



GUIDELINES FOR THE ASSESSMENT OF PERMANENT IMPAIRMENT

FOR USE WHEN ASSESSING IMPAIRMENT UNDER THE
*WORKERS REHABILITATION & COMPENSATION ACT 1988 AND
THE ASBESTOS-RELATED DISEASES (OCCUPATIONAL EXPOSURE)
COMPENSATION ACT 2011*

WorkCover Tasmania

Guidelines for the Assessment of Permanent Impairment Under the *Workers Rehabilitation and Compensation Act 1988*

Explanatory Note

The *Workers Rehabilitation and Compensation Amendment Act 2000* (the Amendment Act 2000), which commenced on 1 July 2001, made a number of significant amendments including the introduction of a new method of assessing permanent impairment using the concept of impairment of the whole person in lieu of the Table of Maims approach. It should be noted that the Table of Maims applies for injuries that occurred prior to 1 July 2001.

The *Workers Rehabilitation and Compensation Act 1988* (the Act) provides for the payment of lump sum compensation to a worker who suffers a permanent impairment resulting from a work-related injury. The assessment of the degree of permanent impairment is to be made in accordance with guidelines issued by the WorkCover Tasmania Board.

These Guidelines are issued pursuant to section 72(1)(a) of the Act. They use the American Medical Association Guides to the Evaluation of Permanent Impairment (Fourth Edition, Third Printing) 1995 (“AMA 4 Guides”) as their basis. The AMA 4 Guides are used as a source for the assessment of permanent impairment. The WorkCover Tasmania Guidelines make significant changes to the AMA 4 Guides to align them with Australian clinical practice and to better suit them to the purposes of the Act.

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Chairperson
WorkCover Tasmania Board
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Disclaimer

The information in this guideline is provided for guidance purposes only and is not to be taken as a comprehensive statement of the law. It should be read in conjunction with the *Workers Rehabilitation and Compensation Act 1988*. Copies of the legislation can be purchased from Print Applied Technology: call (03) 6233 3289 or freecall 1800 030 940. It is also available on the Internet at www.thelaw.tas.gov.au. Neither the authors of the guideline nor WorkCover Tasmania accepts no liability whatsoever, to any person for the information (or for the consequences of the use of such information or for any other purpose whatsoever) which is provided in this guideline or incorporated into it by reference. The information in this guideline is provided on the basis that all persons having access to it undertake responsibility for assessing the relevance and accuracy of its content.

Foreword

The *Workers Rehabilitation and Compensation Act 1988* (the Act) provides for the payment of lump sum compensation to a worker who suffers permanent impairment as a result of a work-related injury. Lump sum compensation may only be awarded where the degree of whole person impairment (WPI) is at least 5% in the case of physical injury other than an injury involving the loss of a finger or toe, and at least 10% in the case of psychiatric impairment. In the case of industrial deafness, lump sum compensation may only be awarded where the level of binaural hearing impairment exceeds 5%. In addition, there is a threshold on access to common law damages based on the degree of WPI. For injuries suffered prior to 1 July 2010, a worker must have a WPI of 30% or more to access common law damages. For injuries suffered on or after 1 July 2010, the threshold for access to common law damages is 20% WPI or more.

The Act provides that the assessment of the degree of permanent impairment is to be made in accordance with guidelines issued by the WorkCover Tasmania Board, or if no applicable guidelines have been issued, the American Medical Association Guides to the Evaluation of Permanent Impairment (Fourth Edition, Third Printing) 1995 (AMA 4 Guides).

These Guidelines have been issued in accordance with section 72(1)(a) of the Act. They are largely based upon the AMA 4 Guides as these Guides are widely used as an authoritative source for the assessment of permanent impairment. However, these Guidelines make a number of significant changes to and departures from the AMA 4 Guides to take account of Australian clinical practice and the purposes of the Act. In particular, these Guidelines provide a different mechanism for the assessment of psychiatric impairment. Another significant departure is that these Guidelines provide for the AMA 5 Guides to be used for the purpose of assessing whole person impairment for respiratory diseases and as such reference to the respiratory chapter (chapter 5) of the AMA 5 Guides will be required for these assessments.

It should also be noted that these Guidelines apply to assessing whole person impairment under the *Asbestos – related Diseases (Occupational Exposure) Compensation Act 2011*.

First Edition

The first edition of these Guidelines was developed by modifying the NSW Motor Accidents Authority - Assessment of permanent impairment of a person as a result of a motor vehicle accident - March 2000. The group who initially developed the first edition of these Guidelines comprised Dr Robert Walters, Dr Tim Stewart, Dr Peter Sharman and Dr Ian Sale, with valuable input from the various medical colleges, individual practitioners and other stakeholder groups.

Second Edition

The first edition was reviewed in 2009 by a working party comprising Dr Dwight Dowda, Dr Andreas Ernst, Dr Ian Sale, Dr Peter Sharman and Dr Tim Stewart, resulting in the development of a second edition. The second

edition applied to assessments of the degree of impairment that occurred during the period 1 April 2011 until 30 September 2011.

Appendix 2: Template for Report on Impairment

To standardise reporting, a 'Template for Report on Impairment' was included in the second edition of these Guidelines. Reports on impairment need to provide sufficient detail and clarity on the assessment methodology and findings obtained. For this reason the approved template is to be used when preparing reports and is included in Appendix 2 of these Guidelines. An electronic copy of the template can be downloaded from the WorkCover website at www.workcover.tas.gov.au

Third Edition

The second edition of the Guidelines was reviewed in 2011 by Dr Dwight Dowda, resulting in expansion of the respiratory chapter of the Guidelines to incorporate the AMA 5 approach.

On (insert date) the WorkCover Tasmania Board approved the third edition of the Guidelines and agreed that this version will apply to all assessments undertaken on or after 1 October 2011 and to all asbestos related diseases that fall under the jurisdiction of the *Asbestos Related Diseases (Occupational Exposure Compensation Act)*.

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Chapter 1

Introduction to the WorkCover Tasmania Guidelines

Introduction

1.1 These Guidelines have been developed in accordance with section 72(1)(a) of the *Workers Rehabilitation and Compensation Act 1988* (the Act), for the purpose of assessing the degree of permanent impairment arising out of a work-related injury.

1.2 These Guidelines are based on the American Medical Association publication “Guides to the Evaluation of Permanent Impairment”, 4th Edition, 3rd Printing (1995) (AMA 4 Guides). However, in these Guidelines there are some very significant departures from that document. Medical assessors undertaking impairment assessments for the purposes of the Act must read these WCT Guidelines in conjunction with the AMA 4 Guides (or in the case of respiratory diseases the AMA 5 Guidelines).

These WCT Guidelines are definitive with regard to the matters they address. Where they are silent on an issue, the AMA 4 Guides should be followed. In particular, Chapters 1 and 2 of the AMA 4 Guides should be read carefully in conjunction with this Chapter of the WCT Guidelines. Some of the examples in AMA 4 are not valid for the assessment of impairment under the Act. It may be helpful for medical assessors to mark their working copy of the AMA 4 Guides with the changes required by these WCT Guidelines.

1.3 The convention used in these Guidelines is that if the text is in bold, it is a directive as to how the assessment is performed.

Definition of disease and injury

1.4 As defined in the *Workers Rehabilitation and Compensation Act 1988*:

"disease" means any ailment, disorder, defect, or morbid condition, whether of sudden or gradual development;

"injury" includes:

(a) a disease; and

(b) the recurrence, aggravation, acceleration, exacerbation or deterioration of any pre-existing injury or disease where the employment was the major or most significant contributing factor to that recurrence, aggravation, acceleration, exacerbation or deterioration;

Causation of permanent impairment

1.5 An assessment of a degree of impairment is to be undertaken in accordance with section 72 of the Act, and in the case of an asbestos-related disease, in accordance with section 46 of the *Asbestos Related Diseases (Occupational Exposure) Compensation Act 2011* after 1 October 2011. The assessment should determine the permanent impairment of the injured worker as a result of the work-related injury. A determination as to whether the worker's symptoms and impairment are related to the work-related injury in question is therefore implied in all such assessments.

1.6 Causation is defined in the Glossary on page 316 of the AMA 4 Guides as follows: "Causation means that a physical, chemical, or biologic factor contributed to the occurrence of a medical condition. To decide that a factor alleged to have caused or contributed to the occurrence or worsening of a medical condition has, in fact, done so, it is necessary to verify both of the following:

- (i) The alleged factor could have caused or contributed to worsening of the impairment, which is a medical determination.
- (ii) The alleged factor did cause or contribute to worsening of the impairment, which is a non-medical determination."

This therefore involves a medical decision and a non-medical informed judgement.

1.7 There is no simple common test of causation that is applicable to all cases, but the accepted approach involves determining whether the permanent impairment was caused or materially contributed to by the work-related injury. The work-related injury does not have to be a sole cause as long as it is a contributing cause, which is more than negligible. Considering the question "Would this permanent impairment have occurred if not for the work-related injury?" may be useful in some cases, although this is not a definitive test and may be inapplicable in circumstances where there are multiple contributing causes.

Impairment and Disability

1.8 It is of critical importance to clearly define the term '*impairment*' and distinguish it from any resulting *disability*.

1.9 *Impairment* is defined as an alteration to a person's health status. It is a deviation from normality in a body part or organ system and its functioning. Hence, impairment is a medical issue and is assessed by medical means.

1.10 This definition is consistent with that of the World Health Organisation (WHO) that has defined '*impairment*' as "any loss or abnormality of psychological, physiological or anatomical structure or function."⁽¹⁾

- 1.11 *Disability*, on the other hand, is a consequence of an impairment. The WHO definition is “any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being”.¹
- 1.12 Confusion between the two terms can arise because in some instances the clearest way to measure impairment is by considering the effect on a person’s ‘activities of daily living’ (that is, on the consequent disability). In several places, the AMA 4 Guides refer to restrictions in the activities of daily living of a person, i.e., the consequent disability is being used as an indicator of severity of impairment.
- 1.13 Two examples may help to emphasise the distinction:
- (i) The impairment resulting from the loss of the little finger of the right hand would be equal for both a bank manager and a concert pianist and so, give rise to the same assessment under these Guidelines. However, the loss of the finger will result in a greater disability for the concert pianist due to the impact on his or her occupation.
 - (ii) An upper arm injury might make it impossible for an injured person to contract the fingers of the right hand. That loss of function is an impairment. However, the consequences of that impairment, such as an inability to hold a cup of coffee, or button up clothes, constitute a disability.
- 1.14 A ‘*handicap*’ is a further possible consequence of an impairment or disability, being a disadvantage that limits or prevents the fulfilment of a role that is or was normal for that individual. The concert pianist in the example above is likely to be handicapped by his or her impairment.
- 1.15 It must be emphasised, in the context of these Guidelines, that it is not the role of the medical assessor to quantify disability or handicap.
- 1.16 Where alteration in activities of daily living forms part of the impairment evaluation, for example when assessing brain injury or scarring, refer to the Table of Activities of Daily Living on page 317 of AMA 4 Guides. The medical assessor should explain how the injury impacts on activities of daily living in the impairment evaluation report.

Assessment of Impairment

- 1.17 The medical assessor should consider the available evidence and be satisfied that there:
- (i) was an injury to the part being assessed caused by the work related injury;
 - (ii) is a defined diagnosis that can be confirmed by examination; and
 - (iii) is an impairment as defined at 1.9 (above).

¹ World Health Organisation. International Classification of Impairments, Disabilities and Handicaps, Geneva, 1980.

- 1.18 Using these Guidelines and the AMA 4 Guides to assess the degree of permanent impairment requires three stages as follows:
- (i) a review of relevant medical and hospital records provided by the worker or other parties. A medical or hospital record is considered relevant if it contains information relating to the assessment of impairment resulting from a work-related injury, including information about relevant pre-existing impairment (see 1.31 - 1.33 below). The medical assessor is entitled to request additional information if the information provided is insufficient to meet the requirements of these Guidelines and/or the AMA 4 Guides;
 - (ii) an interview and a clinical examination to obtain the information specified in these Guidelines/AMA 4 Guides necessary to assess the degree of permanent impairment; and
 - (iii) the preparation of a report (an impairment assessment report), using the methods specified in these Guidelines, which determines the percentage of permanent impairment together with the evidence and reasons on which the determination is based.

Permanent Impairment

- 1.19 Before an impairment evaluation is undertaken, it must be shown that the impairment has been present for a period of time, is static, well stabilised and unlikely to change substantially regardless of treatment. The AMA 4 Guides (p 315) state that permanent impairment is impairment that has become static or well stabilised with or without medical treatment and is not likely to remit despite medical treatment. A permanent impairment is considered to be unlikely to change substantially (i.e. by more than 3% whole person impairment) in the next year with or without medical treatment. If an impairment is not permanent, it is inappropriate to characterise it as such and assess it according to these Guidelines.
- 1.20 However, it should be noted that the assessment of impairment is a prerequisite for access to common law damages, and that strict time limits apply to the commencement of such proceedings. In view of these time limits, a medical assessor may undertake an assessment, in circumstances where the impairment does not meet the definition of “permanent”, to verify that a worker’s level of permanent impairment will not be less than the appropriate threshold (that is, 30% WPI for injuries which occurred prior to 1 July 2010 and 20% WPI for injuries which occurred on or after 1 July 2010) regardless of the passage of time and treatment. It should be noted that under the *Asbestos-Related Diseases (Occupational Exposure) Compensation Act 2011* assessment of impairment is not a prerequisite for access to Common Law damages for asbestos-related diseases.

- 1.21 **The assessment should only reflect the impairment as it is at the time of the assessment.** It should not include any allowance for a predicted deterioration, such as osteoarthritis in a joint many years after an intra-articular fracture, as it is impossible to be precise about any such later alteration. However, it may be appropriate to comment on this possibility in the impairment assessment report.

Non-assessable injuries

- 1.22 Certain injuries may not result in an assessable impairment covered by these Guidelines and AMA 4 Guides. For example, uncomplicated healed sternal and rib fractures do not result in any assessable impairment.

Impairments not covered by WCT Guidelines and AMA 4 Guides

- 1.23 A condition may present which is not covered in the WCT Guidelines or the AMA 4 Guides. **If objective clinical findings of such a condition are present, indicating the presence of an impairment, then assessment by analogy to a similar condition is appropriate.** Include the rationale for the methodology chosen in the impairment evaluation report.

Adjustments for Effects of Treatment or Lack of Treatment

- 1.24 The results of past treatment (e.g. operations) must be considered, since the worker is being evaluated as they present at the time of assessment.
- 1.25 **Where the effective long-term treatment of the effects of an injury result in apparent, substantial or total elimination of a physical permanent impairment, but the worker is likely to revert to the fully impaired state if treatment is withdrawn, the medical assessor may increase the percentage of whole person impairment by 1, 2 or 3% whole person impairment. This percentage should be combined with any other impairment percentage using the Combined Values Chart (pp 322-324, AMA 4 Guides). An example might be long-term drug treatment for epilepsy. This paragraph does not apply to the use of analgesics or anti-inflammatory drugs for pain relief.**
- 1.26 If a worker has declined a particular treatment or therapy that the medical assessor believes would be beneficial, this should neither increase nor decrease the impairment assessment. However, a comment on the matter should be included in the written impairment assessment report.
- 1.27 Equally, if the medical assessor believes that substance abuse is a factor influencing the clinical state of the worker that should be noted in the impairment assessment report.
- 1.28 **For adjustments for the effect of treatment on a permanent psychiatric impairment, refer to 7.14 in Chapter 7 Mental and Behavioural Disorders Impairments of these Guidelines.**

Adjustments for Effects of Prostheses or Assistive Devices

- 1.29 Whenever possible, the impairment assessment should be conducted without assistive devices, except where these cannot be removed. However, the visual system should be assessed in accordance, where possible, with 8.16 in Chapter 8 of these Guidelines.

Pre-existing Impairment

- 1.30 The assessment of the degree of permanent impairment may be complicated by the presence of an impairment in the same region that existed prior to the relevant work-related injury. If there is objective evidence of a pre-existing symptomatic permanent impairment in the same region at the time of the work-related injury, then its value should be calculated and subtracted from the current whole person impairment value. If there is no objective evidence of pre-existing symptomatic permanent impairment, then its possible presence should be ignored.
- 1.31 The capacity of a medical assessor to determine a change in physical impairment will depend upon the reliability of clinical information on the pre-existing condition. To quote the AMA 4 Guides page 10, "For example, in apportioning a spine impairment, first the current spine impairment would be estimated, and then impairment from any pre-existing spine problem would be estimated. The estimate for the pre-existing impairment would be subtracted from that for the present impairment to account for the effects of the former. Using this approach to apportionment would require accurate information and data on both impairments". Refer to 7.14 for the approach to a pre-existing psychiatric impairment.
- 1.32 Pre-existing impairments should not be assessed if they are unrelated or not relevant to the impairment arising from the work-related injury.

Subsequent Injuries

- 1.33 The evaluation of permanent impairment may be complicated by the presence of an impairment in the same region that has occurred subsequent to the work-related injury. If there is objective evidence of a subsequent and unrelated injury or condition resulting in permanent impairment in the same region its value should be calculated. The permanent impairment resulting from the work-related injury should also be calculated. If there is no objective evidence of the subsequent impairment its possible presence should be ignored.

Psychiatric Impairment

- 1.34 Psychiatric impairment is assessed in accordance with Chapter 7 of these Guidelines.

Pain

- 1.35 The tables in the AMA 4 Guides require the pain associated with a particular neurological impairment to be assessed. Because of the difficulties of objective measurement, **medical assessors should make no separate allowance for permanent impairment due to pain, and Chapter 15 of the AMA 4 Guides should not be used.** However, each chapter of the AMA 4 Guides includes an allowance for associated pain in the impairment percentages.

Rounding Up or Down

- 1.36 The AMA 4 Guides (p 9) permit (but do not require) that a final whole person impairment may be rounded to the nearest percentage ending in 0 or 5. This could cause inconsistency between two otherwise identical assessments. For this reason **medical assessors must not round whole person impairment values at any point of the assessment process. During the impairment calculation process however, fractional values might occur when evaluating the regional impairment (e.g. an upper extremity impairment value of 13.25%) and this should be rounded (in this case to 13%). Whole person impairment values can only be integers (not fractions).**

Consistency

- 1.37 Tests of consistency, such as using a goniometer to measure range of motion, are good but imperfect indicators of workers' efforts. The medical assessor must utilise the entire gamut of clinical skill and judgement in assessing whether or not the results of measurements or tests are plausible and relate to the impairment being evaluated. If, in spite of an observation or test result, the medical evidence appears not to verify that an impairment of a certain magnitude exists, the medical assessor should modify the impairment estimate accordingly, describing the modification and outlining the reasons in the impairment evaluation report.
- 1.38 Where there are inconsistencies between the medical assessor's clinical findings and information obtained through medical records and/or observations of non-clinical activities, the medical assessor is encouraged to bring these inconsistencies to the attention of the worker. For example, inconsistency demonstrated between range of shoulder motion when undressing and range of active shoulder movement during the physical examination. The worker will then have an opportunity to confirm the history and/or respond to the inconsistent observations to ensure accuracy and procedural fairness.

Assessment of Children

- 1.39 The determination of the degree of permanent impairment in children may be impossible in some instances, due to the natural growth and development of the child (examples are injuries to growth plates of bones or brain damage). In some cases the effects of the injury may not be considered

stable and the assessment of permanent impairment may be delayed until growth and development is complete.

Additional Investigations

- 1.40 The worker who is being assessed should attend with the results of all diagnostic tests. It is not appropriate for a medical assessor to order additional investigations such as further spinal imaging other than those required as part of the impairment assessment. If it is strongly believed there are clinical reasons to order an investigation, the suggestion should be made in the impairment assessment report.
- 1.41 There are some circumstances where testing is required as part of the impairment assessment e.g. respiratory, cardiovascular, ENT and ophthalmology. In these cases it is appropriate to conduct the prescribed tests as part of the assessment.

Combining Values

- 1.42 **Unless otherwise specified, when separate impairment percentages are obtained for various impairments being assessed these are *not* simply added together, but must be combined using the Combined Values Chart (pp 322-324, AMA 4 Guides). This process is necessary to ensure the total whole person or regional impairment does not exceed 100% of the person or region. The calculation becomes straightforward after working through a few examples (for instance, see page 53 of the AMA 4 Guides). Note, however, that in a few specific instances, for example, for ranges of motion of the thumb joints, (AMA 4 Guides p16), the impairment values are directly added. Multiple impairment scores should be treated precisely as the AMA 4 Guides or these Guidelines instruct. **The rules for combination or addition must be followed as per AMA 4. It should be noted that these rules are the same for AMA 5.****
- 1.43 **In assessing the degree of permanent impairment for the purposes of the Act, regard must not be had to any psychiatric or psychological injury, impairment or symptoms that have arisen as a consequence of, or secondary to the physical injury (section 72(2)(a) of the Act).** This provision requires the medical assessor to identify which portion of whole person psychiatric impairment has arisen as a consequence of or secondary to a physical injury so that it can be disregarded in determining psychiatric impairment for the purposes of the Act. Chapter 7 of these Guidelines provides further direction on this requirement.

Chapter 2

Upper Extremity Impairment

Introduction

- 2.1 **The hand and upper extremity** is discussed in section 3.1 of Chapter 3 in the AMA 4 Guides (pp 15 - 74). This long section provides guidelines on methods of assessing permanent impairment involving these structures. It is a complex section that requires an organised approach with careful documentation of findings on a worksheet.

The Approach to Assessment of the Upper Extremity and Hand

- 2.2 Assessment of the upper extremity mainly involves clinical evaluation. Cosmetic and functional evaluations are performed in some situations. The impairment must be permanent and stable. The worker will have a defined diagnosis that can be confirmed by examination.
- 2.3 The assessed impairment of a part or region can never exceed the impairment due to amputation of that part or region. For an upper limb, therefore, the maximum assessment is 60% WPI.
- 2.4 To achieve an accurate and comprehensive assessment of the upper extremity, findings should be documented on a standard form. Figure 1 of the AMA 4 Guides (pp 16 - 17) is extremely useful, both to document findings and to guide assessment.
- Note, however, that the final summary part of Figure 1 (pp 16 - 17, AMA 4 Guides) does not make it clear that impairments due to peripheral nerve injuries cannot be combined with other impairments in the upper extremities unless they are separate injuries. This is to avoid “double-dipping”.**
- 2.5 The hand and upper extremity are divided into regions that are the thumb, fingers, wrist, elbow, and shoulder. Close attention needs to be paid to the instructions in Figure 1 (pp 16 - 17, AMA 4 Guides) regarding adding or combining impairments.
- 2.6 Table 3 (p 20, AMA 4 Guides) is used to convert upper extremity impairment to whole person impairment. *Note that 100% upper extremity impairment is equivalent to 60% WPI.*
- 2.7 **If the condition is not in the AMA 4 Guides, it may be assessed using another like condition.**

2.8 Although range of motion appears to be a suitable method for evaluating impairment, it can be subject to variation because of pain during motion at different times of examination and/or possible lack of co-operation by the worker being assessed. Range of motion is assessed as follows:

- (i) **A goniometer should be used where clinically indicated.**
- (ii) Passive range of motion may form part of the clinical examination to ascertain clinical status of the joint, but impairment should only be calculated using **active range of motion** measurements.
- (iii) If the assessor is not satisfied that the results of a measurement are reliable, active range of motion should be measured with at least three consistent repetitions.
- (iv) If there is inconsistency in range of motion then it should not be used as a valid parameter of impairment evaluation. Refer to 1.38 - 1.39 of these Guidelines.
- (v) If range of motion measurements at examination cannot be used as a valid parameter of impairment evaluation, the medical assessor should then use discretion in considering what weight to give other available evidence to determine if an impairment is present.

If the contralateral uninjured joint has a less than average mobility, the impairment value(s) corresponding with the uninjured joint can serve as a baseline and are subtracted from the calculated impairment for the injured joint only if there is a reasonable expectation the injured joint would have had similar findings to the uninjured joint before injury. The rationale for this decision should be explained in the impairment evaluation report.

Specific Interpretations of the AMA 4 Guides

Impairment of the Upper Extremity due to Peripheral Nerve Disorders

- 2.9 **If an impairment results solely from a peripheral nerve injury the medical assessor should not assess impairment from Sections 3.1f to 3.1j (pp 24 - 45, AMA 4 Guides). Sections 3.1k and subsequent sections should be used for assessment of such impairment. For peripheral nerve lesions use Table 15 (p 54, AMA 4 Guides) together with Tables 11a and 12a (pp 48 - 49, AMA 4 Guides) for evaluation. Table 16 (p 57, AMA 4 Guides) must not be used.**
- 2.10 **When applying Tables 11a (page 48 AMA 4 Guides) and Table 12a (page 49 AMA 4 Guides) the maximum value for each grade should be used unless assessing Complex Regional Pain Syndrome.**

- 2.11 **For purposes of interpreting Table 11 (p 48, AMA 4 Guides) “abnormal sensation” includes disturbances in sensation such as dysaesthesia, paraesthesia and cold intolerance. “Decreased sensibility” includes anaesthesia and hypoaesthesia.**

Impairment Due to Other Disorders of the Upper Extremity

- 2.12 **The section “Impairment Due to Other Disorders of the Upper Extremity” (Section 3.1m, pp 58 - 65 AMA 4 Guides), should be rarely used in the context of work-related injuries. The medical assessor must take care to avoid duplication of impairments when using this section.**
- 2.13 **Radiographs for carpal instability (p 61, AMA 4 Guides) should only be considered, if available, along with the clinical signs. X-ray examination should not be performed solely for this assessment.**
- 2.14 **Strength evaluations (pp 64 - 65, AMA 4 Guides) and Table 34 must not be used, as they are unreliable indicators of impairment. Where actual loss of muscle bulk has occurred the assessment can be completed by analogy, for example with a relevant peripheral nerve injury. Similar principles can be applied where tendon transfers have been performed or after amputation reattachment, if no other suitable methods of impairment assessment are available.**

Impairment of the upper extremity due to complex regional pain syndrome

- 2.15 **The section, "Causalgia and Reflex Sympathetic Dystrophy" (p 56, AMA 4 Guides) should not be used.** These conditions have been better defined since publication of the AMA 4 Guides. The current terminology is Complex Regional Pain Syndrome (CRPS) type I (referring to what was termed Reflex Sympathetic Dystrophy) and Complex Regional Pain Syndrome type II (referring to what was termed Causalgia).
- 2.16 **For a diagnosis of Complex Regional Pain Syndrome at least eight (8) of the following 11 criteria must be present. The criteria are: skin colour that is mottled or cyanotic; cool skin temperature; oedema; skin dry or overly moist; skin texture that is smooth and non elastic; soft tissue atrophy (especially fingertips); joint stiffness and decreased passive motion; nail changes with blemished, curved or talon-like nails; hair growth changes with hair falling out, longer or finer; x-rays showing trophic bone changes or osteoporosis; bone scan showing findings consistent with CRPS.**
- 2.17 **When the diagnosis of Complex Regional Pain Syndrome has been established, impairment due to CRPS type I (previously Reflex Sympathetic Dystrophy (RSD)) is evaluated as follows:**
- (i) **Rate the upper extremity impairment resulting from the loss of motion of each individual joint affected by CRPS.**

- (ii) **Rate the upper extremity impairment resulting from sensory deficits and pain according to the grade that best describes the severity of interference with activities of daily living as described in Table 11a (p 48, AMA 4 Guides). The value selected represents the upper extremity impairment. A nerve multiplier is not used.**
- (iii) **Combine the upper extremity value for loss of joint motion (step 1) with the value for pain and sensory deficits (step 2) using the Combined Values Chart (pp 322 - 324, AMA 4 Guides).**
- (iv) **Convert the upper extremity impairment to whole person impairment by using Table 3 (p 20, AMA 4 Guides).**

2.18 **When the diagnosis of Complex Regional Pain Syndrome has been established, impairment due to CRPS type II (previously Causalgia) is evaluated as follows:**

- (i) **Rate the upper extremity impairment resulting from the loss of motion of each individual joint affected by CRPS.**
- (ii) **Rate the upper extremity impairment present resulting from sensory deficits and pain according to the methods described in section 3.1k (pp 46 - 56, AMA 4 Guides) and Table 11a (p 48, AMA 4 Guides).**
- (iii) **Rate the upper extremity impairment resulting from motor deficits and loss of power of the injured nerve according to the determination method described in section 3.1k (pp 46 - 56, AMA 4 Guides) and Table 12a (p 49, AMA 4 Guides).**
- (iv) **Combine the upper extremity impairment percentages for loss of joint motion (step 1), pain and sensory deficits (step 2) and motor deficits (step 3) using the Combined Values Chart (pp 322 - 324, AMA 4 Guides).**
- (v) **Convert the upper extremity impairment to whole person impairment by using Table 3 (p 20, AMA 4 Guides).**

Chapter 3

Lower Extremity Impairment

Introduction

- 3.1 **The lower extremity is discussed in section 3.2 of Chapter 3 in the AMA 4 Guides (pp 75 - 93). This section is complex and provides a number of alternative methods of assessing permanent impairment involving the lower extremity. An organised approach is essential and findings should be carefully documented on a worksheet.**

The Approach to Assessment of the Lower Extremity

- 3.2 There are several different forms of evaluation that can be used as indicated in sections 3.2a to 3.2m of the AMA 4 Guides (pp 75 - 89). Table 3.1 in these Guidelines indicates which evaluation methods can and cannot be *combined* for the assessment of each injury. This table can only be used to assess one combination at a time. It may be possible to perform several different evaluations as long as they are reproducible and meet the conditions specified below and in the AMA 4 Guides. **The most specific method, or combination of methods, of impairment assessment should be used.** When more than one equally specific method or combination of methods of rating the same impairment is available, the method providing the highest rating should be chosen. Table 3.2 can be used to assist the process of selecting the most appropriate method(s) of rating lower extremity impairment.
- 3.3 Where more than one impairment parameter of lower extremity impairment exists for a single lower extremity impairment the permissible combination table (Table 3.1) must be applied as described above.
- 3.4 Where more than one extremity impairment arises from a work-related injury each impairment is assessed and combined to give the total lower extremity percentage impairment, then this value is converted to a % person impairment.
- 3.5 **If the contralateral uninjured joint has a less than average mobility, the impairment value(s) corresponding with the uninjured joint can serve as a baseline and are subtracted from the calculated impairment for the injured joint, only if there is a reasonable expectation the injured joint would have had similar findings to the uninjured joint before injury. The rationale for this decision should be explained in the impairment assessment report.**
- 3.6 The assessed impairment of a part or region can never exceed the impairment due to amputation of that part or region. For a lower limb, therefore, the maximum evaluation is 40% whole person impairment.

- 3.7 Use of worksheets is essential. Table 3.2 of these Guidelines is such a worksheet and may be used in the assessment of permanent impairment of the lower extremity.
- 3.8 Table 3.1 should be referred to in order to determine which impairments can be combined and which cannot (see 3.2 above)

Specific Interpretation of the AMA 4 Guides Leg length Discrepancy

- 3.9 **When true leg length discrepancy is determined clinically** (p 74, AMA 4 Guides) **the method used must be indicated** (for example, tape measure from anterior superior iliac spine). Clinical assessment of leg length discrepancy is an acceptable method but if computerised tomography films are available, they should be used in preference. Such an examination should not be ordered solely for determining leg lengths.
- 3.10 **Table 35** (p 75, AMA 4 Guides) **should have the element of choice removed such that impairments for leg length should be read as the higher figure of the range quoted**, being 0, 3, 5, 7, or 8 for whole person impairment, or 0, 9, 14, 19, or 20 for lower limb impairment.

Gait Derangement

- 3.11 **Assessment of impairment based on gait derangement should be used as the method of last resort** (pp 75-76 AMA 4 Guides). **Methods most specific to the nature of the disorder should always be used in preference. If gait derangement is used it cannot be combined with any other impairment evaluation in the lower extremity. It can only be used if no other valid method is applicable and reasons why it is chosen should be provided in the impairment assessment report.**
- 3.12 **Any walking aid utilised must be permanent and not temporary.**
- 3.13 **In the application of Table 36** (p 76 of AMA 4) **item b. is deleted as the Trendelenburg sign is not sufficiently reliable.**

Muscle Atrophy (unilateral)

- 3.14 This section of the AMA 4 Guides (p 76) is not applicable if the limb other than that being assessed is abnormal (for example, if varicose veins cause swelling, or if there is other injury).
- 3.15 **In the use of Table 37** (p 77, AMA 4 Guides) **the element of choice should be removed in the impairment rating and only the higher figure used.** Therefore, for the thigh, the whole person impairment should be assessed as 0, 2, 4, or 5%, or lower limb impairment as 0, 8, 13, or 13% respectively. For the calf, the equivalent figures have the same numerical values.

Table 3.1: Permissible Combinations of Lower Extremity Assessment Methods

	Limb Length Discrepancy	Gait Derangement	Muscle Atrophy	Muscle Testing	Range of Motion on Ankylosis	Arthritis	Amputations	Diagnosis-Based Estimates	Skin Loss	Peripheral Nerve Injuries	Causalgia & Reflex Sympathetic Dystrophy	Vascular Disorders
Gait Derangement	X	-	X	X	X	X	X	X	X	X	X	X
Muscle Atrophy		X	-	X	X	X	X	X		X	X	
Muscle Testing		X	X	-	X			X		X		
Range of Motion Ankylosis		X	X	X	-	X		X				
Arthritis		X	X		X	-						
Amputations	X	X	X				-					
Diagnosis-Based Estimates	X	X	X	X	X			-				
Limb Length Discrepancy	-	X					X	X				
Skin Loss		X							-			
Peripheral Nerve Injuries		X	X	X						-		
Causalgia & RSD		X	X								-	
Vascular Disorders		X										-

x Do not combine with this method of assessment

Source: American Medical Association, The Guides Newsletter, January/February, 1998.
 Lower Extremity Section, pp3/75-3/93, The AMA 4 Guides to the Evaluation of Permanent Impairment, Fourth Edition
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 Second Revision Feb 1998
 Third Revision March 1999
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Table 3.2: Lower Extremity Worksheet

IMPAIRMENT	TABLE	AMA4 PAGE	POTENTIAL IMPAIRMENT	SELECTED IMPAIRMENT
Gait derangement	36	76		
Unilateral muscle atrophy	37	77		
True muscle weakness	39	77		
Range of motion	40-45	78		
Joint ankylosis	46-61	79-82		
Arthritis	62	83		
Amputation	63	83		
Diagnosis-based estimates	64	85-86		
Limb length discrepancy	35	75		
Skin loss	67	88		
Peripheral nerve deficit	68	89		
Peripheral vascular disease	69	89		
Complex Regional Pain Syndromes Type I and II	TWC Guidelines Section 3.14	Not used		
Combined Impairment Rating				

Adapted from MAA 2007 Guidelines Table 3.4

Muscle Strength Testing

- 3.16 **Strength evaluations (AMA 4 Guides paragraph 3.2d pp 76-77) should rarely be used as they are unreliable indicators of impairment.**

Range of Motion

- 3.17 Although range of motion (pp 77 - 78, AMA 4 Guides) appears to be a suitable method for evaluating impairment, it can be subject to variation because of pain during motion at different times of examination and/or possible lack of co-operation by the worker being assessed. Range of motion is assessed as follows:

- (i) **A goniometer should be used where clinically indicated.**
- (ii) Passive range of motion may form part of the clinical examination to ascertain clinical status of the joint, but impairment should only be calculated using active range of motion measurements.
- (iii) If the medical assessor is not satisfied that the results of a measurement are reliable, active range of motion should be measured with at least three consistent repetitions.
- (iv) If there is inconsistency in range of motion then it should not be used as a valid parameter of impairment evaluation. Refer to 1.38 - 1.39 of these Guidelines.
- (v) If range of motion measurements at examination cannot be used as a valid parameter of impairment evaluation, the medical assessor should then use discretion in considering what weight to give other evidence available to determine if an impairment is present.

- 3.18 If range of motion is used as an assessment measure, then Tables 40 to 45 (p 78, AMA 4 Guides) are selected for the joint or joints being tested. If a joint has more than one direction of motion, then the assessed impairments for each direction of motion are added to provide the overall impairment of the joint.

Ankylosis

- 3.19 **For the assessment of impairment when a joint is ankylosed (pp 79-82, AMA 4 Guides) the calculation to be applied is to select the impairment for the joint ankylosed in optimum position, and then, if not ankylosed in the optimum position, by adding (not combining) the values of whole person impairment using Tables 46 - 61 (pp 79-82, AMA 4 Guides).**

Table 3.3. Impairment for ankylosis in the optimum position is:

JOINT	Whole Person	Lower Extremity	Ankle or Foot
HIP	20%	50%	
KNEE	27%	67%	
ANKLE	4%	10%	14%
FOOT	4%	10%	14%

3.20 Note that the whole person impairment from ankylosis of a joint, or joints, in the lower limb cannot exceed 40% WPI or 100% lower limb impairment. *If this figure is exceeded when the combination of lower limb impairments is made then only 40% can be accepted as the maximum whole person impairment.*

Arthritis

3.21 Impairment due to arthritis (pp 82 - 83, AMA 4 Guides) can be assessed by measurement of the distance between the subchondral bone ends (“joint space”) if radiography is performed in defined positions. It indicates the thickness of articular cartilage. No notice is to be taken of other diagnostic features of arthritis such as osteophytes, or cystic changes, in the bone. Hip radiography can be done in any position of the hip, but for the knee and ankle specified positions must be achieved by the radiographer.

3.22 Table 62 (p 83, AMA 4 Guides) indicates the impairment assessment for arthritis based on articular cartilage thickness.

3.23 **If arthritis is used as the basis for impairment assessment in this way, then the rating cannot be combined with gait disturbance, atrophy, or range of movement assessments. It can be combined with a diagnosis-based estimate.** (see Table 3.1 above).

3.24 When interpreting Table 62 (p 83, AMA 4 Guides) if the articular cartilage interval is not a whole number, round to the higher impairment figure.

Amputation

3.25 Where there has been amputation of part of a lower extremity, Table 63 (p 83, AMA 4 Guides) applies. In that table, the references to 3 inches for below the knee amputation should be converted to 7.5 centimetres.

Diagnosis-based Estimates (lower extremity)

3.26 Section 3.2i (pp 84-88, AMA 4 Guides) lists a number of conditions that fit a category of diagnosis-based estimates. They are listed in Table 64 (pp 85-86, AMA 4 Guides). When using this Table it is essential to read the footnotes carefully. Only permanent impairments should be assessed (see 1.20 - 1.22 of these Guidelines).

- 3.27 It is possible to *combine* impairments from Table 64 for diagnosis- based estimates with other components (e.g. nerve injury) using the Combined Values Chart (pp 322 - 324, AMA 4 Guides), having regard for 3.2 of these Guidelines.
- 3.28 In the interpretation of Table 64, reference to the hind-foot, intra-articular fractures, the words *subtalar bone, talonavicular bone, and calcaneocuboid bone* imply that the bone is displaced on one or both sides of the joint mentioned.
- 3.29 In order to avoid the risk of double assessment, if avascular necrosis with collapse is used as the basis of assessment, it cannot be combined with intra-articular fracture of the ankle with displacement or intra-articular fracture of the hind-foot with displacement (QV Table 64 column 1 page 86 AMA 4 Guides).
- 3.30 Table 65 and Table 66 (pp 87 - 88, AMA 4 Guides) use a different concept of evaluation. A point score system is applied, and then the total of points calculated for the hip, or knee, joint respectively is converted to an impairment rating from Table 64. Tables 65 and 66 refer to the hip and knee joint replacement respectively. Note that, while all the points are *added* in Table 65, some points are *deducted* when Table 66 is used.
- 3.31 In respect of Table 65, the references to “distance walked” under “b. Function” should be construed as six blocks being 600 metres, and three blocks being 300 metres.
- 3.32 **Pelvic fractures should be assessed using section 3.4** (p 131 AMA 4 Guides). **Fractures of the acetabulum should be assessed using Table 64** (pp 85 - 86, AMA 4 Guides).

Skin Loss (lower extremity)

- 3.33 Skin loss (p 88, AMA 4 Guides) can only be included in the calculation of impairment if it is in certain sites and meets the criteria listed in Table 67 (p 88, AMA 4 Guides).

Peripheral Nerve Injuries (lower extremity)

- 3.34 When assessing the impairment due to peripheral nerve injury (pp 88-89, AMA 4 Guides), medical assessors should read the text in this section. Note that the separate impairments for the motor, sensory and dysaesthetic components of nerve dysfunction in Table 68 (p 89, AMA 4 Guides) are to be *combined*.
- 3.35 Note that the (posterior) tibial nerve is not included in Table 68, but its contribution can be calculated by subtraction of common peroneal nerves from sciatic nerve ratings. The tibial nerve can be assessed as follows with reference to Table 68. The values in brackets are lower extremity impairment values.

Table 3.4 Tibial Nerve Impairment Values

	Motor	Sensory	Dysaesthesia
Sciatic nerve	30(75)	7(17)	5(12)
Common peroneal nerve	15(42)	2(5)	2(5)
Tibial nerve	15(33)	5(12)	3(7)

- 3.36 Peripheral nerve injury impairments can be *combined* with other impairments, but not those for *muscle weakness* and *atrophy*, (this is indicated in Table 3.1 above).
- 3.37 When using Table 68 (p 88-89 AMA 4 Guides) refer to Tables 11a and 12a (pp 48 - 49, AMA 4 Guides) and 2.9 - 2.11 of these Guidelines.

Impairment of the lower extremity due to complex regional pain syndrome

- 3.38 **The section, "Causalgia and Reflex Sympathetic Dystrophy" (p 89, AMA 4 Guides) should not be used.** These conditions have been better defined since the publication of the AMA 4 Guides. The current terminology is Complex Regional Pain Syndrome type I (referring to what was termed Reflex Sympathetic Dystrophy) and Complex Regional Pain Syndrome type II (referring to what was termed Causalgia).
- 3.39 **When complex regional pain syndrome occurs in the lower extremity it should be evaluated as for the Upper Extremity using by reference to 2.15 - 2.18 of these Guidelines and replacing the words 'upper extremity' with 'lower extremity'.**

Peripheral Vascular Disease (lower extremity)

- 3.40 Lower extremity impairment due to Peripheral Vascular Disease is evaluated from Table 69 (p 89, AMA 4 Guides). **Table 14** (p 198, AMA 4 Guides) **should not be used.** In Table 69 there is a range of lower extremity impairments, not whole person impairment, within each of the Classes 1 to 5. As there is a clinical description of conditions that place a person's lower extremity impairment in a particular class, the medical assessor has a choice of impairment rating within a class, the value of which is left to the clinical judgment of the medical assessor.

Chapter 4

Spinal Impairment

Introduction

- 4.1 **The AMA 4 Guides use the terms cervicothoracic, thoracolumbar and lumbosacral for the three spine regions. These terms relate to the cervical, thoracic and lumbar regions respectively.**
- 4.2 The spine is discussed in section 3.3 of Chapter 3 in the AMA 4 Guides (pp 94 - 138). That Chapter presents several methods of assessing impairments of the spine. **Only the diagnosis-related estimate (DRE) method is to be used for evaluation of impairment of the spine, as modified by this Chapter.** The AMA 4 Guides use the term 'Injury Model' for this method.
- 4.3 The "Injury Model" relies especially on evidence of neurological deficits and uncommon, adverse structural changes, such as fractures and dislocations. Under this model, DREs are differentiated according to clinical findings that are verifiable using standard medical procedures.
- 4.4 **The assessment of spinal impairment is made at the time a worker is examined, provided the medical assessor is convinced the condition is stable and permanent. If surgery has been performed then the effect of the surgery, as well as the structural inclusions, must be taken into consideration when making the assessment of impairment. Refer also to 1.20 - 1.22 of these Guidelines.**

The Approach to Assessment of the Spine

- 4.5 **The Range of Motion (ROM) model is not to be used for spinal impairment evaluation. (Pages 112 - 130, AMA 4 Guides, including Table 75 are not to be used).**
- 4.6 **The medical assessor should start with Table 4.1 of these Guidelines to establish the appropriate category for the spine impairment. Its principal difference from Table 70 (p 108, AMA 4 Guides) is the removal of the term 'motion segment integrity' wherever it appears (see 4.15 below).**

Table 4.1 Assessing spinal impairment

Patient's condition	Diagnosis-related estimate category				
	I	II	III	IV	V
Low back pain, neck pain [back pain (lumbago), WAD* 1] complaints or symptoms	I				
Vertebral body compression, < 25%		II			
Low back pain or neck pain with guarding or non-verifiable radicular complaints or non-uniform range of motion (dysmetria)		II			
Posterior element fracture, healed, stable, no dislocation or radiculopathy		II			
Transverse or spinous process fracture with displacement of fragment, healed, stable		II			
Low back or neck pain with radiculopathy [WADIII]			III		
Vertebral body compression fracture 25-50%			III		
Posterior element fracture with spinal canal deformity or radiculopathy, stable, healed			III		
Radiculopathy			III		
Vertebral body compression > 50%				IV	V
Multi-level structural compromise				IV	V
Spondylolysis with radiculopathy			III	IV	V
Spondylolysis without radiculopathy	I	II			
Spondylolisthesis with radiculopathy			III	IV	V
Vertebral body fracture without radiculopathy		II	III	IV	
Vertebral body fracture with radiculopathy			III	IV	V
Vertebral body dislocation without radiculopathy		II	III	IV	
Vertebral body dislocation with radiculopathy			III	IV	V
Previous spine operation without radiculopathy		II	III	IV	
Previous spine operation with radiculopathy			III	IV	V
Stenosis, facet arthrosis or disease, or disc arthrosis	I	II			
Stenosis, facet arthrosis or disease, or disc arthrosis with radiculopathy			III		

* Whiplash associated disorder. WAD I: Neck complaint of pain, stiffness or tenderness only. No physical sign(s). WAD II: Neck complaint AND musculoskeletal sign(s). Musculoskeletal signs include non-uniform range of motion and point tenderness. WAD III: Neck complaint AND neurological sign(s). Neurological signs include decreased or absent deep tendon reflexes, weakness and sensory deficits. WAD IV: Neck complaint AND fracture or dislocation. Motor Accidents Authority. Update of Quebec Task Force Guidelines for the Management of Whiplash-associated Disorders. January 2001: p5. Note: DRE Categories VI, VII and VIII involve spinal cord injuries and should be assessed according to sections 4.28 and 4.29 of these Guidelines

- 4.7 If a medical assessor is unable to distinguish between two DRE categories then the higher category should be applied and reasons for explained in the report.
- 4.8 **At the time of the assessment, no value should be placed on the possibility of the condition being treated either medically or surgically in the future. Subject to 1.22 of these Guidelines, the assessment should be made at the time of interview and examination if the medical assessor considers the condition to be stable and permanent.**
- 4.9 The evaluation should not include any allowance for predicted long-term change. For example, a spinal stenosis syndrome after vertebral fracture, or increased back pain due to osteoarthritis of synovial joints after intervertebral disc injury should not be factored in to the impairment evaluation.
- 4.10 **All impairments in relation to the spine should be calculated in terms of whole person impairment and assessed in accordance with this Chapter and Chapter 1 of these Guidelines and Chapter 3.3 of AMA 4 Guides.**
- 4.11 **A chart similar to Figure 61 (pp 96 - 97, AMA 4 Guides) can be utilised for a summary of the spinal history.**
- 4.12 The assessment should include: a comprehensive accurate history; a review of all pertinent records available at the assessment; a comprehensive description of the worker's current symptoms; a careful and thorough physical examination; and all findings of relevant laboratory, imaging, diagnostic and ancillary tests available at the assessment. Imaging findings that are used to support the impairment rating should be concordant with symptoms and findings on examination. The medical assessor should record whether diagnostic tests and radiographs were seen or whether they relied on reports.
- 4.13 While imaging and other studies may assist medical assessors in making a diagnosis, it is important to note that the presence of a morphological variation from what is called 'normal' in an imaging study in and of itself does not make the diagnosis. Several reports indicate that approximately 30% of persons who have never had back pain will have an imaging study that can be interpreted as 'positive' for a herniated disc, and 50% or more will have bulging discs. Further, the prevalence of degenerative changes, bulges and herniations increases with advancing age. To be of diagnostic value, imaging findings must be concordant with clinical symptoms and signs. In other words, an imaging test is useful to confirm a diagnosis, but an imaging result alone is insufficient to qualify for a DRE category.
- 4.14 The medical assessor should include in the report a description of how the impairment rating was calculated, with reference to the relevant Tables and/or figures used.

Specific interpretation of the AMA 4 Guides

Loss of Motion Segment Integrity

- 4.15 **The section on Loss of Motion Segment Integrity (pp 98 - 99, AMA 4 Guides), and all subsequent references to it, is not to be applied, as all conditions in which it might be pertinent are considered to be covered by the “Injury Model” (DRE method).**

Impairment Category Differentiators

- 4.16 **The use of Impairment Category Differentiators (p 99, and subsequent mentions, particularly Table 71, p 109, AMA 4 Guides) is not to include electrodiagnosis or lateral motion roentgenograms as an assessment aid for decisions about the category of impairment into which a worker should be placed for spinal disorders.** It is considered that competent medical assessors can make decisions about which category a worker should be placed in by clinical features. The use of the two differentiators highlighted above is both unnecessary and subject to artefact. If there is doubt about which of two DRE categories should be used, then it is appropriate to use the higher.

Definitions of clinical findings used to place a worker in a DRE category

Definitions of clinical findings which are used to place a worker in a DRE category are provided in the box below.

Definitions of clinical findings

Muscle spasm

Muscle spasm is a sudden, involuntary contraction of a muscle or a group of muscles. Paravertebral muscle spasm is common after acute spinal injury but is rare in chronic back pain. It is occasionally visible as a contracted paraspinal muscle but is more often diagnosed by palpation (a hard muscle). To differentiate true muscle spasm from voluntary muscle contraction, the worker should not be able to relax the contractions. The spasm should be present standing as well as in the supine position and frequently causes scoliosis. The medical assessor can sometimes differentiate spasm from voluntary contraction by asking the worker to place all his or her weight first on one foot and then the other while the medical assessor gently palpates the paraspinal muscles. With this manoeuvre, the worker normally relaxes the paraspinal muscles on the weight-bearing side. If the medical assessor witnesses this relaxation, it usually means that true muscle spasm is not present.

Muscle guarding

Guarding is a contraction of muscle to minimise motion or agitation of the injured or diseased tissue. It is not true muscle spasm because the contraction can be relaxed. In the lumbar spine, the contraction frequently results in loss of the normal lumbar lordosis, and it may be associated with reproducible loss of spinal motion.

Non-uniform loss of spinal motion (dysmetria)

Non-uniform loss of motion of the spine in one of the three principle planes is sometimes caused by muscle spasm or guarding. To qualify as true non-uniform loss of motion, the finding must be reproducible and consistent and the medical assessor must be convinced that the worker is co-operative and giving full effort.

Non-verifiable radicular complaints

Non-verifiable radicular complaints are symptoms (e.g. shooting pain, burning sensation, tingling) that follow the distribution of a specific nerve root, but there are no objective clinical findings (signs) of dysfunction of the nerve root (e.g. loss or diminished sensation, loss or diminished power, loss or diminished reflexes).

Reflexes

Reflexes may be normal, increased, reduced or absent. For reflex abnormalities to be considered valid, the involved and normal limbs should show marked asymmetry on repeated testing. Abnormal reflexes such as Babinski signs or clonus may be signs of corticospinal tract involvement.

Weakness and loss of sensation

To be valid, the sensory findings must be in a strict anatomic distribution, i.e. follow dermatomal patterns. Motor findings should also be consistent with the affected nerve structure(s). Significant long-standing weakness is usually accompanied by atrophy.

Definitions of clinical findings continued

Atrophy

Atrophy is measured with a tape measure at identical levels on both limbs. For reasons of reproducibility, the difference in circumference should be 2cm or greater in the thigh and 1cm or greater in the arm, forearm or calf. The medical assessor can address asymmetry due to extremity dominance in the report. Measurements should be recorded to the nearest 0.5cm. The atrophy should be clinically explicable in terms of the relevant nerve root affected.

Sciatic nerve root tension signs

Sciatic nerve tension signs are important indicators of irritation of the lumbosacral nerve roots. While most commonly seen in individuals with a herniated lumbar disc, this is not always the case. In chronic nerve root compression due to spinal stenosis, tension signs are often absent. A variety of nerve tension signs have been described. The most commonly used is the straight leg raising test (SLR). When performed in the supine position, the hip is flexed with the knee extended. In the sitting position, with the hip flexed 90 degrees, the knee is extended. The test is positive when thigh and/or leg pain along the appropriate dermatomal distribution is reproduced. The degree of elevation at which pain occurs is recorded.

Research indicates that the maximum movement of nerve roots occurs when the leg is at an angle of 20 degrees to 70 degrees relative to the trunk. However, this may vary depending on the worker's anatomy. Further, the L4, L5, and S1 nerve roots are those that primarily change their length when straight leg raising is performed.

Thus, pathology at higher levels of the lumbar spine is often associated with a negative SLR. Root tension signs are most reliable when the pain is elicited in a dermatomal distribution. Back pain on SLR is not a positive test. Hamstring tightness must also be differentiated from posterior thigh pain due to root tension.

Diagnosis-related estimates (DRE) model

4.17 To determine the correct DRE category, the medical assessor should start with Table 4.1 of these Guidelines, and use this Table in conjunction with the DRE descriptors (pp 102 - 107 AMA 4 Guides), as clarified by the definitions in the box above with the following amendments to pp 102 - 107 of the AMA 4 Guides:

- (i) “or history of guarding” is deleted from DRE category I for the lumbosacral spine (p 102) and DRE category I for the cervicothoracic spine (p 103)
- (ii) “documented or” as it relates to muscle guarding is deleted from DRE category I for the thoracolumbar spine (p 106)
- (iii) replace “that has been observed and documented by a physician” with “that has been observed and documented by the assessor” in DRE category II for the lumbosacral spine (p 102)
- (iv) replace “observed by a physician” with “observed by the medical assessor” in the descriptors for DRE category II for the cervicothoracic spine (p 104) and thoracolumbar spine (p 106)
- (v) replace “or displacement” with “with displacement” in the descriptors for DRE category II for the thoracolumbar spine (p 106).

4.18 If a medical assessor is unable to distinguish between two DRE categories, then the higher of those two categories should apply. **The inability to differentiate should be noted in the medical assessor’s report and explained.**

4.19 Table 71 (p 109 AMA 4 Guides) is not to be used. The Definitions of Clinical Findings in the box above should be the criteria by which a diagnosis and allocation of a DRE category are made.

Applying the DRE Method

4.20 The Specific Procedures and Directions Section (Section 3.3f, p 101, AMA 4 Guides) indicates the steps that should be followed. Table 4.1 of these Guidelines is a simplified version of that section, and should be interpreted in conjunction with the amendments listed above.

4.21 DRE I applies when the worker complains about symptoms but there are no objective clinical findings by the medical assessor. DRE II applies when there are clinical findings made by the medical assessor, as described in the sections “Description and Verification”, (pp 102 - 107 AMA 4 Guides) with the amendments, for each of the three regions of the spine. Note that symmetric loss of movement is not dysmetria and does not constitute an objective clinical finding.

- 4.22 When allocating the worker to a DRE category the medical assessor must reference the relevant differentiators and/or structural inclusions.
- 4.23 Separate injuries to different regions of the spine (cervical, thoracic, lumbar) should be combined.
- 4.24 Do not combine multiple impairments **within** one spinal region. The highest DRE category within the region should be chosen.

Loss of structural integrity

- 4.25 The AMA 4 Guides (p 99) use the term 'structural inclusions' to define certain spine fracture patterns that may lead to significant impairment and yet not demonstrate any of the findings involving differentiators. Some fracture patterns are clearly described in the examples of DRE categories in sections 3.3g, 3.3h and 3.3i. They are not the only types of injury in which there is a loss of structural integrity of the spine. In addition to potentially unstable vertebral body fractures, loss of structural integrity can occur by purely soft tissue flexion-distraction injuries.

Spondylolysis and Spondylolisthesis

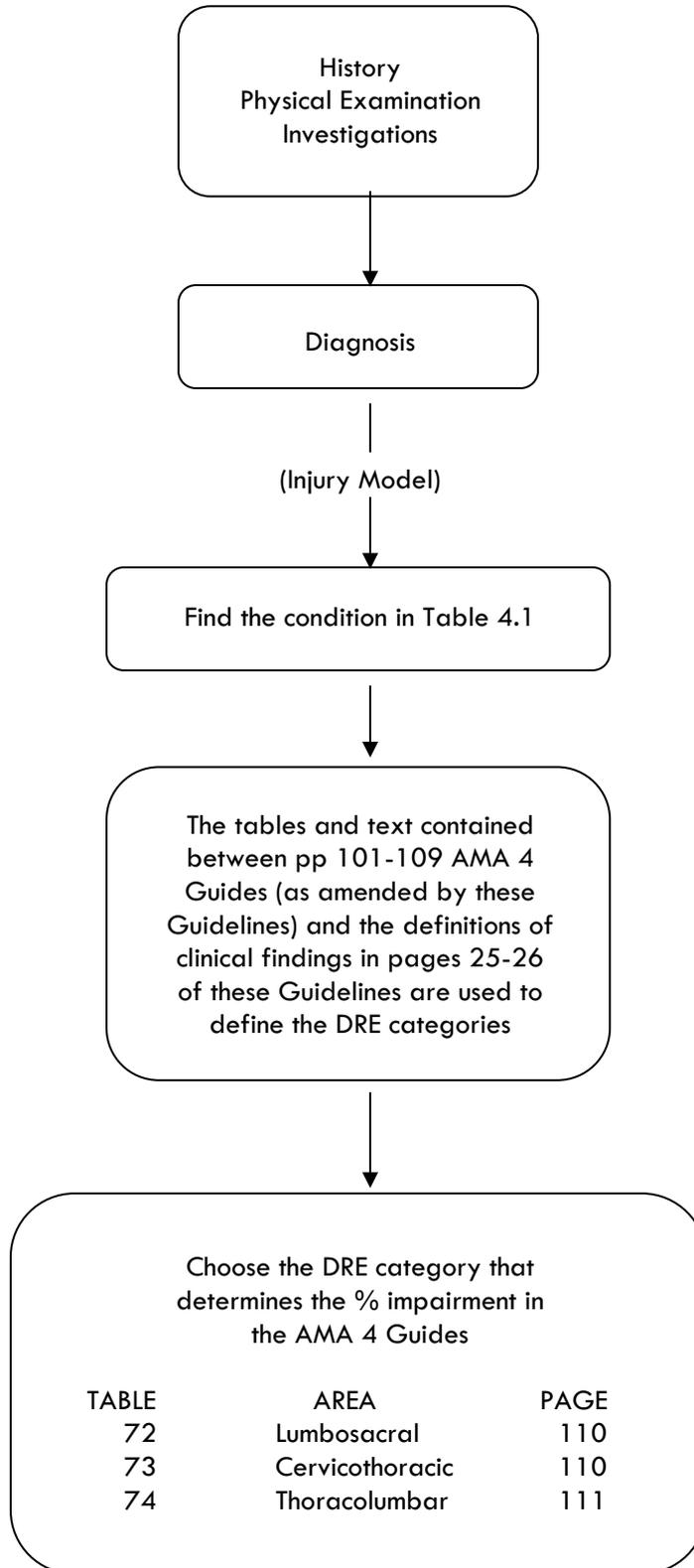
- 4.26 Spondylolysis and spondylolisthesis are conditions that are often asymptomatic and are present in 5-6% of the population. In assessing their relevance the degree of slip (antero-posterior translation) is a measure of the grade of spondylolisthesis and not in itself evidence of loss of structural integrity. To assess a worker as having symptomatic spondylolysis or spondylolisthesis requires a clinical assessment as to the nature and pattern of the injury, the worker's symptoms, and the medical assessor's findings on clinical examination. **Table 4.1 can be used to allocate spondylolysis or spondylolisthesis to categories I - V depending on the descriptor's clinical findings in the appropriate DRE. The worker's DRE must fit the description of clinical findings described in the box above.**
- 4.27 Medical assessors should be aware that acute traumatic spondylolisthesis is a rare event.

Spinal Cord Injury

- 4.28 The assessment of spinal cord injury is covered in 5.6 of these Guidelines.
- 4.29 **Cauda equina syndrome:** In the AMA 4 Guides this term does not have its usual medical meaning. For the purposes of the AMA 4 Guides a person with cauda equina syndrome has objectively demonstrated permanent, partial loss of lower extremity function bilaterally due to spinal cord/cord equine like injury. This syndrome may, or may not, have associated objectively demonstrated bowel or bladder impairment.

Table 4.2
Spine: Summary of spinal DRE assessment

(The terms cervicothoracic, thoracolumbar, and lumbosacral have been defined in section 4.1 of these Guidelines)



Sexual Functioning

- 4.30 Sexual dysfunction should only be assessed as an impairment related to spinal injury where there is *other* objective evidence of spinal cord, cauda equina or *bilateral* nerve root dysfunction (Table 19, p 149, AMA 4 Guides). There is no additional impairment rating system for impotence in the absence of objective clinical findings.
- 4.31 Chapter 11 (The Urinary and Reproductive System) should only be used to assess impairment for erectile dysfunction where there has been a direct injury to the urinary tract. If this occurs, the impairment for erectile dysfunction could be *combined* with a spine-related whole person impairment. An example of this appears on page 257, AMA 4 Guides, involving a fracture and dissociation of the symphysis pubis and a traumatic disruption of the urethra.

Radiculopathy

- 4.32 Radiculopathy is the impairment caused by dysfunction of a spinal nerve root or nerve roots. **To conclude that a radiculopathy is present two or more of the following signs should be found:**
- (i) **loss or asymmetry of reflexes (see the definitions of clinical findings in the box on page 25 of these Guidelines)**
 - (ii) **positive sciatic nerve root tension signs (see the definitions of clinical findings in the box on page 26 of these Guidelines)**
 - (iii) **muscle atrophy and/or decreased limb circumference (see the definitions of clinical findings in the box on page 26 of these Guidelines)**
 - (iv) **muscle weakness which is anatomically localised to an appropriate spinal nerve root distribution**
 - (v) **reproducible sensory loss which is anatomically localised to an appropriate spinal nerve root distribution.**
- 4.33 Note that complaints of pain or sensory features that follow anatomical pathways but cannot be verified by neurological findings do not by themselves constitute radiculopathy. They are described as 'non-verifiable radicular complaints' in the definitions of clinical findings in the box on page 25 of these Guidelines.
- 4.34 Global weakness of a limb related to pain or inhibition or other factors **does not constitute** weakness due to spinal nerve malfunction.
- 4.35 Exceptional cases of radiculopathy may have pain of a radicular nature and only sensory changes, confined to an anatomical distribution of a specific spinal nerve root.

- 4.36 Imaging studies must support clinical findings of radicular malfunction. That is to say that the anatomical features reported to be abnormal on the imaging studies must be consistent with the distribution of the radicular malfunction. If more than one modality of imaging has been performed, there should be anatomical consistency in the findings of abnormality.

Multilevel Structural Compromise

- 4.37 **Multilevel structural compromise is to be interpreted as fractures of more than one vertebra.** To provide consistency of interpretation of the meaning of multiple vertebral fractures, the definition of a vertebral fracture includes any fracture of the vertebral body, or of the posterior elements forming the ring of the spinal canal. It does not include fractures of transverse processes or spinous processes, even at multiple levels.
- 4.38 **Multilevel structural compromise also includes spinal fusion and intervertebral disc replacement.**
- 4.39 **Multilevel structural compromise or spinal fusion across regions are assessed as if they are in one region. The region giving the highest impairment value should be chosen. A fusion of L5 and S1 is considered to be an intervertebral fusion.**
- 4.40 **A vertebroplasty should be assessed on the basis of the fracture(s) for which it was performed.**
- 4.41 Compression Fracture(s): In determining the percentage loss of height of a compression fracture, the loss of vertebral height should be measured at the most compressed part and must be documented in the impairment assessment report. The estimated normal height of the compressed vertebra should be determined where possible by averaging the heights of the two adjacent (unaffected) vertebrae.
- 4.42 Multilevel structural compromise is mentioned in Table 4.1 of these Guidelines and constitutes DREs that are in categories IV and V. It is constituted by “structural inclusion”, which by definition (p99, AMA 4 Guides) is related to “spine fracture patterns” and is different from the differentiators in Table 71 (p109 AMA 4 Guides).
- 4.43 Fractures of transverse or spinous processes (one or more) with displacement within a spinal region are assessed as DRE category II because the fracture(s) does not disrupt the spinal canal (p 104, AMA 4 Guides), and they do not cause multilevel structural compromise.
- 4.44 **In the application of Table 4.1 to workers with multilevel structural compromise:**
- (i) **Multiple vertebral fractures without radiculopathy are classed as Category IV; and**
 - (ii) **Multiple vertebral fractures with radiculopathy are classed as Category V.**

- 4.45 One or more end plate fractures in a single spinal region without measurable compression of the vertebral body are rated as DRE category II.

Pelvic fractures

- 4.46 **Pelvic fractures should be assessed using section 3.4** (p 131 AMA 4 Guides). **Fractures of the acetabulum should be assessed using Table 64** (pp 85 - 86, AMA 4 Guides).
- 4.47 Multiple fractures of the pelvis should be assessed separately and then combined.

Chapter 5

Nervous System Impairment

Introduction

- 5.1 Chapter 4 in the AMA 4 Guides (pp 139 - 152) provides guidelines on methods of assessing permanent impairment involving the central nervous system. Elements of the assessment of permanent impairment involving the peripheral nervous system can be found in relevant parts of the Upper Extremity, Lower Extremity and Spine sections.
- 5.2 Chapter 4 is logically structured and consistent with the usual sequence of examination of the nervous system. Cortical functions are discussed first, followed by the cranial nerves, the brain stem, the spinal cord and the peripheral nervous system.
- 5.3 Spinal cord injuries should be assessed using the Nervous System Chapter and the Musculoskeletal System Chapter of the AMA 4 Guides and 5.6 (below) of these Guidelines.
- 5.4 **The relevant part of the Upper Extremity, Lower Extremity and Spine sections of the AMA 4 Guides should be used to assess impairments of the peripheral nervous system.**

The Approach to Assessment of Permanent Neurological Impairment

- 5.5 The introduction to Chapter 4 (the Nervous System) of the AMA 4 Guides is ambiguous in its statement about combining nervous system impairments. **The most severe impairment in the categories of (1) disturbances of consciousness and awareness (permanent and episodic), (2) aphasia or communication disorders, (3) mental status and integrative functioning abnormalities, or (4) emotional and behavioural disturbances only should be assessed. Select the highest rating from categories 1 to 4. This rating can then be combined with ratings from other body regions.**
- 5.6 A different approach is taken in the assessment of spinal cord impairment (section 4.3, pp 147 - 148, AMA 4 Guides). In this case impairments due to this pathology can be combined using the Combined Values Chart (pp 322 - 324 AMA 4 Guides). **It should be noted that section 4.3 The Spinal Cord should be used for motor or sensory impairments caused by a central nervous system lesion.** Impairment evaluation of SCI should be combined with the associated DRE 1-5 from section 3.3 in the Musculoskeletal System Chapter (pp 101 - 107, AMA 4 Guides). Thus, this section covers hemiplegia due to cortical injury as well as spinal cord injury.

- 5.7 Headache or other pain potentially arising from the nervous system, including migraine, is assessed as part of the impairment related to a specific structure. The AMA 4 Guides state that the impairments percentages shown in the Chapters of the AMA 4 Guides make allowance for the pain that may accompany the impairing condition.
- 5.8 The nervous system chapter of the AMA 4 Guides lists many impairments where the range for the associated whole person impairment is from 0 to 9 or 0 to 14 percent. **Where there is a range of impairment percentages listed, the medical assessor should nominate an impairment percentage based on the complete clinical circumstances revealed during the consultation, giving reasons for the values chosen.**

Specific Interpretation of the AMA 4 Guides

The Central Nervous System - Cerebrum or Forebrain

- 5.9 **For an assessment of Mental Status Impairments and Emotional and Behavioural Impairments there should be:**
- (i) **evidence of a significant impact to the head, or a cerebral insult; and**
 - (ii) **one or more significant medically verified abnormalities such as an abnormal initial post-injury Glasgow Coma Scale score, or Post Traumatic Amnesia of significant duration, or brain imaging abnormality.**
- 5.10 **The results of neuropsychological testing, if available, should be taken into consideration.**
- 5.11 **Assessment of disturbances of Mental Status and Integrative Functioning. The medical assessor should use Table 5.1 of these Guidelines, the Clinical Dementia Rating (CDR) which combines cognitive skills and function.**

Table 5.1 Clinical Dementia Rating

	Impairment Level and CDR Score				
	None 0	Questionable 0.5	Mild 1.0	Moderate 2.0	Severe 3.0
Memory (M)	No memory loss or slight inconsistent forgetfulness	Consistent slight forgetfulness; partial recollection of events; 'benign' forgetfulness	Moderate memory loss; more marked for recent events; defect interferes with everyday activities	Severe memory loss, only highly learned material retained; new material rapidly lost	Severe memory loss; only fragments remain
Orientation (O)	Fully oriented	Fully oriented except for slight difficulty with time relationships	Moderate difficulty with time relationships; oriented in place at examination; may have geographic disorientation else where	Severe difficulty with time relationships; usually disoriented to time, often to place	Oriented to person only
Judgement and Problem Solving (JPS)	Solves everyday problems and handles business and financial affairs well; judgement good in relation to past performance	Slight impairment in solving problems, similarities and differences	Moderate difficulty in handling problems, similarities, and differences; social judgement usually maintained	Severely impaired in handling problems, similarities, and differences; social judgement usually impaired	Unable to make judgements or solve problems
Community Affairs (CA)	Independent function at usual level in job, shopping, volunteer and social groups	Slight impairment in these activities	Unable to function independently at these activities although may still be engaged in some; appears normal to casual inspection	No pretence of independent function outside home; appears well enough to be taken to functions outside a family home	No pretence of independent function outside home; appears too ill to be taken to functions outside a family home
Home and Hobbies (HH)	Life at home, hobbies and intellectual interests well maintained	Life at home, hobbies and intellectual interests slightly impaired	Mild but definite impairment of function at home; more difficult chores abandoned; more complicated hobbies and interests abandoned	Only simple chores preserved; very restricted interests, poorly maintained	No significant function at home
Personal Care (PC)	Fully capable of self care	Fully capable of self care	Needs prompting	Requires assistance in dressing, hygiene, keeping of personal effects	Requires much help with personal care; frequent incontinence

Table 5.2 Criteria for rating impairment related to mental status

Class 1 1% - 14% Impairment of the Whole Person	Class 2 15% - 29% Impairment of the Whole Person	Class 3 30% - 49% Impairment of the Whole Person	Class 4 50% - 70% Impairment of the Whole Person
Impairment exists, but ability remains to perform satisfactory most activities of daily living CDR = 0.5	Impairment requires direction of some activities of daily living CDR = 1.0	Impairment requires assistance and supervision for most activities of daily living CDR = 2.0	Unable to care for self and be safe in any situation without supervision CDR = 3.0

- 5.12 **When using the CDR the worker's cognitive function for each category should be scored independently. The maximum CDR score is 3. Memory is considered the primary category, the other categories are secondary. If at least three secondary categories are given the same numeric score as memory then the CDR = M. If three or more secondary categories are given a score greater or less than the memory score, CDR = the score of the majority of secondary categories unless three secondary categories are scored less than M and two secondary categories are scored greater than M. In this case CDR = M. Similarly if two secondary categories are greater than M, two are less than M and one is the same as M, CDR=M.**
- 5.13 **Corresponding impairment ratings for CDR scores are listed in Table 5.2 above.**
- 5.14 **Assessment of Emotional or Behavioural Disturbances is done using Table 3 of the AMA 4 Guides (p 142).**
- 5.15 **Assessment of Arousal and Sleep Disorders, (pp143 - 144 and Table 6, p 143, AMA 4 Guides): The medical assessor should make assessments of Sleep and Arousal Disorders based on the clinical assessment that would normally have been done for clinically significant disorders of this type.**
- 5.16 **Visual Impairment Assessment (p 144, AMA 4 Guides). An ophthalmologist² should assess all impairment of visual acuity, visual fields or extra-ocular movements.**
- 5.17 **Trigeminal Nerve Assessment (p 145, AMA 4 Guides). Sensory impairments of the trigeminal nerve should be assessed with reference to Table 9 (p145, AMA 4 Guides). The words "or sensory disturbance" should be added to the Table after the words "neuralgic pain" in each instance. Impairment percentages for the three divisions of the trigeminal nerve should be apportioned with extra weighting for the first division (e.g. division 1 40%, and division 2 & 3**

² A medical assessor accredited in line with section 77C of the Act and with a speciality in ophthalmology.

30% each). If present, motor loss for the trigeminal nerve should be assessed in terms of its impact on mastication and deglutition (p 231, AMA 4 Guides).

5.18 Assessment of Sexual Functioning, (p 149, AMA 4 Guides). Sexual dysfunction is assessed as an impairment only if there is an associated objective neurological impairment. This is consistent with 4.31 - 4.32 of these Guidelines.

5.19 Olfaction and Taste. The assessment of olfaction and taste is covered in 6.14 of these Guidelines.

Chapter 6

Ear, Nose and Throat, and Related Structures Impairments

Introduction

- 6.1 Chapter 9 in the AMA 4 Guides (pp 223 - 234) provides guidelines on methods of assessing permanent impairment involving the ear, nose and throat and related structures, including the face. The assessment of permanent impairment involving scarring of the face may be undertaken using Chapter 13, *The Skin*, in the AMA 4 Guides (pp 279 - 280) and/or section 9.2 (p 229 - 230 AMA 4 Guides) *The Face*.
- 6.2 Chapter 9 in the AMA 4 Guides discusses the ear, hearing, equilibrium, the face, respiratory (air passage) obstruction, mastication and deglutition, olfaction and taste, and speech. It should be noted that there is potential overlap with other chapters, particularly the nervous system, in these areas.

The Approach to Assessment of Ear, Nose and Throat and Related Structures

- 6.3 For assessment of impairment of the ear, nose and throat and related structures, it is essential that the worker is interviewed by the medical assessor. While the assessment may be based principally on the results of audiological or other investigations, the complete clinical picture must be elaborated through direct consultation with the worker by the medical assessor.

Specific Interpretation of the AMA 4 Guides

The Ear and Hearing

- 6.4 **The Ear and Tinnitus** (pp 223-224, AMA 4 Guides)
Tinnitus is only assessable in the presence of hearing loss. An impairment of up to 5% can be added, not combined, to the percentage binaural hearing impairment prior to converting to whole person impairment hearing loss if tinnitus is permanent and severe.

Hearing Impairment

- 6.5 **Impairment of a worker's hearing is determined according to assessment of the worker's binaural hearing impairment (section 73(1) of the Act).**
- 6.6 **Permanent hearing impairment. Hearing impairment should be evaluated when the condition is stable. Prosthetic devices (i.e. hearing aids) must not be used during the evaluation of hearing sensitivity.**

6.7 **Hearing threshold level for pure tones** is defined as the number of decibels above a standard audiometric zero level for a given frequency at which the listener's threshold of hearing lies when tested in a suitable sound attenuated environment. It is the reading on the hearing level dial of an audiometer that is calibrated according to Australian Standard AS 2586-1983 of Standards Australia.

6.8 **Evaluation of binaural hearing impairment:** Binaural hearing impairment is determined by means of the 1988 NAL tables "Improved Procedure for Determining Percentage Loss of Hearing" with allowance for presbycusis according to the presbycusis correction table in the same publication.³

6.9 The level of binaural hearing impairment (BHI) is converted to impairment of the whole person by applying the following formula (section 73(4) of the Act, and regulation 17(2) of the Workers Rehabilitation and Compensation Regulations 2001):

% BHI	% Whole person impairment
5 or less	0
More than 5	$5 + [0.278(\text{BHI} - 5)]$ (rounded to the nearest whole number)

Equilibrium

6.10 **Assessment of impairment due to disorders of equilibrium** (pp 228 and 229 of the AMA 4 Guides) is dependent on objective findings of vestibular function. Such data must be available to the medical assessor.

6.11 There is an error in the description of Classes 3, 4 and 5 Criteria of Vestibular Impairment (p 229, AMA 4 Guides). The error is corrected as follows - **Class 3 of Impairment of Vestibular function is associated with a whole person impairment of 11% to 30%. Class 4 is 31 to 60% and Class 5, 61% to 95%.**

The Face

6.12 In Table 4 (p 230 AMA 4 Guides) "**total**" means all branches of the facial nerve.

6.13 **Loss of the entire outer ear is 11% whole person impairment.**

Olfaction and Taste

6.14 There is a discrepancy in the AMA 4 Guides in the treatment of olfaction and taste between the Nervous System Chapter (pp 144, 146) and the ENT Chapter (pp 231 - 232). **To resolve this difference, the medical assessor may assign a value of whole person impairment from 1% to**

³ Improved Procedure for Determining Percentage Loss of Hearing, NAL Report No. 118, National Acoustics Laboratory, Commonwealth of Australia, 1988.

5% for loss of sense of taste and a value of whole person impairment from 1% to 5% for loss of sense of olfaction. Reasons for the value chosen should be given.

Scarring

- 6.15 **Scarring, for example from burns, can be evaluated by applying Table 2 (p 280, AMA 4 Guides) or by applying criteria from other chapters based on the effect of the scarring. Facial scarring/disfigurement may also be assessed by reference to Table 4 (p 230, AMA 4 Guides). Contractures can lead to decreased range of motion of a part, or might involve peripheral nerves, thereby requiring assessment of the associated impairment.**

Teeth

- 6.16 **An impairment assessment for loss of teeth should be done with the worker wearing their dental prosthesis if this was normal for the worker prior to the accident. If, as a result of the accident the worker required a dental prosthesis for the first time, or a different dental prosthesis, the difference should be accounted for in the assessment of permanent impairment.**
- 6.17 **Damage to the teeth can only be assessed when there is a permanent impact on mastication and deglutition (p 231, AMA 4 Guides) and/or loss of structural integrity of the face (pp 229-230, AMA 4 Guides).**
- 6.18 **When using Table 6 (p 231, AMA 4 Guides) Relationship of Dietary Restrictions to Permanent Impairment the first category is to be 0%-19%, not 5%-19%.**
- 6.19 **In some cases it will be necessary to access current dental x-rays to assess permanent impairment.**

Respiration

- 6.20 **When Table 5 (p 231, AMA 4 Guides) is used for the evaluation of air passage defects these Guidelines allow 0%-5% whole person impairment where there is significant difficulty in breathing through the nose and examination reveals significant partial obstruction of the right and/or left nasal cavity or nasopharynx or significant septal perforation.**

Speech

- 6.21 **When Table 7 Speech Impairment Criteria (p. 233, AMA 4 Guides) is used the percentage from the Table must be converted to whole person impairment using Table 9 (p 234, AMA 4 Guides).**

Chapter 7

Mental and Behavioural Disorders Impairment

Introduction

- 7.1 Section 71(2) of the Act provides that a worker who suffers permanent psychiatric impairment is entitled to lump sum compensation if the level of whole person impairment is assessed at not less than 10%. It should be noted that this threshold is different to that applying for physical impairment.
- 7.2 This chapter sets out the method of assessing psychiatric impairment. The method of assessment is based upon the AMA 4 Guides. This chapter provides clarification to the concepts outlined in Chapter 14 of the AMA 4 Guides. In undertaking assessments under this chapter, the preliminary instructions detailed in Chapters 1 and 2 of the AMA 4 Guides are to be observed.
- 7.3 Assessment of psychiatric impairment is conducted by a medical assessor specialising in psychiatry who has undergone appropriate training in this assessment method. The assessment of impairment requires a medical examination. The medical assessor is to prepare a report addressing the general areas set out in the AMA 4 Guides (pp 299 and 300) and including the PIRS rating form which appears on page 50 of these Guidelines.
- 7.4 **The impairment assessment must be based upon a psychiatric diagnosis (according to a recognised diagnostic system) and the report must specify the diagnostic criteria upon which the diagnosis is based.** Impairment due to a physical condition is assessed under the table for the relevant body system. % Impairment refers to “Whole Person Impairment”.
- 7.5 A psychiatric disorder is said to be permanent if it is “likely to continue indefinitely”. Regard should be given to:
- (i) the duration of impairment;
 - (ii) the likelihood of improvement in the worker’s condition;
 - (iii) any other relevant matters.
- 7.6 Where the worker declines treatment, this should not affect the assessment of permanent impairment. The medical assessor may make a comment in the report about the likely effect of treatment or the reasons for refusal of treatment.

7.7 In order to measure the impairment caused by a work-related injury or incident, the medical assessor must assess any pre-existing psychiatric impairment and then subtract this value from the current impairment rating on each of the six scales below.

7.8 Section 72(2)(a) of the Act provides that in assessing a degree of impairment of an injury, regard is not to be had to any psychiatric or psychological injury, impairment or symptoms arising as a consequence of, or secondary to the physical injury (secondary psychiatric impairment). Further detailed explanation and the method of distinguishing secondary psychiatric impairment is provided in 7.19 - 7.20 below.

7.9 Psychiatric disorders have complex effects on the individual, and impairment is multi-axial.

The AMA 4 Guides do not quantify psychiatric impairment in Chapter 14 (pp 291 - 302), which deals with Mental and Behavioural Disorders. The Guides' authors explain that medically determinable impairments in thinking, affect, intelligence, perception, judgment and behaviour are difficult to translate into functional limitations.

One of the ways to determine the degree of psychiatric impairment is to examine the level of disability produced by an equivalent degree of physical impairment. The compatibility between psychiatric and physical disability will minimize discrimination between workers suffering psychiatric injuries and workers suffering physical injuries.

The Assessment of Mental and Behavioural Disorders must be undertaken in accordance with the Psychiatric Impairment Rating Scale as set out in these Guidelines. Chapter 14 of the AMA 4 Guides (pp 291-302) is to be used for background or reference only.

The Psychiatric Impairment Rating Scale (PIRS) has been developed drawing heavily on Chapter 14 of the AMA 4 Guides.

The AMA 4 Guides provide a framework to determine whether a work-related injury has caused psychiatric impairment. They bridge the gap between impairment and disability by focussing on four areas or aspects of functioning:

- (i) Activities of daily living (three aspects of ADL are used in the PIRS system)
- (ii) Social functioning
- (iii) Concentration, persistence and pace
- (iv) Adaptation

These areas are described in detail on pp 294 - 295, AMA 4 Guides.

Activities of daily living include self-care, personal hygiene, communication, ambulation, travel and social and recreational activities.

Social functioning refers to capacity to get along with others and communicate effectively.

Concentration, persistence and pace is defined as the ability to sustain focussed attention, long enough to permit the timely completion of tasks commonly found in work settings.

Adaptation (also called deterioration or de-compensation in work or work-like settings) refers to the repeated failure to adapt to stressful circumstances.

Impairment is divided into five classes ranging from no impairment to extreme impairment.

Mental and behavioural disorders resulting from an organic brain injury are more suitably assessed as an organic problem under the Nervous System Impairment Chapter of these Guidelines (Chapter 5).

Approach to assessment of mental and behavioural disorders

7.10 **The impairment must be attributable to a recognised psychiatric diagnosis** in accordance with the Diagnostic Statistics Manual of Mental Disorders (4th Edition) [DSM IV TR], International Classification of Diseases (10th Edition) [ICD 10] or a substantial body of peer review research literature. The impairment evaluation report must specify the diagnostic criteria upon which the diagnosis is based.

Impairment due to physical injury, for example, deficits in self-care or travel caused by brain or spinal cord injury, is assessed using different criteria by nervous system impairment assessors.

The PIRS is not to be used to measure impairment due to pain or somatoform disorders.

Where cognitive deficits are suspected, the medical assessor must carefully consider the history of the injury, medical treatment and progress through rehabilitation. The medical assessor will also take into account results of CT and MRI scans, electroencephalograms (EEGs) and results of neuropsychological tests.

The scale is to be used by an appropriate medical assessor. Clinical judgment will be the most important tool in the application of the scale. **The impairment rating must be consistent with a recognised psychiatric diagnosis, and the clinical presentation.**

In order to measure impairment caused by a specific event, the medical assessor **must**, in the case of a worker with a pre-existing psychiatric diagnosis or condition, estimate the overall pre-existing

impairment using precisely the method set out in this Chapter, and subtract this value from the current impairment rating.

Psychiatric Impairment Rating Scale

7.11 Behavioural consequences of psychiatric disorder are assessed on six 'Areas of Function', each of which evaluates an area of functional impairment:

- (i) Self-care and personal hygiene (Table 7.1)
- (ii) Social and recreational activities (Table 7.2)
- (iii) Travel (Table 7.3)
- (iv) Social functioning (relationships) (Table 7.4)
- (v) Concentration, persistence and pace (Table 7.5)
- (vi) Adaptation (Table 7.6).

7.12 Impairment in each area of function is rated using class descriptors. Classes range from 1 to 5 according to severity. The standard form (Figure 7.1) must be used when scoring the PIRS. The classes in each Area of Function are described by way of common examples. These are intended to be illustrative rather than literal criteria. The medical assessor should obtain a history of the worker's pre-accident lifestyle, activities and habits and then assess the extent to which these have changed as a result of the psychiatric injury.

The medical assessor should take into account variations in lifestyle due to age, gender, cultural, economic, educational and other factors.

7.13 The descriptors given in the following tables are not fully comprehensive. The medical assessor may need to extrapolate from the descriptors given to place the worker in the correct category.

Adjustments for effects of treatment or lack of treatment

7.14 An adjustment for the effects of prescribed treatment may be made by the medical assessor if all of the following requirements are met:

- (i) There is research evidence demonstrating that the treatment prescribed is effective for the worker's diagnosed psychiatric condition;
- (ii) The medical assessor is satisfied that the treatment has been appropriate, for example, medication has been taken in the appropriate dose and duration;
- (iii) There is clear clinical evidence that the treatment has been effective, that is, the worker's symptoms have improved and/or functioning has improved; and

- (iv) It is the clinical judgement of the medical assessor that ceasing treatment will result in deterioration of symptoms and/or a worsening in function.

The medical assessor may increase the percentage of whole person impairment by 0% whole person impairment (no or negligible treatment effect), 1% whole person impairment (a mild treatment effect), 2% whole person impairment (a moderate treatment effect) or 3% whole person impairment (a full remission). This paragraph does not apply to the use of analgesics, anti-inflammatory or antidepressant drugs for analgesia or pain management.

Calculation of Whole Person Psychiatric Impairment

7.15 Rating psychiatric impairment using the PIRS is a three-step procedure:

- (i) **Determining the Median Class Score**
- (ii) **Calculation of the Aggregate Score**
- (iii) **Converting the Median Class and Aggregate Score to % whole person impairment**

Table 7.1 Self-Care and Personal Hygiene

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population.
Class 2	Able to live independently, looks after self adequately, although may look unkempt occasionally, sometimes misses a meal or relies on take-away food.
Class 3	Can't live independently without regular support. Needs prompting to shower daily and wear clean clothes. Does not prepare own meals, frequently misses meals. Family member or community nurse visits (or should visit) X 2-3 per week to ensure minimum level of hygiene and nutrition.
Class 4	Needs supervised residential care. If unsupervised, may accidentally or purposefully hurt self.
Class 5	Needs assistance with basic functions, such as feeding and toileting.

Table 7.2 Social and Recreational Activities

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: Goes out regularly to cinemas, restaurants or other recreational venue. Belongs to clubs or associations and is actively involved with these.
Class 2	Occasionally goes out to social events without needing a support person, but does not become actively involved, e.g., dancing, cheering favourite team.
Class 3	Rarely goes to social events, and mostly when prompted by family or close friend. Will not go out without a support person. Not actively involved, remains quiet and withdrawn.
Class 4	Never leaves place of residence. Tolerates the company of family member or close friend, but will go to a different room or garden when others come to visit family or flat mate.
Class 5	Cannot tolerate living with anybody, extremely uncomfortable when visited by close family member.

Table 7.3 Travel

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: Can travel to new environments without supervision.
Class 2	Can travel without support person, but only in a familiar area such as local shops, visiting a neighbour.
Class 3	Cannot travel away from own residence without support person. Problems may be due to excessive anxiety or cognitive impairment.
Class 4	Finds it extremely uncomfortable to leave own residence even with trusted person.
Class 5	Cannot be left unsupervised, even at home. May require two or more persons to supervise when travelling.

Table 7.4 Social Functioning

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: No difficulty in forming and sustaining relationships, e.g., partner, close friendships lasting years.
Class 2	Existing relationships strained. Tension and arguments with partner or close family member, loss of some friendships.
Class 3	Previously established relationships severely strained, evidenced by periods of separation or domestic violence. Spouse, relatives or community services looking after children.
Class 4	Unable to form or sustain long-term relationships. Pre-existing relationships ended, e.g., lost partner, close friends. Unable to care for dependents, e.g., own children, elderly parent.
Class 5	Unable to function within society. Living away from populated areas, actively avoids social contact.

Table 7.5 Concentration, Persistence and Pace

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: Able to pass a TAFE or university course within normal time frame.
Class 2	Can undertake a basic retraining course, or a standard course at a slower pace. Can focus on intellectually demanding tasks for periods of up to thirty minutes, e.g., then feels fatigued or develops headache.
Class 3	Unable to read more than newspaper articles. Finds it difficult to follow complex instructions, e.g., operating manuals, building plans, make significant repairs to motor vehicle, type long documents, follow a pattern for making clothes, tapestry or knitting.
Class 4	Can only read a few lines before losing concentration. Difficulties following simple instructions. Concentration deficits obvious even during brief conversation. Unable to live alone, or needs regular assistance from relatives or community services.
Class 5	Needs constant supervision and assistance within institutional setting.

Table 7.6 Adaptation

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: Able to work full time. Duties and performance are consistent with the worker's education and training. The worker is able to cope with the normal demands of the job.
Class 2	Able to work full time in a different environment. The duties require comparable skill and intellect. Can work in the same position, but no more than 20 hours per week, e.g., no longer happy to work with specific persons, work in a specific location due to travel required.
Class 3	Cannot work at all in same position. Can perform less than 20 hours per week in a different position, which requires less skill or is qualitatively different, e.g., less stressful.
Class 4	Cannot work more than one or two days at a time, less than twenty hours per fortnight. Pace is reduced, attendance is erratic.
Class 5	Cannot work at all.

7.16 **Determining The Median Class Score:** Each area of function described in the PIRS is given an impairment rating which ranges from Class 1 to 5. The six scores are arranged in ascending order, using the standard form. The median is then calculated by averaging the two middle scores. For example:

Example A: 1, 2, **3, 3**, 4, 5 Median Class = 3

Example B: 1, 2, **2, 3**, 3, 4 Median Class = 2.5 = 3*

Example C: 1, 2, **3, 5**, 5, 5 Median Class = 4

* Where a score falls between two classes, it is rounded up to the next class. A Median Class Score of 2.5 thus becomes 3.

7.17 The Median Class Score method was chosen, as it is not influenced by extremes. Each area of function is assessed separately. Whilst impairment in one area is neither equivalent nor interchangeable with impairment in other areas, the median seems the fairest way to translate different impairments onto a linear scale.

Calculation of the Aggregate Score: The Aggregate Score is used to determine an exact percentage of impairment within a particular class range. The six class scores are added to give the aggregate score.

Converting the Aggregate Score: The median class and aggregate score are converted to a percentage impairment score using the Conversion Table (Table 7.7).

Table 7.7 Conversion Table

	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Class 1	0	0	1	1	2	2	2	3	3																
Class 2				4	5	5	6	7	7	8	9	9	10												
Class 3								11	13	15	17	19	22	24	26	28	30								
Class 4											31	34	27	41	44	47	50	54	57	60					
Class 5															61	65	70	74	78	83	87	91	96	100	

Conversion Table – Explanatory Notes

(A) Distribution of aggregate scores

The lowest aggregate score that can be produced is: $1+1+1+1+1+1=6$.

The highest score that can be produced is: $5+5+5+5+5+5= 30$.

The Table therefore has aggregate scores ranging from 6 to 30.

Each median class score has a range of possible aggregate scores and hence a range of possible impairment scores (e.g. class 3 = 11-30% whole person impairment).

The Conversion Table distributes the impairment percentages across the possible range of aggregate scores.

(B) Same aggregate score in different classes

The Conversion Table shows that the same aggregate score leads to different impairment percentages for different median classes. For example, an aggregate score of 18 is equivalent to an impairment rating of

- 10% in class 2
- 22% in class 3 and
- 34% in class 4

This is because a worker whose impairment is in median class 2 is likely to have a lower score across most areas of function. The worker may be significantly impaired in one aspect of their life, such as travel, yet have low impairment in social function, self-care or concentration. In contrast, someone whose impairment reaches median class 4 will experience significant impairment across most aspects of his or her life.

Examples

Example A

List classes in ascending order

1	2	3	3	4	5
---	---	---	---	---	---

Median Class value

3

Aggregate score

1+	2+	3+	3+	4+	5
----	----	----	----	----	---

=

Total	%
18	22%WPI

Example B

List classes in ascending order

1	2	2	3	3	5
---	---	---	---	---	---

Median Class value

3

Aggregate score

1+	2+	2+	3+	3+	5
----	----	----	----	----	---

=

Total	%
16	17%WPI

Example C

List classes in ascending order

1	2	3	5	5	5
---	---	---	---	---	---

Median Class value

4

Aggregate score

1+	2+	3+	5+	5+	5
----	----	----	----	----	---

=

Total	%
21	44%WPI

Psychiatric Impairment Rating Scale - Assessment Form

Psychiatric diagnoses	1.	2.
	3.	4.
Psychiatric treatment description		

Category	Class	Reason for decision
Self-care and personal hygiene		
Social and recreational activities		
Travel		
Social functioning		
Concentration, persistence and pace		
Adaptation		

List classes in ascending order

--	--	--	--	--	--

Median Class Value

--

Aggregate score

+	+	+	+	+	
---	---	---	---	---	--

=

Total %

--	--

Pre-existing impairment? If yes, determine % as above

List classes in ascending order

--	--	--	--	--	--

Median Class Value

--

Aggregate score

+	+	+	+	+	
---	---	---	---	---	--

=

Total %

--	--

Final % whole person impairment _____

Pre-existing Impairment

- 7.18 A pre-existing impairment should be subtracted from the currently assessed impairment. Clearly this can only be done if there is sufficient information about a pre-existing impairment to make an assessment.

Psychiatric Impairment Arising as a Consequence of or Secondary to a Physical Injury

- 7.19 Section 72(2) of the Act provides that in assessing the degree of impairment of an injury-

(a) regard is not to be had to any psychiatric or psychological injury, impairment or symptoms arising as a consequence of, or secondary to, the physical injury

The legislation establishes a distinction between compensable and non-compensable psychiatric impairment where the psychiatric impairment is associated with a physical injury. Non-compensable psychiatric impairment is that impairment which has arisen secondary to physical injury. Compensable psychiatric impairment requires:

- (i) A clearly established link between the incident and the psychiatric disorder
- (ii) The disorder must lead to impairment
- (iii) The psychiatric disorder cannot be better explained as secondary or a consequence of physical injury.

- 7.20 A three stage assessment process is recommended:

1. Identify a psychiatric or psychological injury, impairment or symptoms and assess the degree of whole person impairment;
2. Assess the relationship of the psychiatric or psychological injury, impairment or symptoms to a physical injury;
3. Identify which portion of whole person impairment has arisen as a consequence or secondary to a physical injury so that it can be deducted or disregarded in assessing the level of compensable psychiatric impairment.

It is important that medical assessors support their findings and describe the relevant clinical observations in assessing whole person psychiatric impairment and any impairment arising as a consequence of, or secondary to, a physical injury.

7.21 Examples

1. A worker suffers a back injury following the lifting of an object at work and the worker's condition means that some activities of daily living are affected so that he or she can no longer perform ordinary household duties, such as mowing the lawn. The worker becomes depressed as a result of not being able to perform such usual tasks. In such instance any impairment due to depression would not be included in the overall impairment assessment.
2. A worker suffering from post traumatic stress disorder may develop tension headaches and muscle spasms induced by anxiety. The severe headaches and muscle spasms in turn may contribute to a depressive disorder. The depressive disorder is secondary to physical symptoms but the physical symptoms arise from a psychiatric disorder which leads to a primary impairment. In this example the secondary psychiatric condition is not excluded because the initial injury was a psychiatric disorder not a physical injury.
3. A worker suffers a needle stick injury. The injury itself is trivial, but there are concerns about the effect of blood exposure. It is three months before this can be ruled out. The worker develops severe anxiety disorder including panic attacks and secondary agoraphobia. The worker is later cleared of any blood borne disease, but by that time the presence of recurrent panic attacks and secondary agoraphobia have become autonomous, difficult to remedy even with treatment. The important issue in this case is whether or not the psychiatric disorder can be linked to the traumatic event itself or whether it is more properly linked to the physical injury. If linked to the event and not the physical injury, any impairment would be included in the overall impairment assessment.
4. A worker had been employed in a factory for twelve years. The worker suffered a back injury and had months off work before being cleared to return to work. The worker was pleased to return to work and at that stage had no psychiatric symptoms. The employer did not want a disabled worker and made that very clear. He was given inappropriate jobs and was verbally abused. Other workers began to ostracise him. He developed an anxiety disorder and was unable to work for that reason. In this case the psychiatric disorder may be regarded as a discrete injury, not the sequel of the physical injury.

5. A female worker was involved in a serious motor vehicle accident in which a close friend suffered major injuries. The worker's energies were devoted to the friend until his condition stabilised after six weeks. She had no time until then for her own concerns. At that time she began developing post traumatic stress disorder arising from the accident. The subsequent development of a psychiatric disorder may lead to a direct or secondary impairment (or both). The important issue is whether or not the psychiatric disorder can be linked to the traumatic event itself or whether it is more appropriately linked to the physical injury. Links to the traumatic event may include symptoms such as phobic anxiety about car travel or distress with reminders of car accidents.

Chapter 8

Impairment of Other Body Systems

- 8.1 Permanent Impairment of other body systems is less common, but will occur. The following material provides commentary on the relevant chapters of the AMA Guides.

The Respiratory System

Introduction and Approach to Assessment

Chapter 5 of the AMA 5 Guides applies to the assessment of permanent impairment of the respiratory system, subject to the modifications set out below.

- 8.2 Chapter 5 of the AMA 5 Guides provides a useful summary of the methods for assessing permanent impairment arising from respiratory disorders.
- 8.3 The system of respiratory impairment classification is straightforward and based on a combination of forced vital capacity (FVC), forced expiratory volume (FEV1) and diffusing capacity of carbon monoxide (DCO) or measurement of exercise capacity (VO₂max). Healed sternal and rib fractures do not result in any assessable impairment unless they result in a permanent impairment of respiratory function.
- 8.4 The level of impairment arising from conditions that are not work related needs to be assessed by the medical assessor and taken into consideration in determining the level of permanent impairment. The level at which pre-existing conditions and lifestyle activities such as smoking contribute to the level of permanent impairment requires judgement on the part of the clinician undertaking the impairment assessment. The manner in which any deduction for these is applied needs to be recorded in the assessing specialist's report.

Examinations, clinical studies and other tests for evaluating respiratory disease (AMA5 Guides, Section 5.4)

- 8.5 AMA 5 Guides, Tables 5-2b, 5-3b, 5-4b, 5-5b, 5-6b and 5-7b give the lower limits of normal values for pulmonary function tests. These are used in Table 5-12 to determine the impairment classification for respiratory disorders.
- 8.6 Classes 2, 3 and 4 in Table 5-12 list ranges of whole person impairment. The assessor should nominate the nearest whole percentage based on the complete clinical circumstances when selecting within the range.

Specific Interpretation of the AMA 5 Guides

- 8.7 The claimant needs to bring to the assessment the results of recent investigations that have determined the lung function parameters listed at 8.3 above. It is anticipated that some workers will also have had their maximum oxygen consumption assessed.

Asthma (AMA 5 Guides, Section 5.5)

- 8.8 In assessing permanent impairment arising from occupational asthma, the assessor will require evidence from the treating physician that:
- at least three lung function tests have been performed over a six month period and that the results were consistent and repeatable over that period;
 - the worker has received maximal treatment and is compliant with his/her medication regimen.
- 8.9 Bronchial challenge testing should not be performed as part of the impairment assessment, therefore in AMA 5 Guides, Table 5-9 (p 104) ignore column four (PC₂₀ mg/mL or equivalent, etc).
- 8.10 Permanent impairment due to asthma is rated by the score for the best post-bronchodilator forced expiratory volume in one second (FEV₁) (score in column 2, AMA 5 Guides, Table 5-9) plus per cent of FEV₁ (score in column 3) plus minimum medication required (score in column 5). The total score derived is then used to assess the percent impairment in AMA 5 Guides, Table 5-10 (p 104).

Obstructive sleep apnoea (AMA 5 Guides, Section 5.6)

- 8.11 This section needs to be read in conjunction with AMA 5 Guides, Section 11.4 (p 259) and Section 13.3c (p 317).
- 8.12 Before permanent impairment can be assessed, the person must have appropriate assessment and treatment by an ear, nose and throat surgeon and a respiratory physician who specialises in sleep disorders.
- 8.13 Degree of permanent impairment due to sleep apnoea should be calculated with reference to AMA 5 Guides, Table 13-4 (p 317).

Hypersensitivity pneumonitis (AMA 5 Guides, Section 5.7)

- 8.14 Permanent impairment arising from disorders included in this section are assessed according to the impairment classification in AMA 5 Guides Table 5-12.

Pneumoconiosis (AMA 5 Guides, Section 5.8)

8.15 Impairment due to Pneumoconiosis is assessed by using Table 5-12 (p 107) of AMA 5 Guides, noting instructions in Section 5.8 AMA 5 (p 106).

Lung cancer (AMA 5 Guides, Section 5.9)

8.16 Permanent impairment due to lung cancer should be assessed at least six months after surgery. Table 5-12 (not Table 5-11) should be used for assessment of permanent impairment.

8.17 Persons with residual lung cancer after treatment are classified in Respiratory Impairment Class 4 (Table 5-12).

Permanent impairment due to respiratory disorders (AMA 5 Guides, Section 5.10)

8.18 Table 5-12 (p 107, AMA 5 Guides) should be used to assess permanent impairment for respiratory disorders. The pulmonary function tests listed in Table 5-12 must be performed under standard conditions. Exercise testing is not required on a routine basis.

8.19 An isolated abnormal diffusing capacity for carbon monoxide (DCO) in the presence of otherwise normal results of lung function testing should be interpreted with caution and its aetiology should be clarified.

The Cardiovascular System

Introduction and Approach to Assessment

8.20 Chapter 6 of the AMA 4 Guides (pp 169-199) provides a clear explanation of the methods required for the assessment of the cardiovascular system.

Specific Interpretation of the AMA Guides

8.21 It is particularly important that the worker who is being assessed attends with the results of diagnostic tests performed that provide information on the cardiovascular impairment that is to be assessed. The important data that needs to be brought to the impairment assessment will include (where possible):

- ECG (including an exercise ECG)
- Standard and trans-oesophageal echocardiogram
- Exercise Thallium scan, exercise echo scan
- Coronary angiograms
- Operative notes for coronary artery bypass grafts, coronary angioplasty or other surgery
- Holter monitoring results
- Electro diagnostic studies
- Serum urea/electrolytes and urinalysis (particularly if hypertensive)

Diagnostic tests should not be routinely ordered for the purpose of rating of impairment. This is in keeping with the approach taken elsewhere in these Guidelines.

8.22 **Functional Classification of Cardiovascular System Impairments.** Table 2 (page 171, AMA 4 Guides) should be used as an option if the medical assessor is not sure into which category the worker should be placed based on the specific pathology as suggested in subsequent tables (Tables 4 to 12 inclusive). This table can be used as a "referee" or "umpire" if there is doubt about the actual level of impairment that is obtained using the other recommended tables in this section.

- 8.23 **Hypertensive Cardiovascular Disease** (section 6.4, pp 185-188, AMA 4 Guides). This type of cardiovascular disease (Table 9, p 187, AMA 4 Guides) requires previous documentation of the hypertension (from medical records). If the injured worker's illness is controlled with medication, then he or she might not be assessable under this table. Here there is also a need for the review of all relevant tests that will have been done by the worker's treating physician(s).
- 8.24 Vascular Diseases Affecting the Extremities (pp 196-198, AMA 4Guides). Impairments due to upper or lower extremity peripheral vascular disease due to vascular trauma are better assessed using the musculoskeletal chapter of the AMA 4 Guides. The cardiovascular chapter of AMA 4 Guides should not be used.
- 8.25 Impairment scores from Table 13 Impairment of the Upper Extremity Due to Peripheral Vascular Disease (p 197, AMA 4 Guides) and Table 14 Impairment of the Lower Extremity Due to Peripheral Vascular Disease (p 198, AMA 4 Guides) must be converted to whole person impairments.

The Haemopoietic System

Introduction and Approach to Assessment

- 8.26 The methods of impairment assessment in Chapter 7 of the AMA 4 Guides (pp 201-207) should be used.
- 8.27 Splenectomy is covered in Chapter 7 of the AMA 4 Guides (p 205, AMA 4 Guides). **Work -related post-traumatic splenectomy should be assessed as having 3% whole person impairment.**

The Visual System

Introduction and Approach to Assessment

- 8.28 The visual system should be assessed by an ophthalmologist.⁴ Chapter 8 of the AMA 4 Guides (pp 210-222) is adopted for these Guidelines without significant change. An exception is made for clear cut visual field impairments that can be assessed as part of the Nervous System Chapter.
- 8.29 Impairment of vision should be measured with the worker wearing their corrective spectacles or contact lenses, if it was normal for the worker prior to the work-related injury, or if the need for such spectacles has become necessary due to normal physiological changes to the refractive error either in distance or near vision. If, as a result of the injury, the worker has been prescribed corrective spectacles and/or contact lenses for the first time, or different spectacles and/or contact lenses than those prescribed pre-injury, the difference should be accounted for in the assessment of permanent.

⁴ A medical assessor accredited in line with section 77C of the Act and with a speciality in ophthalmology.

- 8.30 The ophthalmologist should perform all tests necessary for the assessment himself/herself rather than relying on tests done by the orthoptist or optometrist.

Specific Interpretation of the AMA Guides

Visual Field Impairment

- 8.31 Section 8.2 (pp211-216) describes 2 acceptable methods for determining visual field loss, either:

Method 1 - measuring visual fields in each of 8 principal meridians (Table 4, p212) or

Method 2 - using an Esterman grid (either monocular or binocular field tests can be used).

In current practice, visual field testing usually involves the use of automated field tests providing binocular or monocular visual field test results. These are acceptable for impairment assessment purposes using Method 2.

With Method 2, either monocular or binocular visual field tests can be used but binocular field testing is not recommended when loss of ocular motility is present.

Where monocular fields are measured, the loss of visual field in each eye is combined with loss of central vision in each eye to give the impairment for each eye (in accordance with Example 1, p217 AMA4). Only directly measured monocular fields are to be used for this method. Binocular field losses are not to be arbitrarily converted to monocular field losses.

Where binocular fields are measured using either an Esterman Grid or automated Esterman Field test, the percentage binocular visual field loss directly becomes the visual system impairment due to visual field loss and is combined with any percentage visual system impairment due to loss of central vision, (in accordance with Example 3, p218 AMA4).

The Digestive System

Introduction and Approach to Assessment

- 8.32 Assessments performed using this chapter should apply the methods outlined in Chapter 10 of the AMA 4 Guides (pp 235 to 248).
- 8.33 Tables 2 to 7 in Chapter 10 of the AMA 4 Guides give details of the components to be assessed. Examples are given that assist by describing illustrative cases. Note that splenectomy is discussed in the haemopoietic system chapter. Table 7 (p 247, AMA 4 Guides): In classes 1 and 2 the first criterion must be present, together with the second or third criterion. In class 3 all three criteria must be present.

The Urinary and Reproductive Systems

Introduction and Approach to Assessment

- 8.34 Chapter 11 of the AMA 4 Guides (pp 249-262) provides clear methods for assessment of impairment in these systems.
- 8.35 For male and female sexual dysfunction, objective pathology should be present for an impairment percentage to be given.

The Endocrine System

Introduction and Approach to Assessment

- 8.36 Chapter 12 of the AMA 4 Guides will be used occasionally to assess impairment resulting from work-related injuries. Each endocrine organ or system is listed separately.
- 8.37 Where an impairment class defines a range of whole person impairment percentages the medical assessor should define a specific percentage impairment within the range described by the class that best describes the clinical status of the worker.
- 8.38 Where injury has resulted in fat necrosis in the mammary glands this should be assessed using Chapter 13 (pp 278-289, AMA 4 Guides) The Skin.

The Skin

Introduction and Approach to Assessment

- 8.39 This chapter refers to skin diseases generally. In the context of injury, Sections 13.4 Disfigurement (p 279, AMA 4 Guides) and 13.5 Scars and Skin Grafts, are relevant.
- 8.40 Disfigurement, scars and skin grafts may be assessed as causing significant permanent impairment when the skin condition causes limitation in performance of activities of daily living. Assessment should include a history that sets out any alterations in activities of daily living. The AMA 4 Guides (p 317) contains a Table of Activities of Daily Living. A scar may be present and rated 0% whole person impairment.

Specific Interpretation of the AMA Guides

- 8.41 Table 2 (p 280, AMA 4 Guides) provides the method of classification of impairment due to skin disorders. Three components, namely signs and symptoms of skin disorder, limitation of activities of daily living and requirements for treatment define five classes of impairment. The medical assessor should derive a specific percentage impairment within the range described by the class that best describes the clinical status of the worker. All three criteria must be present. Impairment values are whole person impairment.
- 8.42 When using Table 2 (p 280, AMA 4 Guides) the medical assessor is reminded to consider the skin as an organ. The effect of scarring (whether single or multiple) is to be considered as the total effect of the scar(s) on the organ system as it relates to the criteria in Table 2.
- 8.43 Criteria for facial impairment are listed on page 229 of the AMA 4 Guides. Table 4 (p 230 AMA 4 Guides) provides whole person impairment scores for specific facial disfigurement.
- 8.44 For the purpose of assessing fat necrosis, Chapter 13 The Skin (pp 277-289), may be used by analogy, where appropriate.
- 8.45 The Table for the Evaluation of Minor Skin Impairment (**TEMSKI**) (Table 8.1) is an extension of Table 2 (p 280, AMA 4 Guides). The TEMSKI divides Class 1 into 5 categories of impairment. When a medical assessor determines a skin disorder falls into Class 1, the medical assessor must assess the skin disorder in accordance with the **TEMSKI** criteria.

The **TEMSKI** is to be used in accordance with the principle of 'best fit'. The medical assessor must be satisfied that the criteria within the chosen category of impairment best reflect the skin disorder being assessed. The skin disorder should meet most, but does not need to meet all, of the criteria within the impairment category in order to satisfy the principle of 'best fit'. The medical assessor must provide detailed reasons as to why this category has been chosen over other categories.

Where there is a range of values in the TEMSKI categories, the medical assessor should use clinical judgment to determine the exact impairment value.

Table 8.1 Table for the Evaluation of Minor Skin Impairment (TEMSKI)

Criteria	0 % WPI	1 % WPI	2 % WPI	3 - 4 % WPI	5 - 9 % WPI
Description of the scar(s) and / or skin condition(s)(shape, texture, colour)	Worker is not conscious or is barely conscious of the scar(s) or skin condition	Worker is conscious of the scar(s) or skin condition	Worker is conscious of the scar(s) or skin condition	Worker is conscious of the scar(s) or skin condition	Worker is conscious of the scar(s) or skin condition
	Good colour match with surrounding skin and the scar(s) or skin condition is barely distinguishable	Some parts of the scar(s) or skin condition colour contrast with the surrounding skin as a result of pigmentary or other changes	Noticeable colour contrast of scar(s) or skin condition with surrounding skin as a result of pigmentary or other changes	Easily identifiable colour contrast of scar(s) or skin condition with surrounding skin as a result of pigmentary or other changes	Distinct colour contrast of scar(s) or skin condition with surrounding skin as a result of pigmentary or other changes
	Worker is unable to easily locate the scar(s) or skin condition	Worker is able to locate the scar(s) or skin condition	Worker is able to easily locate the scar(s) or skin condition	Worker is able to easily locate the scar(s) or skin condition	Worker is able to easily locate the scar(s) or skin condition
	No trophic changes	Minimal trophic changes	Trophic changes evident to touch	Trophic changes evident to touch	Trophic changes are visible
	Any staple marks or suture marks are barely visible	Any staple marks or suture marks are visible	Any staple marks or suture marks are clearly visible	Any staple marks or suture marks are clearly visible	Any staple marks or suture marks are clearly visible
Location	Anatomic location of the scar(s) or skin condition is not clearly visible with usual clothing / hairstyle	Anatomic location of the scar(s) or skin condition is not usually visible with usual clothing / hairstyle	Anatomic location of the scar(s) or skin condition is usually visible with usual clothing / hairstyle	Anatomic location of the scar(s) or skin condition is usually visible with usual clothing / hairstyle	Anatomic location of the scar(s) or skin condition is usually visible with usual clothing / hairstyle
ADL / Treatment	No effect on any ADL	Negligible effect on any ADL	Minor limitation in the performance of few ADL	Minor limitation in the performance of few ADL AND exposure to chemical or physical agents (for example sunlight, heat, cold etc) may temporarily increase limitation	Limitation in the performance of few ADL (IN ADDITION TO restriction in grooming and dressing) AND exposure to chemical or physical agents (for example sunlight, heat cold etc) may temporarily increase limitation or restriction
	No treatment or intermittent treatment only, required	No treatment or intermittent treatment only, required	No treatment or intermittent treatment only, required	No treatment or intermittent treatment only, required	No treatment or intermittent treatment only, required
Adherence to underlying structures	No adherence	No adherence	No adherence	Some adherence	Some adherence

This table uses the principle of 'best fit'. You should assess the impairment to the whole skin system against each criteria and then determine which impairment category best fits (or describes) the impairment. A skin impairment will usually meet most, but does not need to meet all, criteria to 'best fit' a particular impairment category.

Appendix 1

Glossary

Cauda equina syndrome: In the AMA 4 Guides this term does not have its usual medical meaning. For the purposes of the AMA 4 Guides a person with cauda equina syndrome has objectively demonstrated permanent, partial loss of lower extremity function bilaterally. This syndrome may, or may not, have associated objectively demonstrated bowel or bladder impairment.

Disability: Is any restriction or lack of ability to perform an activity in the manner or within the range considered normal for that human being. Thus a disability is the consequence of an impairment.

Handicap: Is a disadvantage that limits or prevents the fulfilment of a role that is/was normal for that individual. It is a further consequence of an impairment or disability.

Impairment: Is a loss or abnormality of psychological, physiological or anatomical structure or function.

Loss of motion segment integrity: While this term is used in the AMA 4 Guides this concept is NOT used in the context of the WorkCover Tasmania Guidelines.

Mental and Behavioural Disorders: These conditions are to be assessed by a psychiatrist using the Psychiatric Permanent Impairment Assessment Scale that is described in Chapter 7 of these Guidelines.

NAL Tables: The tables contained in the National Acoustic Laboratories of Australia Improved Procedures for Determining Percentage Loss of Hearing (1988) are those to be used for the assessment of hearing impairment.

Pain: In general, the impairment percentages shown in the chapters that consider the various organ systems make allowance for the pain that may accompany the impairing conditions. Pain alone is not reliably assessable as a permanent impairment and Chapter 15 of the AMA 4 Guides is not used in these Guidelines.

Permanent impairment: An impairment can be considered permanent if it is static and well stabilised and unlikely to change substantially, that is by more than 3% in the next year.

Pre-existing impairment: Is present when it has been symptomatic and objectively demonstrated. The estimate for the pre-existing impairment is subtracted from that for the present impairment to account for the effects of the former.

Radiculopathy: This condition is present when a person has two or more of the following signs:- loss or asymmetry of reflexes, muscle atrophy and/or decreased limb circumference, muscle weakness that is anatomically localised to an appropriate spinal nerve root distribution, reproducible sensory loss that is anatomically localised to an appropriate spinal nerve root distribution.

Stable impairment: See definition of permanent impairment.

Whole person impairment: For the purposes of these Guidelines, permanent impairment should be expressed as a percentage of the whole person rather than as a percentage of a particular body part.

WorkCover Tasmania - Template for Report on Impairment

DOCUMENT REVIEW (available medical reports and special investigations eg, imaging studies)

I confirm I reviewed the following documents provided (and the actual studies, if available):

- 1.
- 2.
- 3.
- 4.
- 5.

HISTORY

(Relevant history including:

- **details of any previous similar injury/disease**
- **educational and occupational history**
- **mechanisms of alleged injury/sequence of events**
- **initial/early treatment received**
- **subsequent progress/specialist management**
- **current status**
- **current work status**
- **current functional capacity**
- **social and personal history, noting such factors as activities of daily living and any alteration in such activities as a result of the injury(ies) being assessed**
- **past medical history**
- **history of present medical condition(s) i.e. the history of each injury/disease that has been referred for assessment**
- **current treatment**
- **current medications**
- **anticipated/future further treatment**
- **present symptoms).**

EXAMINATION

Clinical examination should ensure that all clinical findings that are essential in providing an impairment rating are recorded. It is important also to record negative finding as well to provide support for the ultimate impairment rating that the examiner decides upon. The examiner should explain how he/she has arrived at a value (e.g. *active range of movement was measured with a goniometer*)

WorkCover Tasmania - Template for Report on Impairment

Relevant tables as those below can be used to record examination findings. Those that are not relevant to the assessment can be deleted.

You can cut and paste such items as the PIRS Assessment Form from the Guidelines into this section.

CERVICAL SPINE

Include comments on:

- Neck posture
- Findings on palpation
- Muscle guarding/spasm
- Dysmetria(see table below)
- Neurological examination of both upper limbs.

Cervical spine movements	Active ROM Measured
Flexion	o
Extension	o
Rotation to the right	o
Rotation to the left	o
Lateral bending to the right	o
Lateral bending to the left	o

THORACIC SPINE

Include comments on:

- Alignment and curvature
- Posture
- Findings on palpation
- Muscle guarding/spasm
- Dysmetria (see table below)
- Neurological findings

Thoracic spine movements	Active ROM Measured
Flexion	o
Extension	o
Rotation to the right	o

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Rotation to the left	◦
Lateral bending to the right	◦
Lateral bending to the left	◦

LUMBAR SPINE

Include comments on:

- Alignment and curvature
- posture
- Findings on palpation
- Spasm/guarding
- Dysmetria (see table below)
- Neurological examination of both lower limbs

Lumbar Spine Movements	Active ROM Measured
Flexion	◦
Extension	◦
Rotation to the right	◦
Rotation to the left	◦
Lateral bending to the right	◦
Lateral bending to the left	◦

UPPER EXTREMITY

You may like to attach your own upper extremity worksheet when you are assessing hand and fingers (e.g. photocopy figure 1 pages 16-17 from AMA4).

Refer to paragraph 2.8 p10 of WorkCover Tasmania Guidelines

Shoulder Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
<i>Flexion</i>	◦	◦
Extension	◦	◦
Adduction	◦	◦
Abduction	◦	◦
Internal Rotation	◦	◦

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External Rotation	°	°
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Elbow Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
<i>Flexion</i>	°	°
Extension	°	°
Pronation	°	°
Supination	°	°

Wrist Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
<i>Flexion</i>	°	°
Extension	°	°
Radial Deviation	°	°
Ulnar Deviation	°	°

LOWER EXTREMITY

Refer to paragraph 3.17 p17 of WorkCover Tasmania Guidelines

Hip Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
<i>Flexion</i>	°	°
Extension	°	°
Adduction	°	°
Abduction	°	°
Internal Rotation	°	°
External Rotation	°	°

Knee Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
<i>Flexion</i>	°	°
Extension	°	°

WorkCover Tasmania - Template for Report on Impairment

Ankle Movements	Active ROM Measured RIGHT	Active ROM Measured LEFT
Dorsiflexion	°	°
Plantarflexion	°	°
Inversion	°	°
Eversion	°	°

RESPIRATORY SYSTEM

Refer to Chapter 8 of the WorkCover Tasmanian Guidelines

Height: cm

Age: yrs

Sex:

Respiratory Function Test Results:

FVC (measured)	FVC (predicted normal)	FVC (Predicted Lower Limit of Normal)
----------------	------------------------	---------------------------------------

FEV1 (measured)	FEV1(predicted normal)	FEV1 (Predicted Lower Limit of Normal)
-----------------	-------------------------	--

Dco (measured)	Dco (predicted normal)	Dco (Predicted Lower limit of Normal)
----------------	------------------------	---------------------------------------

FVC (measured)/FVC(predicted) expressed as %	%
--	---

FEV1(measured)/FEV1(predicted) expressed as %	%
---	---

Dco(measured)/Dco(predicted) expressed as %	%
---	---

VO2max	ml/kg	METS
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WorkCover Tasmania - Template for Report on Impairment

Classification of Respiratory Impairment

Class 1 (0%WPI)	Class 2(10-25%WPI)	Class 3(26-50%WPI)	Class 4(51-100%WPI)

FOR OCCUPATIONAL ASTHMA:

Postbronchodilator FEV1	> or = lower limit of normal Or % of predicted <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: 20px;">* Score (see Table 5-9 p104 AMA5)</div>
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%FEV1 change (reversibility)	% <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: 20px;">* Score (see Table 5-9 p104 AMA5)</div>
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Minimum Medication (as per Table 5-9 AMA5 p104)	<div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: 20px;">* Score (see Table 5-9 p104 AMA5)</div>
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Total Asthma Score (Sum of Scores in above Tables as per Table 5-10 p104 AMA5) =

Classification of Occupational Asthma impairment

Class 1 (0%WPI)	Class 2(10-25%WPI)	Class 3(26-50%WPI)	Class 4(51-100%WPI)

Consistency of Presentation (investigations)

Here the assessor can make a commentary on the consistency of presentation and whether he/she accepts the clinical findings, or if not, why not.

Psychological Aspects (if relevant)

If relevant the assessor can make a commentary on psychological aspects of the injury/disease including attitude to injury/disease.

Diagnosis/Diagnoses: (with reasons)

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The diagnosis of each disease/injury that has been referred for assessment should be discussed here, with confirmation of the diagnosis(es) or, if not found to be present, reasons should be given.

Determination of maximum medical improvement for each work-related injury/disease assessed:

Rateable impairments:

Here, for each injury/disease that the assessor has determined, the rateable impairments need to be listed. Note that for some conditions, e.g. in the lower extremity, several valid potential impairment ratings might have been determined.

Impairment assessment for each work related injury/disease listed

(Detail methodology and calculations, providing relevant references to AMA4 (or AMA5 in the case of respiratory assessments) and WorkCover Tasmania Guidelines for the assessment of permanent impairment Version 3)

- 1.
- 2.
- 3.

Apportionment

Refer to paragraphs 1.30-1.32 p 6 of the WorkCover Tasmania Guidelines.

For each injury/disease referred for assessment, the assessor must make a determination (with reasons) regarding pre-existing impairment to which part or all of the current assessed impairment might be attributed, in keeping with the provisions described in the WorkCover Tasmania Guidelines.

Combination of Impairment Ratings

In the event that the various impairments that have been assessed have arisen from the one work related incident, combination of the % whole person impairment values is done by using the Combined Values Chart at p322 AMA4.

Please note that when undertaking respiratory assessments, the combination tables for AMA4 and AMA5 are the same.

Summary table

Body part or system	WorkCover Guidelines Chapter, page,	AMA Version, chapter, page,	% WPI	Pre-existing % WPI	% WPI due to the injury or disease
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	table/figure	table/figure			
1.					
2.					
3.					
(add extra rows if necessary)					

Assessment

In response to the specific questions raised in your letter of

- 1.
- 2.
- 3.

The contents of this report are true to the best of my knowledge and belief. This report has been written in accordance with the current edition of the *WorkCover Guidelines for the assessment of permanent impairment*.

Please do not hesitate to contact me if I can be of further assistance.

Yours sincerely

Your name