment unless they result in a loss of function which can be rated under subpart 4.

Subpart 4: (Old 5223.0110, subpart. 2). A new system for characterizing loss of range of motion is used, replacing 5 categories of the old schedule with 61 categories. This results in vastly improved anatomic specification. An initial paragraph explains the measurement of loss of function at the shoulder. Loss of function is measured in flexion/extension, abduction/adduction, and rotation. Function is defined as passive movement in these planes of motion at the shoulder. Ratings are given for losses of range of motion as well as for ankylosis. Movement throughout the entire arc is taken into consideration. The arc is subdivided into areas of equivalent impairment and a single percentage impairment is applied to each area. The percentages are derived from the recommendations of the AMA. All measurements are to be done on passive range of motion since this is objective and not subject to patient motivation or cooperation. Passive range of motion measurements refer to the amount of movement the health care provider observes through manipulation of the body as opposed to the amount of movement the employee personally demonstrates or reports.

Old 5223.0110, subpart 3F: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0110, subpart 3G: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0110, subpart 3H: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0110, subpart 3I: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Part 5223.0460 (Old 5223.0120) MUSCULOSKELETAL SCHEDULE; ELBOW AND FOREARM.

Subpart 1: See discussion of 5223.0450, subpart 1.

Subpart 2A: The description of flail elbow is deleted from this subpart as unnecessary.

Subpart 2B: (Old 5223.0120, subpart 2E). The percentage impairment for resection of the head of the radius is reduced from 9 percent to 5 percent based on the MSRB's opinion of the relative impairment due to this condition in comparison to the impairment due to other conditions of the elbow.

Subpart 2C: A category for painful organic syndrome (including epicondylitis) is added. (See discussion of 5223.0450, subpart 2F).

Subpart 2D: A category is added to provide for percentage impairments due to nerve entrapment of the nerves of the upper extremity at the elbow or in the forearm. A similar category is used in other parts for all the areas of the upper and lower extremities where nerve entrapment can occur. The names of the nerves referenced are specific to the area of the body for which the category is used. However, the subcategorization of the category is the same in each instance. The first subcategory involves entrapments which resolve with treatment. These are given 0 percent even if surgery is required. This is based upon the fact that release of entrapped nerves does not create any impairment in and of itself and if the treatment has been successful, there is no residual impairment because of the entrapment. The second category covers the situation in which there are subjective symptoms of pain and paresthesia recurring or persisting despite treatment, but there are no objective findings on electrodiagnostic testing. This is given a 0 percent rating just as symptoms of pain in the neck or low back without objective clinical findings would be given 0 percent. The third category is for the situation in which there are continuing subjective symptoms of pain and paresthesia despite treatment or recurring after treatment, but in this instance there are persistent findings on electrodiagnostic testing. This is given a percentage of 2 percent based upon the MSRB's consideration of relative impairment due to this condition versus that due to other conditions. Category four is for the situation in which not only are there subjective symptoms, but there are objective motor and/or sensory losses. In this case, the rating is based on the appropriate parts of the peripheral nerve schedules for the rating of motor and sensory loss. (5223.0400 through 5223.0410).

Subpart 3A: A category is added for arthroplasty at the elbow. This is subcategorized into items for total elbow arthroplasty and radial head arthroplasty. The percentages are based on the AMA recommendations.

Subpart 3B: A category is added for elbow instability. Instability is defined in the introductory sentence. The category is further subdivided into items for subluxation and dislocation, which are then themselves each further subdivided into subitems for intermittent or continuous conditions. The percentages are based on the AMA recommendations.

Subpart 3C: A category for lateral deviation is added. This is for permanent deformity of the elbow and is defined in the introductory sentence. It is subcategorized by the amount of lateral deviation which occurs. The percentages are based on the AMA recommendations.

Subpart 3D: A category is added for other fractures of the humerus, radius, and/or ulna which are not otherwise rated under subparts 2 or 3, 5223.0450, or 5223.0470. These are all given 0 percent unless there is a loss of function which can be rated under subpart 4. This is based on the MSRB's opinion that these fractures do not result in any impairment unless they result in a loss of function which can be rated under subpart 4.

Subpart 4: (Old 5223.0120, subpart 2A through C). A new system for characterizing loss of function at the elbow or forearm is used, replacing five categories of the current schedule based on range of motion, with 28 categories for loss of range of motion. This results in vastly improved anatomic specification for loss of range of motion. Loss of function is measured as movement in flexion/extension and rotation (see discussion of 5223.0450, subpart 4).

Old 5223.0120, subpart 3A: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3B: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3C: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3D: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3E: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3F: Deleted. It is redundant with the new 5223.0460, subpart 3D.

Old 5223.0120, subpart 3G: Deleted. It is replaced by the new 5223.0460, subpart 2C.

Old 5223.0120, subpart 3H: Deleted. It is replaced by the new 5223.0460, subpart 2D.

Part 5223.0470 (Old 5223.0130) MUSCULOSKELETAL SCHEDULE; WRIST.

Wrist impairments are categorized based on the resulting impairment only. The current subpart 3 of part 5223.0130 is deleted as described below and recharacterized under the corresponding category describing the functional loss suffered rather than the medical treatment given. The description of medical procedures provided is only retained in the rule where permanent partial disability is always present in such a case.

Subpart 1: See discussion of 5223.0450, subpart 1.

Subpart 2A: A category is added for painful organic syndrome (see discussion of 5223.0450, subpart 2F).

Subpart 2B: A category is added for nerve entrapments (see discussion of 5223.0460, subpart 2D).

Subpart 3A: A category is added for arthroplasty. This is subdivided into five items based upon the anatomy of the wrist. The percentages offered are based either on the AMA recommendations or on the MSRB's estimation of the relative impairment represented by an item in comparison to those represented by other items of this category.

Subpart 3B: A category is added for carpal instability. This is defined at 5223.0310, subpart 13 as an incompetence of the ligamentous support system of the wrist or a change in the joint contact surface configuration of the carpal bones such that there is an abnormal alignment and/or movement of the proximal carpal row. This category is divided into three levels of impairment based upon considerations of clinical exam, medical imaging, and the presence of degenerative arthritis. The percentages offered are based upon the MSRB's opinion of the relative impairment due to these conditions of the wrist in comparison to that due to other conditions of the wrist.

Subpart 3C: A category is added for other fractures of the radius, ulna, and/or carpal bones not otherwise rateable under Subparts 2 or 3, or 5223.0460 (see discussion of 5223.0460, subpart 3D).

Subpart 4: (Old 5223.0130, subpart 2B through D). A new system for characterizing loss of function is used, replacing five categories of the current schedule based on range of motion with 31 categories for loss of range of motion (see the discussion of 5223.0460, subpart 4).

Old 5223.0130, subpart 2A: Deleted. This item is replaced by 5223.0470, subpart 3A.

Old 5223.0130, subpart 3A(1) through (2): Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0130, subpart 3B(1) through (3): Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0130, subpart 3C: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0130, subpart 3D: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Old 5223.0130, subpart 3E: Deleted. This item is replaced by 5223.0470, subpart 3B.

Old 5223.0130, subpart 3F: Deleted. This item is replaced by 5223.0470, subpart 3B.

Old 5223.0130, subpart 3G: Deleted. This item is replaced by 5223.0470, subpart 3A.

Old 5223.0130, subpart 3H: Deleted. This item is replaced by 5223.0470, subpart 3A.

Old 5223.0130, subpart 3I: Deleted. It is redundant with the new 5223.0470, subpart 3C.

Part 5223.0480 (Old 5223.0140) MUSCULOSKELETAL SCHEDULE; HANDS AND FINGERS.

Subpart 1A: See discussion of 5223.0450, subpart 1.

Subpart 1B: A section for digit and joint values is added to be used later with the categories of subparts 2, 3 and 4. The percentages are based on the recommendations of the AMA.

Subpart 2A: A category for mallet deformity is added. It is categorized by digit. The percentages are based on the recommendations of the AMA and the MSRB's estimations of relative impairment.

Subpart 2B: A category for boutonniere deformity is added. It is categorized by digit. The percentages are based on the recommendations of the AMA and the MSRB's estimations of relative impairment.

Subpart 2C: A category for swan neck deformity is added. It is categorized by digit. The percentages are based on the recommendations of the AMA and the MSRB's estimations of relative impairment.

Subpart 2D: A category for arthroplasty is added. It is rated at 100 percent of the value of the involved joint. This is based on the recommendations of the AMA and the MSRB's estimations of relative impairment.

Subpart 3A: A category is added for ulnar or radial deviation at a joint. This is for fixed deformity only. Instructions for its measurement are included in the category. It is subcategorized into four levels of impairment based upon the degree of deviation. For each level, a percentage of the value of the involved digit is assigned as the percentage impairment. These percentages are based on the recommendations of the AMA.

Subpart 3B: A category is added for rotational deformity. Instructions for its measurement are included in the category. It is subdivided into four levels of impairment based upon the degree of deviation. For each level, a percentage of the value of the involved digit is assigned as the percentage impairment. These percentages are based on the recommendations of the AMA.

Subpart 3C: A category is added for instability of a joint. Instructions for its measurement are included in the category. It is subdivided into four levels of impairment based upon the degree of instability. For each level, a percentage of the value of the involved digit is assigned as the percentage impairment. These percentages are based on the recommendations of the AMA.

Subpart 3D: A category is added for intrinsic tightness. Instructions for its measurement are included in the category. It is subdivided into four levels of impairment based upon the

degree of tightness. For each level, a percentage of the value of the involved digit is assigned as the percentage impairment. These percentages are based on the recommendations of the AMA.

Subpart 3E: A category is added for triggering. Instructions for its measurement are included in the category. It is subdivided into three levels of impairment based upon the degree of triggering. For each level, a percentage of the value of the involved digit is assigned as the percentage impairment. These percentages are based on the recommendations of the AMA.

Subpart 3F: A category is added for other fractures of the metacarpals or phalanges not otherwise rated under subparts 3 or 4 (see discussion of 5223.0460, subpart 3D).

Subpart 4: (Old 5223.0140, subpart 2A through B). A new system is introduced to describe loss of function of the digits. Loss of function is rated based on loss of range of motion or loss of sensation.

The 19 categories of the current schedule based on loss of range of motion are replaced with 77 categories based on loss of range of motion and 21 categories for loss of sensation. This vastly improves the anatomically and functionally relevant specification of impairments of the hand. Extensive introductory instructions are given for the measurement of range of motion for each of the joints of the digits and for the combining of these measurements into overall ratings of impairment for the digits and for the hand. The thumb is treated separately because of its unique function. As opposed to the current schedule, the other digits are not compared to the thumb; this was an inadequate representation of the function of the fingers as opposed to the thumb. Instead, categories are used specifically designed for the joints of the fingers (see discussion of 5223.0450, subpart 4).

The measurement of sensation in part 5223.0410, subpart 6 is cross-referenced to aid the users of the schedule in its application.

The final impairment for loss of function is the combination of the impairment due to loss of motion and the impairment due to loss of sensation as described in subpart 4. The ratings are added together to represent the whole disabling condition.

Part 5223.0490 MUSCULOSKELETAL SCHEDULE; PELVIS.

A new part is added to cover impairments to the pelvis which are not covered by the current schedule.

Subpart 1: Introductory language explains the scope of this part. Specifically, impairments due to sprains or strains of the sacroiliac joints are to be treated as lumbar regional pain syndrome and more appropriately rated as provided in 5223.0390, subpart 3.

Subpart 1A: This category specifies that permanent impairment due to injury to the peripheral nerves is to be rated under the specific parts of the schedule dealing with impairment of the peripheral nerves (5223.0420 and 5223.0430) and can be combined with ratings under this section. This item and other items in subpart 1 simply cross-reference other relevant provisions

to aid the user of the schedule.

Subpart 1B: This category specifies that impairment to the bladder and urinary tract is to be rated under specific parts of the schedule dealing with impairments of the bladder and urinary tract (5223.0600) and combined with ratings under this part.

Subpart 1C: This category specifies that impairment to sexual is to be rated under the specific parts of the schedule dealing with impairments to sexual function (5223.0600) and may be combined with ratings under this part.

Subpart 1D: This category specifies that impairment to anal function is to be rated under the specific parts of the schedule dealing with impairments of anal function (5223.0590, subpart 4) and can be combined with ratings under this part.

Subpart 2A: A category is added for fractures which do not result in displacement of the bones on medical imaging. These are rated at 0 percent whether the fractures are healed or not. This represents the MSRB's estimation of the relative impairment due to these fractures in comparison to the impairment due to other kinds of musculo-skeletal conditions.

Subpart 2B: A category is added for healed fractures which result in displacement of the bone on medical imaging and in addition, a gait abnormality. These are rated at 5 percent, based on the MSRB's estimation of the relative impairment.

Subpart 2C: A category is added for ununited fractures which result in displacement of the bones on medical imaging and, in addition, a gait abnormality. These are rated at 10 percent, based on the MSRB's estimation of relative impairment.

Subpart 2D: A category is added for pain in the area of the coccyx whether or not there is demonstrable coccyx fracture, and whether or not there has been surgical treatment. The MSRB recommended a 1 percent rating based on an estimation of relative impairment. The Department reduced the rating to zero because it is a minor impairment. Additionally, the rating was reduced to comply with the actuarial mandate of Minnesota Statutes, section 176.105, subdivision 4 as described under part 5223.0450, subpart 2F of this document.

Subpart 2E: A category is added for fractures into the acetabulum. These are to be rated both by loss of range of motion at the hip as provided in 5223.0500, subpart 4, and under the categories of this part. The final rating is then the higher of the two ratings. They are not to be added or combined. This is based upon the MSRB's estimation of the wide variability of outcome in fractures which extend into the acetabulum. The two different rating schemes allow for maximum flexibility in rating the full extent of the impairment created by these fractures.

Part 5223.0500 (Old 5223.0170, Subpart 2 through 4) MUSCULOSKELETAL SCHEDULE; HIP AND UPPER LEG.

The Old 5223.0170 is deleted and replaced with 5223.0500 through 5223.0530, each part representing an anatomically specific region of the lower extremity.

Subpart 1: See discussion of 5223.0450, subpart 1.

Subpart 2A: A category is added for painful organic syndrome (see the discussion of 5223.0450, subpart 2F).

Subpart 2B: A category is added for nerve entrapments (see the discussion of 5223.0460, subpart 2D).

Subpart 2C: (Old 5223.0170, subpart 3B(1)). The percentage impairment for nonunion of a femoral shaft fracture is reduced to 20 percent. This is based on the MSRB's estimation of the relative impairment. Only ununited fractures of the femur can be rated under this item and among ununited fractures of the femur, only those that require a nonweight bearing orthosis for ambulation may be rated at 20 percent. All other fractures of the femur must be rated as provided in subpart 3 or in 5223.0510.

Subpart 3A: (Old 5223.0170, subpart 2). Five categories for traumatic or surgical discrepancies in the lower extremity are used to replace four categories in the current schedule and the measurements are now expressed in centimeters. The minimum and maximum percentages are the same as in the current schedule, though the categories and assigned percentage impairments are redefined to conform with the recommendations of the AMA.

Subpart 3B: (Old 5223.0170, subpart 3B(2) and (3)). The rating for arthroplasty is reduced from 18 or 13 percent to 8 percent; this is based on the recommendations of the AMA and the MSRB's estimation of relative impairment of the hip due to arthroplasty in comparison with the impairment due to other conditions of the hip, and on the fact that loss of function will be separately rated under Subpart 4 and combined with this percentage to reflect the actual impairment in the individual case.

Subpart 3C(1): A category for non-union of hip fracture is added. The percentage is based on the MSRB's estimation of relative impairment.

Subpart 3C(2): (Old 5223.0170, subpart 3B(4)(a) and (b)). The rating for femoral endoprosthesis is reduced from 15 or 20 percent to 6 percent; this is based on the MSRB's estimation of the relative impairment, and on the fact that loss of range of motion will be separately rated under Subpart 4 and combined with this percentage to reflect the actual impairment in the individual case.

Subpart 3C(3): (Old 5223.0170, subpart 3B(5)(a) and (b)). The rating for hip pinning is reduced from 5 or 10 percent to 5 percent; this is based on the MSRB's estimation of the relative impairment and on the fact that loss of range of motion would be separately rated under Subpart 4 and combined with this percentage to reflect the actual impairment in the individual case.

Subpart 3C(4): A category for other fractures of the femur not otherwise rateable under subparts 2 or 3 or 5223.0510 is added (see discussion of 5223.0460, subpart 3D).

Subpart 4: (Old 5223.0170, subpart 3A(1)(a) through (c)). A new system for

characterizing loss of range of motion is used, replacing the three categories of the old schedule with 56 categories (see the discussion of 5223.0450, subpart 4).

Old 5223.0170, subpart 4A: Deleted. It is replaced by 5223.0500, subpart 3C(4).

Old 5223.0170, subpart 4B: Deleted: It is replaced by 5223.0500, subpart 3C(4)).

Part 5223.0510 (Old 5223.0170, Subpart 5 and 6) MUSCULOSKELETAL SCHEDULE; KNEE AND LOWER LEG.

Subpart 1: See discussion of 5223.0450, subpart 1.

Subpart 2A: (Old 5223.0170, subpart 5B(6) and (7)). A new system for characterizing plateau fractures is used. This is based on an exhaustive categorization of plateau fractures based on (1) whether or not there was displacement of bone, (2) whether or not both plateaus were involved, and (3) whether or not the semilunar cartilages were excised during treatment. This system develops all of the categories that are missing from the current schedule. The rating percentages in the current schedule are kept for the corresponding categories; the other rating percentages are extrapolated by means of the estimation of the relative impairment of those plateau fractures versus the others.

Subpart 2B: (Old 5223.0170, subpart 5B(8) and (9)). A new system for characterizing condylar fractures is used. This is based on an exhaustive categorization of condylar fractures based on (1) the anatomic location of the fracture, (2) the presence of displacement on medical imaging, and (3) the number of condyles involved. This system develops all of the categories that are missing from the current schedule. The rating percentages from the current schedule are kept for the corresponding categories; the other percentages are extrapolated by means of the estimation of the relative impairment of those fractures versus the others.

Subpart 2D: (Old 5223.0170, subpart 5B(14) and (15)). The definition of the category is changed so that it can be used for injuries to the collateral ligaments whether or not there has been a repair. The repair does not create an impairment; in fact, repairs usually resolve or remove impairment. The impairment is created by laxity in the ligament and the degree of impairment is not altered by whether or not repair was attempted, only by whether or not it was successful. The subcategorization and percentage impairments are unchanged from the old schedule.

Subpart 2G: A category for painful organic syndrome is added (see discussion of 5223.0450, subpart 2F).

Subpart 2H: A category for nerve entrapment is added (see discussion of 5223.0460, subpart 2D).

Subpart 2I: A category for nonunion of the tibia is added. The rating percentage is based on the MSRB's estimation of relative impairment.

Subpart 3A: (Old 5223.0170, subpart 5B(5), (10), and (11)). A single category for

removal of the patella, either partial or total, is rated at 4 percent which is a reduction from the current schedule and is the MSRB's estimation of relative impairment. This represents the minimal percentage impairment due to removal of the patella. There may be additional impairment due to loss of function which will be rated under subpart 4, and combined with this rating. The new combinable categories more accurately rates the individual impairment. This eliminates overrating in some cases and underrating in others.

Subpart 3B: (Old 5223.0170, subpart 5B(1) through (3)). A new system for rating removal of knee cartilage is used. This represents an exhaustive classification based upon (1) the number of cartilages removed and (2) the amount of each cartilage removed. This system develops all of the categories missing from the current schedule. The rating percentages in the current schedule are kept for the corresponding categories and the other rating percentages are extrapolated by means of the estimation of the relative impairments involved.

Subpart 3C: New categories for arthroplasty are used. It is subcategorized on the basis of an exhaustive classification of arthroplasty of the knee. The percentages are derived from the recommendations of the AMA and the MSRB's estimation of relative impairments.

Subpart 3C(1): (Old 5223.0170, subpart 5B(18)). The minimum percentage impairment remains the same, but any loss of function will be separately rated under Subpart 4 and combined with this rating.

Subpart 3C(2): (Old 5223.0170, subpart 5B(17)). The percentage impairment is reduced, but this represents the minimum rating since any loss of function will be separately rated under Subpart 4 and combined with this rating to accurately represent the impairment in the individual case.

Subpart 3C(3): A new category for patella replacement is added.

Subpart 3D: (Old 5223.0170, subpart 5B(4)(a) through (c)). New categories for cruciate ligament laxity are used. Impairment is categorized separately for the anterior and posterior cruciates. Within the anterior cruciate, it is further subcategorized by the presence of a pivot shift sign. These result in a more complete classification of cruciate ligament laxity. The percentages are based on the MSRB's estimation of relative impairments.

Subpart 3E: A category is added for post traumatic varus deformity. This is for fixed deformity only. It is subdivided into three levels of impairment based upon the degree of deformity. The rating percentages are based on the recommendations of the AMA.

Subpart 3F: A category is added for post traumatic valgus deformity. This is for fixed deformity only. It is subdivided into three levels of impairment based upon the degree of deformity. The rating percentages are based on the recommendations of the AMA.

Subpart 3G: (Old 5223.0170, subpart 5B(20)). The rating percentage for proximal tibial osteotomy is reduced from 5 percent to 4 percent based on the MSRB's estimation of the relative impairment in comparison to the impairment due to other conditions of the knee.

Subpart 3H: A category is added for distal femoral osteotomy. The rating percentage is based on comparison with that for proximal tibial osteotomy (subpart 3G, above).

Subpart 3I: A category for other fractures of the femur, tibia or fibula not otherwise rateable under subpart 2 or 3, parts 5223.0500 or 5223.0520 is added (see discussion of 5223.0460, subpart 3D).

Subpart 4: (Old 5223.0170, subpart 5A(1) and (2)). A new system for characterizing loss of range of motion is used, replacing the four categories of the current schedule with 20 categories (see discussion of 5223.0450, subpart 4).

Old 5223.0170, subpart 5B(13): The zero percent rating for arthroscopy is deleted. This procedure does not result in impairment in itself; treatment is not the basis for impairment in any case, only loss of function. If arthroscopy resulted in a loss of function, it would be rated under 5223.0510, subpart 4.

Old 5223.0170, subpart 6A: Deleted. This is replaced by 5223.0510, subpart 3I.

Old 5223.0170, subpart 6B: Deleted. This is replaced by 5223.0510, subpart 3I.

Part 5223.0520 (Old 5223.0170, Subpart 7 and 8) MUSCULOSKELETAL SCHEDULE; ANKLE.

Subpart 1: See the discussion of 5223.0450, subpart 1.

Subpart 2A: (Old 5223.0170, subpart 7B(1) and (2)). Definitions are changed in this item to remove references to treatment since treatment itself does not result in impairment. The functional content of the categories in the current schedule is emphasized and the rating percentages are unchanged.

Subpart 2B: (Old 5223.0170, subpart 7B(4) and (5)). These definitions are expanded to include rupture of the medial ligament as well as the lateral ligament and to indicate that the percentages apply whether or not the rupture has been repaired. The rating percentages are the same as in the current schedule. The new language more completely covers the range of possible ankle ligament impairments.

Subpart 2C: A category is added for painful organic syndrome (see discussion of 5223.0450, subpart 2F).

Subpart 2D: A category is added for nerve entrapment (see discussion of 5223.0460, subpart 2D).

Subpart 2E: (Old 5223.0170, subpart 8B(1)). The rating percentage for extraarticular calcaneal fractures is reduced from 6 percent to 3 percent based upon the MSRB's estimation of the relative impairment due to this injury in comparison to the impairment due to other conditions of the ankle.

Subpart 3A: (Old 5223.0170, subpart 8B(2)(a) through (c)). The rating percentage for

intraarticular calcaneal fracture is reduced to 3 percent based upon the MSRB's estimation of the relative impairment and on the fact that any loss of range of motion will be rated separately under Subpart 4 and combined with this rating. This category replaces those categories of the current schedule based on combination of intraarticular fracture and loss of range of motion. The new combinable categories in this subpart more accurately rate individual impairments, eliminating overrating in some cases and underrating in others.

Subpart 3B: (Old 5223.0170, subpart 8B(3)(a) through (c)). A minimum rating of 10 percent is given for avascular necrosis of the talus replacing the three categories of the current schedule based upon the combination of this condition with various categorizations of limitation of range of motion. The rating of 10 percent is based on the MSRB's estimation of the relative impairment and on the fact that any loss of range of motion will be rated separately under Subpart 4 and combined with this rating.

Subpart 3C: A category is added for arthroplasty. The rating percentage is based upon the recommendations of the AMA.

Subpart 3D: (Old 5223.0170, subpart 7B(3)(a) through (e)). A category is added for ankle fractures. This is subcategorized by the anatomy of the fractures. These rating percentages represent the minimum impairments for these conditions. The percentages are based upon the MSRB's estimation of the relative impairments and on the fact that any loss of range of motion will be rated separately under subpart 4 and combined with these ratings. These categories replace categories in the current schedule which were only applicable to cases of ankle fracture on which open reduction had been performed. The new categories do not reference specific treatment since treatment in itself does not create impairment.

Subpart 4: (Old 5223.0170, subpart 7A(1) through (4) and 5223.0170, subpart 8A(1) through (2)). A new system for characterizing loss of range of motion is used, replacing the 13 categories of the current schedule with 38 categories (see discussion of 5223.0450, subpart 4).

Part 5223.0530 (Old 5223.0170, Subpart 8 and 9) MUSCULOSKELETAL SCHEDULE; FOOT AND TOES.

Subpart 1: See discussion of 5223.0450, subpart 1.

Subpart 2A: A category for painful organic syndrome is added (see discussion of 5223.0450, subpart 2F).

Subpart 2B: (Old 5223.0170, subpart 8B(4)). New categories for tarsal fractures are used. These are subcategorized by (1) whether or not the fracture healed and (2) whether or not there has been any deformity resulting in abnormal weight bearing. Objective signs of abnormal weight bearing are listed. The rating percentages are based on the MSRB's estimation of the relative impairments due to these conditions in comparison to those due to other conditions of the foot. The presence of a subjective complaint of pain is no longer the basis for a rating of impairment. The maximum percentage impairment is the same as in the current schedule.

Subpart 2C: Categories are added for tarsal metatarsal fractures and/or dislocations.

These are further subcategorized as to whether or not they are reduced. The rating percentages are based upon the MSRB's estimation of the relative impairment.

Subpart 2D: (Old 5223.0170, subpart 8B(5)). New categories for metatarsal fractures are used. These are subcategorized by (1) whether or not the fracture healed and (2) whether or not there has been any deformity resulting in abnormal weight bearing. Objective signs of abnormal weight bearing are listed. The rating percentages are based on the MSRB's estimation of relative impairment (see discussion of Subpart 2B above).

Subpart 2E: (Old 5223.0170, subpart 8B(6)) New categories for phalangeal fractures are used. These are further subdivided by whether or not healing resulted in normal or abnormal weight bearing. The rating percentages are based on the MSRB's estimation of relative impairment (see discussion of subpart 2B above).

Subpart 3: (Old 5223.0170, subpart 9A and B). A new system is introduced for describing loss of range of motion in the toes. Loss of range of motion is based solely on findings of ankylosis, but the two categories of the current schedule are replaced with 10 categories allowing improved anatomic specificity. The percentages are based on the recommendations of the AMA.

Part 5223.0540 (Old 5223.0080) MUSCULOSKELETAL SCHEDULE; AMPUTATIONS OF UPPER EXTREMITY.

Subpart 1A: (Old 5223.0080 A). The term "forequarter amputation" is replaced by an anatomically specific definition for ease in application of the rules.

Subpart 1J: (Old 5223.0080 J). The category in the current schedule for amputation of all fingers except the thumb at the metacarpophalangeal joints is replaced by specific instructions on the calculation of multiple digit amputations by taking the specific amputation ratings for each digit and adding them together. This allows for much improved anatomic specificity of rating.

Subpart 1K(1): (Old 5223.0080 K(1)). The percentage is increased to reflect the current AMA recommendation.

Subpart 1K(2): This provision is added to represent a clinically significant amputation not covered in the old schedule.

Subpart 1K(3): (Old 5223.0080 K(2)). The percentage for this thumb amputation is decreased to reflect current AMA recommendations.

Subpart 1K(4): (Old 5223.0080 K(3)). The category is redefined and the percentage increased to reflect the current AMA recommendations.

Subpart 1K(5): This subcategory is added to cover soft tissue loss at the end of the digit. This subcategory is also added to subpart 1L, M, N and O, with the rating percentages adjusted relative to the worth of the digit.

Subpart 1L(1): (Old 5223.0080 L(1)). The rating percentage is reduced to reflect the recommendations of the AMA.

Subpart 1L(2): (Old 5223.0080 L(2)). The rating percentage is reduced to reflect the recommendations of the AMA.

Subpart 1N(3): The percentage is reduced to reflect current AMA recommendations.

Subpart 1N(4): (Old 5223.0080 N(4)). The rating percentage is reduced to reflect the recommendations of the AMA.

Subpart 1O(1): (Old 5223.0080 O(1)). The rating percentage is increased to reflect the recommendations of the AMA.

Subpart 1O(2): (Old 5223.0080 O(2)). The rating percentage is increased to reflect the recommendations of the AMA.

Subpart 1O(3): (Old 5223.0080 O(30)). The rating percentage is increased to reflect the recommendations of the AMA.

Subpart 1O(4): (Old 5223.0080 O(4)). The rating percentage is increased to reflect the recommendations of the AMA.

Part 5223.0550 (Old 5223.0150) MUSCULOSKELETAL SCHEDULE; AMPUTATIONS OF LOWER EXTREMITIES.

Subpart 1A: (Old 5223.0150 A). The term "hemipelvectomy" is replaced with an anatomically specific definition.

Subpart 1D: (Old 5223.0150 D). The definition is made anatomically specific.

Subpart 1E: (Old 5223.0150 E). The rating percentage is reduced based upon the recommendations of the AMA.

Subpart 1F: (Old 5223.0150 F). The rating percentage is reduced based upon the recommendations of the AMA.

Subpart 1G: (Old 5223.0150 G). The definition is made anatomically specific.

Subpart 1H: (Old 5223.0150 H). The rating percentage is reduced based on the recommendation of the AMA.

Old 5223.0150, item I: This item is deleted as no longer relevant. The current procedure is described under item 1H.

Part 5223.0560 (Old 5223.0180) RESPIRATORY.

Subpart 1: Changes are made to the language specifying the type of evaluation which must be done to determine impairment of the respiratory system. Specifically, the following requirements are deleted:

(Old subpart 1A): Any proper medical evaluation of the respiratory system is going to include a history and physical examination, so this is redundant and irrelevant.

(Old subpart 1B): Though a chest x-ray is required for evaluation under the current schedule, this information is not used in any way. Whether a chest x-ray is done or not should depend upon the physician's discretion and be based upon the requirements of diagnosis and treatment. The information is not used in the determination of permanency and is therefore, not needed here.

(Old subpart 1C): The reference to hematocrit or hemoglobin determination is deleted. This is done for the same reasons as in (old subpart 1B) above.

(Old subpart 1D): The reference to electrocardiogram is deleted for the same reason as in (old subpart 1B) above.

(Old subpart 1E(1) through (3)): The definitions of FEV1 and FVC are deleted in this subpart since they appear in updated form in 5223.0310. Cross-references are added to alert the reader to the updated definitions.

(Old subpart 1F): The instructions on the use of vital capacity studies is removed. The physician should use clinical judgment on the suitability of the test and consider the results along with the results from tests of ventilation in choosing the appropriate disability category.

Subpart 1B: A new paragraph is added specifying the conditions under which cardiopulmonary exercise testing should be done. Cardiopulmonary exercise testing is defined in 5223.0310 and a cross-reference is provided.

Subpart 2: Table 1 in the current 5223.0180 is deleted. Symptoms are no longer used as a basis for rating respiratory impairment. Symptoms are completely subjective and not capable of objective verification by the rater. Pulmonary function testing or cardiopulmonary exercise testing are the only bases for rating respiratory impairment in the new schedule. These provide measurements which are subject to validation by the rater as well as being relevant measures of the function of the respiratory system. Five classes of impairment are defined which correspond roughly to the five levels of impairment found in the current schedule. Each class of impairment is defined by the results on FEV1, FVC, and DCO testing as well as by the results of cardiopulmonary exercise testing. The initial rating is to be done on the basis of FEV1, FVC, and DCO testing. If, in the opinion of the rater, the percentage impairment derived from the FEV1, FVC, and DCO does not accurately reflect the impairment, cardiopulmonary exercise testing should be done, and the VO2 max used to determine a final percentage impairment. If, in the opinion of the rater, the FEV1, FVC and DCO accurately reflect the impairment, then cardiopulmonary exercise testing is not necessary.

Subpart 2A: The minimum FEV1, FVC and DCO considered to be normal is lowered from 85 percent of predicted to 80 percent of predicted. This represents the opinion of the MSRB and is based on the recommendations of the AMA.

Subpart 2B: The percentage impairment of the class 2 is lowered from 15 to 10 percent. This is based upon the MSRB's opinion of the relative impairment due to this class of respiratory condition versus the other classes of respiratory conditions. The criteria for class 2 are set at 70 to 80 percent of predicted for FEV1, FVC and DCO, and from 22 milliliters per kilogram per minute to 25 milliliters, per kilogram per minute for VO2. The lower threshold for class 2 (70% of predicted) is the same as that for the second level of impairment in the current 5223.0180. The upper threshold represents the adjustment of the minimum pulmonary function considered normal as referenced in class 1. The criteria range for the VO2 max is based on the MSRB's opinion and the recommendation of the AMA.

Subpart 2C: The rating percentage for the third level of impairment is reduced from 30 percent to 25 percent. This reflects the MSRB's opinion of relative impairment, especially in light of the fact that the criteria for class 3 are narrower than the third level of impairment in the current 5223.0180, with a higher minimum. The lower threshold is set at 60 percent of normal instead of 50 percent of predicted. The upper threshold remains at 70 percent of predicted. The VO2 max has a lower threshold of 19 milliliters, per kilogram per minute with the upper threshold being 22 milliliters, per kilogram per minute. The criteria level for VO2 max represents the opinion of the MSRB based upon the recommendations of the AMA.

Subpart 2D: A new class 4 is introduced with an upper criteria level of 60 percent of predicted which is in the middle of the range of the third level of impairment in the old 5223.0180, and a lower criteria level of 40 percent of predicted which is in the middle of the fourth level of impairment of the current 5223.0180. This class is given a percentage impairment of 50 percent based upon the MSRB's opinion of relative impairment. The VO2 max criteria have a lower level of 15 milliliters, per kilogram per minute and an upper level of 19 milliliters, per kilogram per minute based upon the MSRB's opinions and the recommendations of the AMA.

Subpart 2E: A new class 5 is introduced with a lower criteria level of 30 percent of predicted and an upper criteria level of 40 percent of predicted which are within the fourth level of impairment of the current 5223.0180. This class is given a percentage impairment of 75 percent which is greater than the 60 percent given for the fourth level of impairment under 5223.0180. This is based upon the MSRB's opinion of relative impairment. The VO2 max criteria have a lower limit of 7 milliliters, per kilogram per minute and an upper limit of 15 milliliters, per kilogram per minute. These are based upon the MSRB's opinion and the recommendations of the AMA.

Subpart 2F: The percentage impairment of the last level of impairment is raised from 85 percent to 95 percent. This is based upon the MSRB's opinion of relative impairment. The upper criteria limit for this class of impairment is raised from 25 percent of predicted to 30 percent of predicted. This is based upon the MSRB's opinion and the recommendations of the AMA. The VO2 max criteria shows an upper level of 7 milliliters, per kilogram per minute. This is based upon the MSRB's opinion and the recommendations of the AMA.

Subpart 3: The current criteria for asthma ratings are deleted. The criteria for rating asthma formerly required six hospitalizations in 12 months. It was the opinion of the MSRB that this situation could only occur if the employee received severely substandard medical care or suffered from nearly fatal asthma. Both situations represent an inappropriate basis on which to determine impairment for legitimate cases of asthma. A new rating scheme is proposed which takes into account the level of static bronchial obstruction measured by pulmonary function tests, the level of bronchial hyperresponsiveness as measured by standardized methacholine challenge testing, and the need for chronic bronchodilator therapy for control of symptoms. Fifteen classes of impairment due to asthma are created by the combination of these factors. The range of percentage impairment for asthma is the same as the range for percentage impairment for other conditions of the respiratory system under subpart 2, i.e., 0 to 95 percent. The classes are derived from the rating scheme for asthma described in Chest, Vol. 98 Supp., Compensation for Occupational Asthma in Quebec, Jean-Luc Malo, pages 2365 - 2395, 1990 as modified by the MSRB to reflect their opinion of the relative impairments involved.

Subpart 3C: An additional impairment is allowed in cases of asthma where the bronchodilator therapy includes chronic steroid use. The additional impairment is due to the severe systemic side effects of steroids. The total impairment, however, cannot exceed 95 percent.

Part 5223.0570 (Old 5223.0190) ORGANIC HEART DISEASE.

Subpart 2: (Old 5223.0190, subpart 2). The old 5223.0190, subpart 2 is deleted in its entirety. (Old 5223.0190, subpart 2 introductory paragraph). This language concerning testing for organic heart disease is deleted since the physician should use clinical judgment in medical testing. Specific tests necessary for substantiating particular disabilities are indicated in subpart 2 and 3. A history and physical examination are necessary for every proper rating, but need not be stated here.

(Old 5223.0190, subpart 2 table). Symptoms are no longer used as the basis for rating organic heart disease impairment. First, a new category for myocardial infarction is added (see new subpart 2 below). Second, subpart 3 which is analogous to the table of subpart 2 now references only objective findings or stress testing. Symptoms as used in the old subpart 2 are completely subjective and not capable of objective verification.

Subpart 2A: A new category is added for myocardial infarction. It is a medical fact that myocardial infarction leads to the death of heart tissue and the formation of scar. The scar results in alterations of cardiac function which may not be detectable with current medical technology. Therefore, a percentage impairment of 5 percent is given for uncomplicated myocardial infarction whether or not there are detectable changes in cardiac function on exercise stress testing. If there are changes on exercise stress testing, any percentage impairment due to those changes is to be combined with the percentage impairment for myocardial infarction. The myocardial infarction must be documented by objective evidence which is listed in the category.

Subpart 3: New categories are used to define exercise limitation. The major function of the heart is to deliver blood to the organs of the body as needed to maintain the function of

those organs at different levels of stress. One of the major stresses on the heart is the delivery of blood in increasing amounts to meet the demands of increasing levels of muscular exertion. This critical function is measured in the medical setting by the use of exercise stress tests with or without the use of nuclear isotopes. The most commonly used standardized exercise stress test is chosen in this subpart for the rating of exercise limitations. Seven subcategories of exercise limitation are used to fully characterize functional limitations due to cardiac problems. For each level of impairment criteria, levels are given in terms of VO2 max and changes in electrocardiogram, blood pressure or physical findings. The lowest level of exercise limitation (i.e., the least limitation) is given a percentage impairment of 0 percent, while the highest level of limitation (i.e., the most limited state) is given a percentage impairment of 95 percent. This is in comparison to a range in the current 5223.0190 of 0 to 85 percent. The percentage impairments at each level of limitation are based on the MSRB's opinion of the relative impairment involved and the recommendations of the AMA.

Part 5223.0580 (Old 5223.0200) VASCULAR DISEASE AFFECTING EXTREMITIES.

The current 5223.0200 is deleted in its entirety. A completely new system for rating vascular disease of the extremities is introduced. The new schedule replaces the current more subjective schedule. The proposed rule is based on the consensus opinion of the MSRB. Part 5223.0200, item A had a table of ill-defined categories which was difficult to apply effectively and consistently. It did not recognize that edema and ulceration can occur in the upper extremity. Furthermore, it treated unilateral and bilateral problems as being equally impairing in all cases. And finally, it did not correlate the impairment due to ulceration secondary to vascular disorders, a condition of the skin, with the impairments due to primary skin disorder under 5332.0230.

The new system recognizes two generally applicable categories of impairment: ulceration and edema. Ulceration is handled in exactly the same fashion as any other skin disorder and edema is rated according to the specific limits involved. The new system also recognizes two categories of impairment limited to specific limbs as it would occur in actual clinic settings: intermittent claudication in the lower extremities and Raynaud's phenomenon in the upper extremities.

The condition resulting in the greatest permanency is the appropriate condition for rating the entire disability, since while in any given limb up to three manifestation of vascular disease can occur (in the upper extremity: edema, ulceration, and Raynaud's phenomenon, in the lower extremity: edema, ulceration, and intermittent claudication), each of these manifestations derives from the same condition (vascular compression). Therefore, the two lesser manifestations would not add any physical impairment beyond that created by the greater manifestation.

Subpart 1: Introductory language explains that this part is to be used for any impairment of the vascular system including abnormalities of the arteries, veins, and lymphatics. For any of these disorders, the impairment depends upon the presence of (1) persistent ulcerations, (2) persistent edema, (3) intermittent claudication with use of the affected member, and (4) Raynaud's Phenomenon with exposure to varying levels of ambient cold temperatures. For any condition, all four of these end points are to be measured and rated. The final percentage impairment is the largest percentage impairment found when rating all four of these end points.

If, however, the vascular condition resulted in an amputation, then the amputation is to be rated under 5223.0540 or 5223.0550 and that is to be the sole rating for the vascular impairment to the amputated member. If, however, only part of a member is amputated and the remainder of the member continues to suffer impairment due to ulceration, edema, intermittent claudication, or Raynaud's Phenomenon because of the vascular disorder then both the amputation and the vascular disorder, are to be rated and these ratings combined for a final percentage impairment. This rating method represents the true impairment, guarding against underrating or overrating the condition.

Subpart 2: The rating of impairment for ulceration is located in part 5223.0640. Therefore, a cross-reference is given to 5223.0640 where the rating of skin disorders is detailed.

Subpart 3: New categories are added for the rating of persistent edema. Objective criteria for the diagnosis of the vascular disorder are given in the introductory language. Four categories of impairment due to edema are given beginning with (A) no edema or edema completely controlled by treatment and ending with (D) persistent severe edema that is completely untreatable. Each subcategory is given a percentage value of the extremity which is then multiplied by the value of the involved extremity to determine the final rating for edema. For purposes of this subpart, an upper extremity is considered to be worth 60 percent of the whole body, and a lower extremity to be worth 40 percent of the whole body. These are the ratings per extremity in the current schedule. If more than one extremity is involved, then each extremity is to be rated separately as the specified percentage of 40 or 60 percent, and the ratings combined to determine the final rating under this subpart.

Subpart 4: New categories are introduced for the rating of intermittent claudication. Objective criteria for organic disease of the vascular system are given in the introductory language. The category specifies that the impairment for intermittent claudication is the same whether one or both of the lower extremities is involved and is determined by the most severely affected extremity. Four subcategories of impairment are given beginning with (A) no claudication or claudication completely controlled by treatment, and progressing to (D) claudication occurring at rest. This subpart is to be used only for impairments of the arterial system in the lower extremities.

Subpart 5: New categories are introduced for the rating of Raynaud's Phenomenon. This subpart is only for use with arterial disorders of the upper extremity since Raynaud's Phenomenon is of the upper extremity only. Objective criteria for arterial disorders are listed in the introductory paragraph. Four subcategories of impairment are listed progressing from Raynaud's Phenomenon controlled by treatment to Raynaud's Phenomenon occurring at temperatures lower than 20 degrees centigrade (68 degrees Fahrenheit) despite treatment.

Subpart 6: A new category is added for surgical alterations of the arteries, veins or lymphatics. This category specifies that unless the surgical alteration or removal of an artery, vein or lymphatic results in one of the four conditions used to rate vascular impairment in this part, the percentage impairment will be 0 percent.

Part 5223.0590 (Old 5223.0210) GASTROINTESTINAL TRACT.

Old 5223.0210, Subpart 1: The introductory language specifying the type of medical evaluation that must be done to rate impairment is deleted (see discussion under 5223.0560).

Subpart 2A(2): (Old 5223.0210, subpart 2A(2)). The reference to surgical procedures is removed since therapy does not create an impairment unless there is a functional loss. Functional loss is already accounted for by the categories in subpart 2.

Subpart 2C(2): A new category is added to rate impairment due to the need for chronic intravenous hyperalimentation. The percentage impairment chosen is based upon the MSRB's opinion of the relative impairment involved due to this disorder compared to other disorders of the gastrointestinal tract.

Subpart 2E: A new category is added for surgical removal or alteration of any part of the upper digestive tract. The percentage impairment is to be 0 percent unless the surgical removal or alteration of the part results in a loss of function. The loss of function is rateable by the other categories of subpart 2. This is based on the MSRB's opinion that treatment and surgery should not necessarily result in impairment unless they result in a functional loss.

Subpart 3: (Old 5223.0210, subpart 3). New language is added to specify that fiber supplements are not to be considered a special diet or a restriction of diet for the purposes of rating conditions under this subpart.

Subpart 3E: A new category is added for surgical removal or alteration of the colon or rectum. (see discussion under subpart 2E).

Subpart 4: (Old 5223.0210, subpart 4). All of the categories of subpart 4 are changed to show that they can be used to rate dysfunction of the anus due to either organic disease of the anus or neurologic lesions which interfere with anal function. The etiology of the anal dysfunction is not what creates the impairment, but rather the loss of function itself. This change is also necessary to make it compatible with the changes in the rating of spinal cord impairments, which refers to this subpart.

Subpart 5A(1): (Old 5223.0210, subpart 5A(1)). The biochemical studies used to determine impairment of the liver are precisely specified as well as the criteria levels of those biochemical studies. This aids the user in applying the schedule.

Subpart 5B: (See discussion under subpart 5A).

Subpart 5E: (See discussion under subpart 2E).

Subpart 6E: (See discussion under subpart 2E).

Subpart 7: A new subpart is added to rate impairments due to enterocutaneous fistulas. These are not rated under 5223.0210, but do create a functional loss in the opinion of the MSRB. Five subcategories of fistula are used based upon precise anatomic specifications. The

percentage impairments are based upon the opinion of the MSRB and the recommendations of the AMA.

Part 5223.0600 (old 5223.0220) REPRODUCTIVE AND URINARY TRACT SCHEDULE.

Subpart 1: (Old 5223.0220, subpart 2). The language detailing the kind of examination that must be done is deleted (see discussion under 5223. 0340 and 5223.0560).

Subpart 2A: (Old 5223.0220, subpart 3A). This category is rewritten to clarify that it covers all situations in which there is the loss of a single kidney as the only impairment to the urinary tract. If the loss of a single kidney occurs in combination with an alteration in upper urinary tract function as specified in subpart 2B through E, then the condition is to be rated under one of those categories and that percentage impairment added to the 10 percent under subpart 2A to fully rate the impairment.

Subpart 2B through E: (Old 5223.0220, subpart 3B through E). The references to age and sex adjusted normal values for creatinine clearance are removed. They are replaced with specific quantitative criteria for creatinine clearance. These are based upon the MSRB's opinion of the relative impairments and the AMA recommendations.

Subpart 2E(2): A new category is added to provide for percentage impairment when both kidneys are lost, when chronic hemodialysis is required, or when kidney transplantation is required. The percentage impairment is based upon the MSRB's opinion of the relative impairment involved.

Subpart 2F: (See discussion under 5223.0590, subpart 2E).

Subpart 3: (See discussion under 5223.0590, subpart 4).

Subpart 3E: (See discussion under 5223.0590, subpart 2E).

Subpart 4: New categories are added for the rating of urinary diversions. (See discussion under 5223.0590, subpart 7).

Subpart 6B through D: (Old 5223.0220, subpart 6B through D). The categories are rewritten with increased anatomic and functional specification to reduce ambiguity in application and the percent of permanent partial disability adjusted to reflect the revised content of the categories and in comparison to other conditions. The minimum and maximum percent remain unchanged.

Subpart 9: (Old 5223.0220, subpart 9) (See discussion under subpart 6 above).

Part 5223.0610 HEMATOPOIETIC.

A new part is added to provide for rating the percentage impairment due to disorders of the hematopoietic system. For purposes of evaluation, the hematopoietic system is divided into red blood cells, platelets and white blood cells. For any condition resulting in an impairment

of the hematopoietic system, the red blood cells, platelets, and white blood cells are to be evaluated separately and the percentage impairments derived from those evaluations are to be combined.

Subpart 2: Two categories are added for abnormalities of the red blood cells. The first category covers conditions in which there is a loss of the usual number of red blood cells (anemia). This loss must be substantiated by objective tests and uncorrectable by appropriate and persistent treatment before it can be rated. The other category is for conditions in which there is an abnormal increase in the number of red blood cells. Again, this must be substantiated by objective tests and persistent after 12 months of continuous treatment. In addition, the abnormal elevation of red blood cells cannot be related to a condition rated under 5223.0560 through 5223.0580. The ratings under those parts already take into account any change in the numbers of red blood cells and rating the change in red blood cells again in this part would result in a double rating.

Subpart 2A: Six levels of impairment for anemia are specified. These levels are characterized by the grams of hemoglobin per 100 milliliters of blood. The percentage impairment assigned to each level of anemia is based upon the MSRB's opinion of the relative impairment caused by anemia in comparison to other impairments of the whole body.

Subpart 2B: Three levels of impairment are specified for erythrocytosis. These are characterized by the frequency of treatment required to keep the hemoglobin less than 18 grams per 100 milliliters. The percentage impairments are based upon the MSRB's opinion of relative impairment.

Subpart 3: Two categories for disorders of platelets are added. The first category deals with conditions in which there is a lack of platelets. The second category specifies that impairment to any other body organs or body parts directly resulting from hemorrhage due to lack of platelets is to be rated as provided in the appropriate parts of the schedules. Those ratings can be combined with each other and with the ratings under this subpart.

Subpart 3A: Four levels of impairment for lack of platelets are added. These levels of impairment are based on the numbers of platelets and the risk of hemorrhage with activity. The percentage impairments are based on the MSRB's opinion of the relative impairments involved.

Subpart 4: A subpart for white blood cell disorders is added. This is for conditions which result in a lack of white blood cells. The lack of white blood cells must be substantiated by objective tests and persistent despite appropriate treatment.

Subpart 4A: Five levels of impairment for lack of white blood cells are added. These levels of impairment are based upon the risk of infection and the frequency of medical care for opportunistic infection due to lack of white blood cells. The percentage impairments are based upon the MSRB's opinion of relative impairment.

Subpart 5: A new category for surgical removal or alteration of the spleen is added. Any surgical removal or alteration of the spleen is rated at 0 percent unless it results in an abnormality of red blood cells, white blood cells, or platelets which is otherwise rateable under

this part. Removal of the spleen alone does not result in permanent impairment.

Part 5223.0620 ENDOCRINE.

A new part is added for providing percentage impairment for disorders of the endocrine system.

Subpart 1: Introductory language is added specifying that any impairment to other body parts or organs directly resulting from endocrine disorders are to be rated as provided in the appropriate parts and these ratings can be combined with each other and any ratings under this part for the underlying endocrine disorder. Each of these ratings is separate and distinct. Since the combinable categories have not already been discounted as add-on ratings, the statutory combining formula must be applied.

Subpart 2: A category is added for rating percentage impairment due to lack of thyroid hormone. The lack of thyroid hormone must be substantiated by objective tests and must persist for at least 12 months. Two levels of impairment are added based upon whether signs and symptoms of thyroid dysfunction resolve with replacement treatment. The percentages assigned are based upon the MSRB's opinion of the relative impairments involved.

Subpart 3: A category is added for lack of parathyroid function. Again, this must be substantiated by objective medical tests. Two levels of impairment are added based upon the serum calcium level after replacement therapy. The percentage impairments are based upon the MSRB's opinion of the relative impairments involved.

Subpart 4: A category is added for lack of adrenal function. This, again, must be substantiated by medical tests and be persistent. Two subcategories are specified depending upon whether signs and symptoms of adrenal dysfunction can be controlled with replacement therapy. The percentages assigned are based upon the MSRB's opinion of relative impairments involved.

Subpart 5: A category is added for lack of insulin. This must be substantiated by medical tests and be persistent. Four subcategories of impairment are used based on the control of the signs and symptoms of a lack of insulin, with diet and/or medication. The percentage impairments assigned are based upon the MSRB's opinion of the relative impairments involved.

Part 5223.0630 SKIN DISORDERS.

No substantive changes are made to the current 5223.0230.

Part 5223.0640 (Old 5223.0240) HEAT AND COLD INJURIES.

This part is expanded to cover all kinds of heat injuries and, in addition, cold injuries. This is the only part of the schedule which references the cause (heat or cold) of the impairment. This is done because of the unique changes in the integumentary system caused by heat and cold.

Subpart 1: New introductory language specifies the various kinds of heat and cold

injuries which are rateable under this part. The list is intended to be exhaustive; it is not meant to exclude certain causes of heat or cold intolerance. The introductory language also specifies that the impairment is not always directly equal to the percentage of total body surface area involved. However, the percentage of total body surface area involved is used in some items to categorize levels of impairment. Where the condition is either present or absent regardless of the percentage of body surface area affected, the percent of body surface area affected is not considered. An example is cold intolerance described in subpart 2B(2).

Subpart 1A: Explicit instructions are provided that any impairments to other body parts or organs other than as provided in this part and resulting from a heat or cold injury are to be rated as provided in the appropriate parts of the schedule. Those ratings can be combined with each other and with any ratings under this part for a final rating of impairment without any occurrence of double-rating.

Subpart 2B: (Old 5223.0240, subpart 2B). The subcategorization of cold intolerance is changed to eliminate the unnecessary references to multiple parts (old 5223.0240 Subpart 2B(30 and (5)). In addition, a new subitem (d) is added to provide a percentage of impairment for cold intolerance of the foot. This was not rated under the old 5223.0240, but burn injuries and cold injuries to the feet do result in significant cold intolerance which is impairing. The percentage impairment is based on the MSRB's opinion of the relative impairment compared to other conditions of the foot.

Subpart 2B(2): A new category is added for individuals with complaints of cold intolerance with a history of a heat or cold injury, but without any scar or skin grafting. This is rated at a total of 2 percent no matter what areas are affected and no matter what percentage of the total body surface area is affected. In this instance, the impairment is evidenced by the presence of the condition rather than the body surface area affected.

Subpart 2C: (Old 5223.0240, subpart 2C). Additional language is added to the category specifying that it can only apply in cases where the initial burn injury involved at least 50 percent of the body surface area. This is based on the MSRB's opinion that systemic heat intolerance does not occur in cases where less than 50 percent of the total body surface area has been damaged by heat injury.

Subpart 2D: (Old 5223.0240, subpart 2D). Additional language is added to the category to indicate that it may be used not only for sensitivity to sun exposure but also to local sensitivity to heat. The subcategorization of sun/heat sensitivity is changed to eliminate unnecessary references to multiple parts (old 5223.0240, Subpart 2D (3) and (5)) and to add subcategories for sun/heat sensitivity in usually unexposed areas of the body. The new ratings are more complete.

Subpart 2D(4) through (6): Three new subitems are added to provide percentage impairment for sensitivity to sun exposure or local heat sensitivity in areas of the body other than the hands and face. These impairments are not rateable under the current 5223.0240.

Subpart 2F: (Old 5223.0240, subpart 2F) This category is rewritten to specifically rate impairment due to nondermatomal sensory loss rather than specifically referencing the

underlying cause of the loss. The clarifications aid the schedule users in its application.

Subpart 2F(1): Any loss of sensation due to nerve injury is to be rated as provided in 5223.0410 and/or 5223.0430.

Subpart 2F(2): Any loss of sensation in the digits of any etiology is to be rated as provided in 5223.0410.

Subpart 2F(3) through (5): All other nondermatomal sensory losses are to be rated by this subpart. Three levels of impairment are used based upon the total body surface area involved. The percentage impairments assigned are based upon the MSRB's opinion of the relative impairments involved.

Part 5223.0650 (Old 5223.0240, Subpart 4) COSMETIC DISFIGUREMENT.

The categories for the rating of impairment due to cosmetic disfigurement are given a part of their own to indicate that these categories are now applicable in any condition of any etiology or origin that results in cosmetic disfigurement. Under the current 5223.0240, these categories were only applicable in cases of burn. The etiology does not create the impairment, but rather the outcome. A mechanical injury to the face can be as disfiguring as a burn, the disfigurement should be rated, not the etiology. Additional categories are added to rate permanent disfigurement impairments not currently included in chapter 5223. The new schedule more completely rates and, therefore, compensation for permanent disfigurement.

Subpart 2B(3): A new category is added for deforming fracture of the nose. The percentage assigned is based upon the MSRB's opinion of the relative impairment involved.

Subpart 2E(2): A new category is added for loss of less than 75 percent of an ear or significant scarring or disfigurement of an ear. The percentage assigned is based upon the MSRB's opinion of the relative impairment involved.

Subpart 2F(1): A new category for deforming fractures of the facial skeleton other than the nose is added. The percentage assigned is based upon the MSRB's opinion of relative impairment.

Subpart 2F(4): A new category with four subcategories is added for linear scarring of the face. The percentages assigned are based upon the MSRB's opinion of the relative impairments involved.

Subpart 6: New categories are added for disfigurements of areas other than the face, head, anterior neck and hand.

Subpart 6A: New categories are added for loss of volume of female breast tissue. The percentages are based upon the MSRB's opinion of the relative impairment involved.

Subpart 6B: A category is added for the loss of a nipple. This applies to either males or females. The percentage impairment represents the MSRB's opinion of the relative

impairment involved.

Subpart 6C: A category is added for all other disfigurements not otherwise referenced in this part. Four subcategories are used based upon the total body surface area involved with disfigurement. Disfigurement is defined in the category as a visible loss of tissue or hypertrophic scarring or visible pigment changes. The percentages assigned are based upon the MSRB's opinion of the relative impairments involved.

IV. Impact on Small Businesses

The Commissioner has considered the potential impact of these rules on small businesses to the extent required by Minnesota Statutes, section 14.115. Insurers, self-insured employers, and health care providers who rate permanent partial disability may be affected by these rules. Self-insured employers and insurers are not small businesses within the meaning of Minnesota Statutes, section 14.115, subdivision 1. Health care providers who rate permanent partial disability, generally medical doctors and chiropractors, are service businesses regulated by government bodies for standards and costs as described in Minnesota Statutes, section 14.115, subdivision 7. Minnesota Statutes, section 14.115 thus does not apply to these health care providers. The Commissioner has, therefore, not considered methods for reducing the impact of these rules on the classes of persons who may be affected by them. The rules are designed, however, to assist health care providers in appropriately rating permanent partial disability due to work-related injuries, and to reduce the need for litigation.

V. Fiscal Impact on Local Public Bodies

The Commissioner has considered the fiscal impact of these rules on local public bodies pursuant to Minnesota Statutes, section 14.11, subdivision 1 and has found none. No additional financial burdens are placed on local public bodies, as the adoption of these rules will not require any additional expenditure of public money by local public bodies. The compensation payable as a result of the rules are required by Minnesota Statutes, section 176.105, subdivision 4 to be based on the benefit levels which existed on January 1, 1983.

VI. Effect on Spanish Speaking People and Agricultural Land

The rule does not affect Spanish speaking people under Minnesota Statutes, section 3.9223, subdivision 4 or agricultural land under Minnesota Statutes, section 14.11, subdivision 2.

Witnesses and Staff Presenters

The Department may call the following individuals as witnesses or staff presenters in a rule hearing on this matter: Dr. William Lohman, Medical Consultant to the Department of Labor and Industry; Susan E. Witcraft, Actuary, Milliman and Robertson, Inc.; past and present members of the Medical Services Review Board created by Minnesota Statutes, section 176.103, subdivision 3; Gloria Gebhard, Medical Policy Analyst, Department of Labor and Industry; James Vogel, Workers' Compensation Specialist Senior; Linda Clark, former compensation attorney, Department of Labor and Industry; and Penny Johnson, Assistant General Counsel,

Department of Labor and Industry. The Department also reserves the right to call the Commissioner of the Department of Labor and Industry and his appointees as staff presenters.