



WORKCOVER GUIDES FOR THE EVALUATION OF
PERMANENT IMPAIRMENT



3RD EDITION – 6 FEBRUARY 2009

Disclaimer

This publication may contain occupational health and safety and workers compensation information. It may include some of your obligations under the various legislations that WorkCover NSW administers. To ensure you comply with your legal obligations you must refer to the appropriate legislation.

Information on the latest laws can be checked by visiting the NSW legislation website (www.legislation.nsw.gov.au).

This publication does not represent a comprehensive statement of the law as it applies to particular problems or to individuals or as a substitute for legal advice. You should seek independent legal advice if you need assistance on the application of the law to your situation.

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FOREWORD

These Guidelines, known as the “*WorkCover Guides*”, are issued under section 376 of the *Workplace Injury Management and Workers Compensation Act 1998* (the 1998 Act) for the purpose of assessing the degree of permanent impairment that arises from a work related injury or condition in accordance with section 322(1) of the 1998 Act. The first edition of the *WorkCover Guides* was issued in December 2001. The focus of the workers compensation legislation is injury management which aims to assist the injured worker to recover and return to work. When a worker sustains a permanent impairment, however, these Guides are intended to ensure an objective, fair and consistent method for evaluating the level of permanent impairment. This third edition of the *WorkCover Guides* replaces the second edition which was issued in November, 2006.

The 1998 Act requires that assessments of permanent impairment be made in accordance with these Guides. Medical specialists trained in the use of the *WorkCover Guides* are to assess the degree of permanent impairment arising from a work related injury or condition.

The *WorkCover Guides* are based on the American Medical Association’s (AMA) *Guides to the Evaluation of Permanent Impairment*, fifth edition. The AMA guides are the most authoritative and widely used source for the purpose of evaluating permanent impairment. However, extensive work by eminent medical specialists, representing all Medical Colleges, has gone into reviewing the AMA guides to ensure that they are aligned with Australian clinical practice.

These Guides apply to all assessments of the degree of permanent impairment that occur on or after 6 February 2009.

These Guides replace the *WorkCover Guides* published in the Government Gazette of 7 November 2008 in order to:

- a. correct a minor referencing error in those Guides
- b. ensure consistency in pagination and cross references between these Guides and a printed version of the Guides issued to practitioners.

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1 INTRODUCTION

- 1.1 WorkCover NSW has introduced Guides for the evaluation of permanent impairment based on the American Medical Association's *Guides to the Evaluation of Permanent Impairment*, fifth edition (AMA5).
- 1.2 These Guides, to be known as the *WorkCover Guides*, are issued under section 376 of the *Workplace Injury Management and Workers Compensation Act 1998* (the 1998 Act). The *WorkCover Guides* were introduced in December 2001 and the current edition is the third edition.
- 1.3 The *WorkCover Guides* adopt AMA5 in most cases. Where there is any deviation, the difference is defined in the *WorkCover Guides*. Where differences exist, the *WorkCover Guides* are to be used as the modifying document. The procedures contained in the *WorkCover Guides* are to prevail if there is any inconsistency with AMA5.
- 1.4 The *WorkCover Guides* are to be used wherever there is a need to establish the level of permanent impairment that results from a work-related injury or disease. The assessment of permanent impairment is conducted for the purposes of awarding a lump sum payment under the statutory benefits of the NSW Workers Compensation Scheme and also for determining access to Common Law, domestic assistance and commutation of claims.
- 1.5
 - a) Assessing permanent impairment involves clinical assessment on the day of assessment and determining:
 - whether the claimant's condition has resulted in impairment
 - whether the condition has reached Maximum Medical Improvement (MMI)
 - whether the resultant impairment is permanent
 - the degree of permanent impairment that results from the injury
 - the proportion of permanent impairment due to any previous injury, pre existing condition or abnormality, if any,in accordance with diagnostic and other objective criteria as detailed in the *WorkCover Guides*.
 - b) Assessors should consult clauses 1.50 to 1.52 of these Guides for a further discussion of the deduction or deductions they are to make (if any) in relation to pre-existing conditions or abnormalities and previous injuries.
- 1.6
 - a) By the time an assessment of permanent impairment is required, the question of liability for the primary condition would normally have been determined. The exceptions to this could be those conditions which are of slow onset.
 - b) The person who makes the referral for an assessment of permanent impairment is to make clear to the assessor the work injury for which an assessment is sought.

- c) The assessor should be clear that only impairments that relate to the relevant work injury can be taken into account when calculating a claimant's degree of permanent impairment. Assessors should therefore identify and record the nature of any previously unidentified condition in their report and specify the causal connection to the relevant workplace injury or injuries.
- 1.7 Medical assessors are expected to be familiar with Chapters 1 and 2 of AMA5 in addition to the information contained in this Introduction.
- 1.8 In the case of a complex injury, where different medical assessors are required to assess different body systems, a lead assessor should be nominated to coordinate and calculate the final %WPI resulting from the individual assessments. In the case of a dispute, the 'lead assessor' should be agreed between the parties or nominated by the Workers Compensation Commission.
- 1.9 The *WorkCover Guides* may specify more than one method that assessors can use to establish the degree of a claimant's permanent impairment. In that case, assessors should use the method that produces the highest degree of permanent impairment.

Development of the WorkCover Guides

- 1.10 The *WorkCover Guides* were developed by groups of medical specialists brought together by WorkCover to review the AMA's *Guides to the Evaluation of Permanent Impairment*. The groups included specialists who were nominated by the Labor Council of NSW (now Unions NSW). Initially, the fourth edition of the AMA's *Guides to the Evaluation of Permanent Impairment* (AMA4) was considered but, on the advice of the medical specialists involved, focus was changed to the fifth edition of the Guides. AMA5 is used for most body systems, with the exception of Vision where, on the medical specialists' advice, assessments are conducted according to AMA4. The Chapters on Pain (Chapter 18 in AMA5) and on Mental and Behavioural Disorders (Chapter 14 in AMA5) are likewise omitted. WorkCover has substituted its own Chapter on Psychiatric and Psychological Disorders (see Chapter 11 in this Guide) but chronic pain is excluded entirely at the present time (see Note: Evaluation of permanent impairment arising from Chronic Pain p 91, for a fuller explanation). No assessment should be made of impairments associated with chronic pain.
- 1.11 The members of each original working group and the members who advised on the 2005 and 2008 revisions are listed in Appendix 1 (p 92).
- 1.12 The *WorkCover Guides* are to be reviewed and updated as subsequent editions of the AMA's *Guides to the Evaluation of Permanent Impairment* become available. The *WorkCover Guides* will also be reviewed if anomalies or insurmountable difficulties in their use become apparent.
- 1.13 The *WorkCover Guides* are meant to assist suitably qualified and experienced medical specialists to assess levels of permanent impairment. They are not meant to provide a "recipe approach" to the assessment of permanent impairment. Medical specialists are required to exercise their clinical judgement in determining diagnosis, whether the original condition has resulted in an impairment and whether the impairment is permanent. The degree of

permanent impairment that results from the injury must be determined using the tables, graphs and methodology given in the *WorkCover Guides* and AMA5. Section 1.5 of Chapter 1 of AMA5 (p 10) applies to the conduct of assessments and expands on this concept.

Body systems covered by the WorkCover Guides

1.14 Most body systems, structures and disorders included in AMA5 are included in the *WorkCover Guides*. Pain (Chapter 18 of AMA5) is excluded. Psychiatric and Psychological Disorders are evaluated using the specific *WorkCover Guides* Chapter (Chapter 11). The Visual System adopts AMA4, not AMA5. Evaluation of Permanent Impairment due to Hearing Loss adopts the methodology indicated in these guides (Chapter 9) with some reference to AMA5 (Chapter 11, pp 245-251), but uses National Acoustic Laboratory (NAL) Tables from the NAL Report No 118, *Improved Procedure for Determining Percentage Loss of Hearing*, January 1988.

Psychiatric and psychological impairments

1.15 Psychiatric and psychological disorders are defined as primary psychological and psychiatric injuries in which work was found to be a substantial contributing factor. Permanent impairment due to psychiatric and psychological disorder is determined in accordance with Chapter 11 of the *WorkCover Guides*.

1.16 A primary psychiatric or psychological impairment is one which arises from a condition to which the person's employment was a substantial contributing factor. The condition will result from specific incidents at the workplace.

1.17 A primary psychiatric condition is distinguished from a secondary psychiatric or psychological condition which arises as a consequence of, *or secondary to*, another work-related condition (eg depression associated with a back injury). No permanent impairment assessment is to be made of secondary psychiatric and psychological impairments. The payments for "Pain and Suffering" available under section 67 are intended to compensate people who come into this category. (For further information refer to paragraph 1.53).

Multiple impairments

1.18 Impairments arising from the same injury are to be assessed together (section 322(2) of the 1998 Act). Impairments that result from more than one injury arising out of the same incident are to be assessed together to assess the degree of permanent impairment of the injured worker (section 322(3) of the 1998 Act), with the exception of impairments arising from psychological and psychiatric injuries.

1.19 Impairments arising from primary psychological and psychiatric injuries are to be assessed separately from the degree of impairment that results from physical injuries arising out of the same incident (section 65A(4)(a) of the 1987 Act). A worker is entitled to receive compensation for impairment resulting from only one of these injuries, whichever results in the greater amount of compensation being payable, and is not entitled to receive compensation for an impairment resulting from the other injury.

- 1.20 The Combined Values Chart (pp 604-606, AMA5) is used to derive a %WPI that arises from multiple impairments. An explanation of its use is found on pp 9-10 of AMA5. When combining more than two impairments, the assessor should commence with the highest impairment and combine with the next highest and so on.

Permanent impairment – maximum medical improvement

- 1.21 Assessments are only to be conducted when the medical assessor considers that the degree of permanent impairment of the injured worker is fully ascertainable. The permanent impairment will be fully ascertainable where the medical assessor considers that the person has attained maximum medical improvement. This is considered to occur when the worker's condition has been medically stable for the previous three months and is unlikely to change by more than 3%WPI in the ensuing 12 months with or without further medical treatment (ie further recovery or deterioration is not anticipated).
- 1.22 If the medical assessor considers that treatment has been inadequate and maximum medical improvement has not been achieved, the assessment should be deferred and comment should be made on the value of additional/different treatment and/or rehabilitation.

Refusal of treatment

- 1.23 If the claimant has been offered, but refused, additional or alternative medical treatment that the assessor considers is likely to improve the claimant's condition, the medical assessor should evaluate the current condition, without consideration of potential changes associated with the proposed treatment. The assessor may note the potential for improvement in the claimant's condition in the evaluation report, and the reasons for refusal by the claimant, but should not adjust the level of impairment on the basis of the worker's decision.

Future deterioration of a condition

- 1.24 Similarly, if a medical assessor forms the opinion that the claimant's condition is stable for the foreseeable future, but that it is expected to deteriorate in the long term, the assessor should make no allowance for this deterioration, but note its likelihood in the evaluation report. If the claimant's condition deteriorates at a later time, the claimant may re-apply for further evaluation of the condition.

Information required for assessments

- 1.25 On referral, the medical assessor should be provided with all relevant medical and allied health information, including results of all clinical investigations related to the injury in question.
- 1.26 AMA5 and these *WorkCover Guides* indicate the information and investigations that are required to arrive at a diagnosis and to measure permanent impairment. Assessors must apply the approach outlined in the Guides. Referrers must consult these documents to gain an understanding of the information that should be provided to the assessor in order to conduct a comprehensive evaluation.

Medical assessors

- 1.27 An assessor will be a medical specialist with qualifications, training and experience in a medical speciality relevant to the body system being assessed who has undertaken the requisite training in use of the *WorkCover Guides* and who is listed as a trained assessor of permanent impairment on the WorkCover website (www.workcover.nsw.gov.au).
- 1.28 Assessors may be one of the claimant's treating specialists or an assessor engaged on behalf of the employer/insurer/Scheme Agent/claimant to conduct an assessment for the purposes of assessing the level of permanent impairment.
- 1.29 Assessors of levels of permanent impairment are required to use the *WorkCover Guides* current at the time of the assessment.

Code of conduct

- 1.30 Assessors are referred to the NSW Medical Board's *Guidelines for Medico-Legal Consultations and Examinations* which are reproduced in Appendix 2 (p 95).
- 1.31 Assessors are reminded that they have an obligation to act in an ethical, professional and considerate manner when examining claimants for the determination of permanent impairment.
- 1.32 Effective communication is vital to ensure that the claimant is well-informed and able to maximally cooperate in the process. Assessors should:
- ensure that the claimant understands who the assessor is and the assessor's role in the evaluation
 - ensure that the claimant understands how the evaluation will proceed
 - take reasonable steps to preserve the privacy and modesty of the claimant during the evaluation
 - not provide any opinion to the claimant about their claim.
- 1.33 Useful information is also provided in the pamphlet developed by the Australian Medical Association and the Law Society that informs applicants what to expect during an examination by an independent medical assessor. This pamphlet is reproduced in Appendix 3 (p 98) and additional copies are available from the AMA.
- 1.34 WorkCover has also produced information for workers regarding independent medical examinations and assessments of permanent impairment, which the insurer should have supplied to the worker when advising the appointment details.
- 1.35 Complaints received by WorkCover in relation to the behaviour of an assessor during an evaluation will be initially reviewed by WorkCover. If complaints recur or the initial review reveals a problem potentially exists, the complaint will be referred to the Health Care Complaints Commission and the NSW Medical Board for investigation and appropriate action.

Adjustment for the effects of orthoses and prostheses

- 1.36 Assessments of permanent impairment are to be conducted without assistive devices, except where these cannot be removed. The assessor will need to make an estimate as to what is the level of impairment without such a device, if it cannot be removed for examination purposes. Further details may be obtained in the relevant Chapters in the *WorkCover Guides*.
- 1.37 Impairment of vision should be measured with the injured worker wearing their prescribed corrective spectacles and/or contact lenses, if this was usual for the injured worker before the workplace injury. If, as a result of the workplace injury, the injured 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 impairment.

Adjustment for the effects of treatment

- 1.38 In circumstances where the treatment of a condition leads to a further, secondary impairment, other than a secondary psychological impairment, the assessor should use the appropriate parts of the *WorkCover Guides* to evaluate the effects of treatment, and use the Combined Values Chart (pp 604-606 AMA5) to arrive at a final Whole Person Impairment.
- 1.39 Where the effective long term treatment of an illness or injury results in apparent substantial or total elimination of the claimant's permanent impairment, but the claimant is likely to revert to the original level of impairment if treatment is withdrawn, the assessor may increase the percentage of whole person impairment by 1, 2 or 3%WPI. This percentage should be combined with any other impairment percentage, using the Combined Values Chart. This paragraph does not apply to the use of analgesics or anti-inflammatory medication for pain relief.
- 1.40 As previously indicated, where a claimant has declined treatment which the assessor believes would be beneficial, the impairment rating should be neither increased nor decreased.

Reports

- 1.41 A report of the evaluation of permanent impairment should be accurate, comprehensive and fair. It should clearly address the question being asked of the assessing medical specialist. In general, the assessor will be requested to address issues of:
- current clinical status, including the basis for determining maximum medical improvement
 - the degree of permanent impairment that results from the injury
 - the proportion of permanent impairment due to any previous injury, pre-existing condition or abnormality, if any.
- 1.42 The report should contain factual information based on the assessor's own history taking and clinical examination. If other reports or investigations are relied upon in arriving at an opinion, these should be appropriately referenced in the assessor's report.

- 1.43 The *WorkCover Guides*, as modified from time to time, are to be used in assessing permanent impairment in the NSW Workers Compensation scheme. The report of the evaluation should provide a rationale consistent with the methodology and content of these Guides. It should include a comparison of the key findings of the evaluation with the impairment criteria in the Guides. If the evaluation was conducted in the absence of any pertinent data or information, the assessor should indicate how the impairment rating was determined with limited data.
- 1.44 The assessed level of impairment is to be expressed as a percentage of whole person impairment (%WPI). Regional body impairments, where used (eg percentage upper extremity impairment) are to be indicated in the report and then converted to %WPI.
- 1.45 The report should include a conclusion of the assessor, including the final %WPI. This is to be included as the final paragraph in the body of the report and not as a separate report.
- 1.46 Reports are to be provided within 10 working days of the assessment being completed, or as agreed between the referrer and the assessor.

Ordering of additional investigations

- 1.47 As a general principle, the assessing medical specialist should not order additional radiographic or other investigations purely for the purpose of conducting an assessment of permanent impairment.
- 1.48 If, however, the investigations previously undertaken are not as required by the *WorkCover Guides* or are inadequate for a proper assessment to be made, the medical assessor should consider the value of proceeding with the evaluation of permanent impairment without adequate investigations.
- 1.49 In circumstances where the assessor considers that further investigation is essential for a comprehensive evaluation to be undertaken and deferral of the evaluation would considerably inconvenience the claimant (eg when the claimant has travelled from a country region specifically for the assessment), the assessing medical specialist may proceed to order the appropriate investigations, provided that there is no undue risk to the claimant. The approval of the referring body for the additional investigation will be required to ensure that the costs of the test are met promptly.

Deductions for pre-existing condition or injury

(AMA5 Section 1.6, p 11; s323 WIM Act 1998)

- 1.50 The degree of permanent impairment resulting from pre-existing impairments should not be included within the degree of permanent impairment determined by an assessor if those impairments are unrelated or not relevant to the impairment arising from the relevant work injury.
- 1.51 In assessing the degree of permanent impairment resulting from the work injury, the assessor is to indicate the degree of impairment due to any previous injury, pre-existing condition or abnormality. This proportion is known as “the deductible proportion”. The deductible portion should be deducted from the degree of permanent impairment determined by the assessor.

- 1.52 For the injury being assessed, the deduction is one tenth of the assessed impairment, unless this is at odds with the available evidence.

Compensation for pain and suffering

- 1.53 A claimant may receive a separate payment for compensation for pain and suffering, under section 67 of the Workers Compensation Act 1987, where the level of whole person impairment is assessed at or above the threshold percentage. "Pain and Suffering" means actual pain, or distress, or anxiety suffered, or likely to be suffered by the injured worker resulting from the permanent impairment or any necessary treatment.
- 1.54 Once agreement is reached on the level of permanent impairment, an amount can also be agreed for pain and suffering. The determination of the amount to be paid for pain and suffering is independent of the percentage of whole person impairment. Medical assessors of permanent impairment are not required to indicate the level of pain and suffering to be awarded.

Disputes over assessed levels of permanent impairment

- 1.55 A dispute about the level of permanent impairment compensation can be referred to the Workers Compensation Commission. The parties can agree on the selection of an Approved Medical Specialist (AMS) to determine the dispute. If the two parties are unable to agree on the selection of an AMS within seven days of being notified of a dispute by the Registrar of the Commission, the Registrar will appoint an AMS to assess the dispute.
- 1.56 A certificate will be provided by the appointed AMS after completing the evaluation.
- 1.57 The certification of the level of permanent impairment by the AMS appointed to resolve the dispute is conclusively presumed to be correct (section 326 of the 1998 Act).
- 1.58 The certificate provided by the appointed AMS will form the basis of the Arbitrator's decision on the amount of money to be awarded for permanent impairment and pain and suffering.

Conditions which are not covered by the WorkCover/AMA5 Guides- Equivalent or Analogous Conditions

- 1.59 AMA5 (p 11) states: "Given the range, evolution and discovery of new medical conditions, the *Guides* cannot provide an impairment rating for all impairments... In situations where impairment ratings are not provided, the *Guides* suggest that medical specialists use clinical judgment, comparing measurable impairment resulting from the unlisted condition to measurable impairment resulting from similar conditions with similar impairment of function in performing activities of daily living....

The physician's judgment, based upon experience, training, skill, thoroughness in clinical evaluation, and ability to apply the Guides criteria as intended, will enable an appropriate and reproducible assessment to be made of clinical impairment."

Inconsistent presentation

1.60 AMA5 (p 19) states: “Consistency tests are designed to ensure reproducibility and greater accuracy. These measurements, such as one that checks the individual’s range of motion are good but imperfect indicators of people’s efforts. The physician must use the entire range of clinical skill and judgment when assessing whether or not the measurements or test results are plausible and consistent with the impairment being evaluated. If, in spite of an observation or test result, the medical evidence appears insufficient to verify that an impairment of a certain magnitude exists, the physician may modify the impairment rating accordingly and then describe and explain the reason for the modification in writing.” This paragraph applies to inconsistent presentation only. The requirements stated in paragraph 1.13 apply to all assessments.

Activities of daily living

1.61 Many tables in AMA5 give class values for particular impairments, with a range of possible impairment values within each class. Commonly, the tables require the medical specialist to consider the impact of the injury/illness on activities of daily living in determining the precise impairment value. The activities of daily living which should be considered, if relevant, are listed in Table 1-2, p 4, AMA5. The impact of the injury on activities of daily living is not considered in assessments of the upper or lower extremities.

1.62 The assessment of the impact of the injury on activities of daily living should be verified wherever possible by reference to objective assessments, eg physiotherapist or occupational therapist functional assessments.

Rounding

1.63 Occasionally the methods of the *WorkCover Guides* will result in an impairment value which is not a whole number (eg an assessment of a peripheral nerve impairment in the upper extremity). All such values must be rounded to the nearest whole number before moving from one level of impairment to the next (eg from finger impairment to hand impairment, or from hand impairment to upper extremity impairment) or from a regional impairment to a whole person impairment. Figures should also be rounded before using the combination tables. This will ensure that the final whole person impairment will always be a whole number. The usual mathematical convention is followed where rounding occurs – values of 0.4 or less are rounded down to the nearest whole number and values of 0.5 and above are rounded up to the next whole number. The method of calculating a further hearing loss is shown in Chapter 9, paragraph 9.15, p 49.

Quality assurance

1.64 The degree of permanent impairment that results from the injury must be determined using the tables, graphs and methodology given in the *WorkCover Guides*, as presented in the training in the use of those Guides, and the applicable legislation. If it is not clear to either the insurer or worker’s representative that a report has been completed in accord with the Guides, clarification may be sought from the trained medical assessor who prepared the report.

An assessor who is identified as frequently providing reports that are not in accord with the Guides may be asked to show cause as to why their name should not be removed from the list of trained assessors on the WorkCover website. A process for managing such assessors has been agreed by the Whole Person Impairment Coordinating Committee and is available on the WorkCover website www.workcover.nsw.gov.au.

2 UPPER EXTREMITY

AMA5 Chapter 16 applies to the assessment of permanent impairment of the upper extremities, subject to the modifications set out below.

Introduction

- 2.1 The upper extremities are discussed in AMA5 Chapter 16 (pp 433-521). This chapter provides guidelines on methods of assessing permanent impairment involving these structures. It is a complex chapter that requires an organised approach with careful documentation of findings.
- 2.2 Evaluation of anatomical impairment forms the basis for upper extremity impairment assessment. The ratings reflect the degree of impairment and its impact on the ability of the person to perform activities of daily living. There can be clinical conditions where evaluation of impairment may be difficult, eg lateral epicondylitis of the elbow. Such conditions are evaluated by their effect on function of the upper extremity, or, if all else fails, by analogy with other impairments that have similar effects on upper limb function.

The approach to assessment of the upper extremity and hand

- 2.3 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 injured person will have a defined diagnosis that can be confirmed by examination.
- 2.4 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 evaluation is 60%WPI, the value for amputation through the shoulder.
- 2.5 Active range of motion should be measured with several repetitions to establish reliable results. Only active motion is measured, not passive motion.
- 2.6 To achieve an accurate and comprehensive assessment of the upper extremity, findings should be documented on a standard form. AMA5 Figures 16-1a and 16-1b (pp 436-437) are extremely useful, both to document findings and to guide the assessment process.
- 2.7 The hand and upper extremity are divided into regions: thumb, fingers, wrist, elbow, and shoulder. Close attention needs to be paid to the instructions in Figures 16-1a and 16-1b (pp 436-437, AMA5) regarding adding or combining impairments.
- 2.8 Table 16-3 (pp 439, AMA5) is used to convert upper extremity impairment to WPI.

Specific interpretation of the AMA5 Guides – The hand and upper extremity

Impairment of the Upper extremity due to peripheral nerve Disorders

- 2.9 If an upper extremity impairment results solely from a peripheral nerve injury the assessor should not also evaluate impairment(s) from section 16.4, abnormal motion (pp 450-479, AMA5) for that upper extremity. Section 16.5 should be used for evaluation of such impairments. For peripheral nerve lesions use Table 16-15 (p 492, AMA5) together with Tables 16-10 and 16-11 (pp 482 and 484, AMA5) for evaluation.
- 2.10 When applying Tables 16-10 (pp 482, AMA5) and Table 16-11 (p 484, AMA5) the examiner must use clinical judgement to estimate the appropriate percentage within the range of values shown for each severity grade. The maximum value is NOT applied automatically.

Impairment Due To Other Disorders Of The Upper Extremity

- 2.11 The section “Impairment of the Upper Extremity Due to Other Disorders” (AMA5 section 16.7, pp 498-507) should be used only when other criteria (as presented in sections 16.2 – 16.6 [pp 441-498 of AMA5]) have not adequately encompassed the extent of the impairments. Impairments from the disorders considered in section 16.7 are usually estimated using other criteria. The assessor must take care to avoid duplication of impairments.
- 2.12 Relevant imaging studies for carpal instability (AMA5 Table 16-25, p 503) should only be considered, if available, along with the clinical signs. X-ray examination should not be performed solely for this evaluation.
- 2.13 Strength evaluation, as a method of upper extremity impairment assessment, should only be used in rare cases and its use justified when loss of strength represents an impairing factor not adequately considered by more objective rating methods. If chosen as a method, the caveats detailed on AMA5, p 508, under the heading “16.8a Principles” need to be observed, ie decreased strength cannot be rated in the presence of decreased motion, painful conditions, deformities and absence of parts (eg thumb amputation).

Conditions affecting the shoulder region

- 2.14 All shoulder assessments must have the following ‘inclusion criteria’:
- A clear history of a shoulder injury
 - Symptoms consistent with a shoulder disorder (to be distinguished from symptoms due to referred pain from the neck)

Most shoulder disorders with an abnormal range of movement are assessed according to AMA5 section 16.4 – Evaluating Abnormal Motion.

Rare cases of rotator cuff injury, where the loss of shoulder motion does not reflect the severity of the tear, and there is **no associated pain**, may be assessed according to AMA5 section 16.8c – Strength Evaluation.

Other specific shoulder disorders, where the loss of shoulder motion does not reflect the severity of the disorder, **associated with pain**, should be assessed by comparison with other impairments that have similar effect(s) on upper limb function.

- 2.15 **Ruptured long head of biceps** shall be assessed as an upper extremity impairment (UEI) of 3%UEI or 2%WPI where it exists in isolation from other rotator cuff pathology. Impairment for ruptured long head of biceps cannot be combined with any other rotator cuff impairment.
- 2.16 **Impingement.** Diagnosis of impingement is made on the basis of positive findings on appropriate provocative testing and is only to apply where there is no loss of range of motion. Symptoms must have been present for at least 12 months. An impairment rating of 3%UEI or 2%WPI shall apply.

Fractures involving joints

- 2.17 Displaced fractures involving joint surfaces are generally to be rated by range of motion. If, however, this loss of range is not sufficient to give an impairment rating and movement is accompanied by pain and there is 2 mm or more of displacement, allow 2%UEI (1%WPI).

3 LOWER EXTREMITY

AMA5 Chapter 17 applies to the assessment of permanent impairment of the lower extremities, subject to the modifications set out below.

Introduction

3.1 The lower extremities are discussed in AMA5 Chapter 17 (pp 523–564). 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 Assessment of the lower extremity involves physical evaluation, which can use a variety of methods. In general, the method should be used that most specifically addresses the impairment present. For example, impairment due to a peripheral nerve injury in the lower extremity should be assessed with reference to that nerve rather than by its effect on gait.

3.3 There are several different forms of evaluation that can be used, as indicated in sections 17.2b to 17.2n (pp 528-554, AMA5). Table 17-2 (p 526 AMA5) indicates which evaluation methods can be combined and which cannot. It may be possible to perform several different evaluations as long as they are reproducible and meet the conditions specified below and in AMA5. The most specific method of impairment assessment should be used.

3.4 It is possible to use an algorithm to aid in the assessment of lower extremity impairment. Use of a worksheet is essential. Table 3.3 of these *WorkCover Guides* (p 25) is such a worksheet and may be used in assessment of permanent impairment of the lower extremity.

3.5 In the assessment process, the evaluation giving the highest impairment rating is selected. That may be a combined impairment in some cases, in accordance with the Guide to the Appropriate Combination of Evaluation Methods Table (Table 17-2, p 526 AMA5), using the Combined Values Chart (pp 604-606, AMA5).

3.6 When the Combined Values Chart is used, the assessor must ensure that all values combined are in the same category of impairment rating (ie %WPI, lower extremity impairment percentage, foot impairment percentage and so on). Regional impairments of the same limb (eg several lower extremity impairments) should be combined **before** converting to %WPI.

3.7 Table 17-2 (p 526, AMA5) needs to be referred to frequently to determine which impairments can be combined and which cannot.

Specific interpretation of AMA5 – the lower extremity

Leg length discrepancy

- 3.8 When true leg length discrepancy is determined clinically (AMA5 Section 17.2b, p 528), the method used must be indicated (eg tape measure from anterior superior iliac spine to the medial malleolus). Clinical assessment of leg length discrepancy is an acceptable method but if full length computerised tomography films are available they should be used in preference. Such an examination should not be ordered solely for determining leg lengths.
- 3.9 When applying Table 17-4 (p 528, AMA5), the element of choice should be removed and impairments for leg length discrepancy should be read as the higher figure of the range quoted (ie 0, 3, 5, 7, or 8 for whole person impairment, or 0, 8, 13, 18 or 19 for lower limb impairment).

Note that the figures for lower limb impairment in Table 17-4 (p 528, AMA5) are incorrect and the correct figures are shown below.

Table 17-4: Impairment Due to Limb Length Discrepancy

Discrepancy (cm)	Whole person (Lower Extremity) impairment (%)
0 – 1.9	0
2 – 2.9	2 – 3 (4 – 8)
3 – 3.9	4 – 5 (9 – 13)
4 – 4.9	6 – 7 (14 – 18)
5+	8 (19)

Gait derangement

- 3.10 Assessment of gait derangement is only to be used as a method of last resort. Methods of impairment assessment most fitting the nature of the disorder should always be used in preference. If gait derangement (AMA5 Section 17.2c, p 529) is used it cannot be combined with any other evaluation in the lower extremity section of AMA5.
- 3.11 Any walking aid used by the subject must be a permanent requirement and not temporary.
- 3.12 In the application of Table 17-5 (p 529, AMA5), delete item b, as the Trendelenburg sign is not sufficiently reliable.

Muscle atrophy (unilateral)

- 3.13 This section (AMA5 Section 17.2d, p 530) is not applicable if the limb other than that being assessed is abnormal (eg if varicose veins cause swelling, or if there is another injury or condition which has contributed to the disparity in size).

3.14 In the use of Table 17-6 (p 530, AMA5) 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 per cent, or lower limb impairment as 0, 6, 11 or 12 per cent respectively. For the calf the equivalent figures have the same numerical values.

Note that the figures for lower limb impairment in Table 17-6 (p 530, AMA5) are incorrect and the correct figures are shown below.

Table 17-6: Impairment Due to Unilateral Leg Muscle Atrophy

Difference in circumference (cm)	Impairment degree	Whole person (Lower Extremity) impairment (%)	
a. Thigh: The circumference is measured 10 cm above the patella with the knee fully extended and the muscles relaxed.			
0 – 0.9	None	0	0
1 – 1.9	Mild	1 – 2	(2 – 6)
2 – 2.9	Moderate	3 – 4	(7 – 11)
3+	Severe	5	(12)
Difference in circumference (cm)	Impairment degree	Whole person (Lower Extremity) impairment (%)	
b. Calf: The maximum circumference on the normal side is compared with the circumference at the same level on the affected side.			
0 – 0.9	None	0	0
1 – 1.9	Mild	1 – 2	(2 – 6)
2 – 2.9	Moderate	3 – 4	(7 – 11)
3+	Severe	5	(12)

Manual muscle strength testing

3.15 The Medical Research Council (MRC) gradings for muscle strength are universally accepted. They are not linear in their application, but ordinal. Only the six grades (0-5) should be used, as they are reproducible among experienced assessors. The descriptions in Table 17-7 (p 531, AMA5) are correct. The results of electrodiagnostic methods and tests are not to be considered in the evaluation of muscle testing which can be performed manually. Table 17-8 (p 532, AMA5) is to be used for this method of evaluation.

Range of motion

3.16 Although range of motion (ROM) (AMA5 Section 17.2f, pp 533-538) appears to be a suitable method for evaluating impairment, it may be subject to variation because of pain during motion at different times of examination, possible lack of cooperation by the person being assessed and inconsistency. If there is such inconsistency then ROM cannot be used as a valid parameter of impairment evaluation.

3.17 If range of motion is used as an assessment measure, then Tables 17-9 to 17-14 (p 537, AMA5) are selected for the joint or joints being tested. If a joint has more than one plane of motion, the impairment assessments for the different planes should be added. For example, any impairments of the six principal directions of motion of the hip joint are added (p 533, AMA5).

Ankylosis

3.18 Ankylosis is to be regarded as the equivalent to arthrodesis in impairment terms only. For the assessment of impairment when a joint is ankylosed (AMA5 Section 17.2g, pp 538-543) the calculation to be applied is to select the impairment if the joint is ankylosed in optimum position (See Table 3.1 below), and then if not ankylosed in the optimum position by *adding* (not combining) the values of %WPI using Tables 17-15 to 17-30 (pp 538-543, AMA5).

Table 3.1: Impairment for ankylosis in the optimum position

Joint	Whole person	Lower extremity	Ankle or foot
Hip	20%	50%	–
Knee	27%	67%	–
Ankle	15%	37%	53%
Foot	4%	10%	14%

Note that the figures in Table 3.1 suggested for ankle impairment are greater than those suggested in the AMA (5th edition).

Also note that the whole person impairment from ankylosis of a joint, or joints, in a lower limb cannot exceed 40 per cent whole person impairment or 100 per cent lower limb impairment. If this figure is exceeded when the combination of lower limb impairments is made then only 40 per cent can be accepted as the maximum whole person impairment for a lower limb.

Arthritis

3.19 Impairment due to arthritis (AMA5 section 17.2n, pp 544-545) following a work-related injury is uncommon, but may occur in isolated cases. The presence of arthritis may indicate a pre-existing condition and this should be assessed and an appropriate deduction made (see Chapter 1, p 9, *WorkCover Guides*).

3.20 The presence of osteoarthritis is defined as cartilage loss. Cartilage loss can be assessed by plain radiography, computed tomography (CT), magnetic resonance imaging (MRI) or by direct vision (arthroscopy).

3.21 Detecting the subtle changes of cartilage loss on plain radiography requires comparison with the normal side. All joints should be imaged directly through the joint space, with no overlapping of bones. If comparison views are not available, AMA5 Table 17–31 (p 544) is used as a guide to assess joint space narrowing.

- 3.22 One should be cautious in making a diagnosis of cartilage loss on plain radiography if secondary features of osteoarthritis, such as osteophytes, subarticular cysts or subchondral sclerosis are lacking, unless the other side is available for comparison. The presence of an intra-articular fracture with a step in the articular margin in the weight bearing area implies cartilage loss.
- 3.23 The accurate radiographic assessment of joints always requires at least two views. In some cases, further supplementary views will optimise the detection of joint space narrowing or the secondary signs of osteoarthritis.

Sacro-iliac joints: Being a complex joint, modest alterations are not detected on radiographs, and cross-sectional imaging may be required. Radiographic manifestations accompany pathological alterations. The joint space measures between 2 mm and 5 mm. Osteophyte formation is a prominent characteristic of osteoarthritis of the sacro-iliac joint.

Hip: An anteroposterior view of the pelvis and a lateral view of the affected hip are ideal. If the affected hip joint space is narrower than the asymptomatic side, cartilage loss is regarded as being present. If the anteroposterior view of pelvis has been obtained with the patient supine, it is important to compare the medial joint space of each hip as well as superior joint space, as this may be the only site of apparent change. If both sides are symmetrical, then other features, such as osteophytes, subarticular cyst formation, and calcar thickening should be taken into account to make a diagnosis of osteoarthritis.

Knee:

- **Tibio-femoral joint:** The best view for assessment of cartilage loss in the knee is usually the erect intercondylar projection, as this profiles and stresses the major weight bearing area of the joint which lies posterior to the centre of the long axis. The ideal x-ray is a posteroanterior view with the patient standing, knees slightly flexed, and the x-ray beam angled parallel to the tibial plateau. Both knees can readily be assessed with the one exposure. In the knee it should be recognised that joint space narrowing does not necessarily equate with articular cartilage loss, as deficiency or displacement of the menisci can also have this effect. Secondary features, such as subchondral bone change and the past surgical history, must also be taken into account.
- **Patello-femoral joint:** Should be assessed in the “skyline” view, again preferably with the other side for comparison. The x-ray should be taken with 30 degrees of knee flexion to ensure that the patella is load-bearing and has engaged the articular surface femoral groove.

Footnote to Table 17-31 (p 544, AMA5) regarding patello-femoral pain and crepitation:

This item is only to be used if there is a history of direct injury to the front of the knee. This item cannot be used as an additional impairment when assessing arthritis of the knee joint itself, of which it forms a component. If patello-femoral crepitus occurs in isolation (ie no other signs of arthritis) following direct trauma, then it can be combined with other diagnosis based estimates (Table 17-33). Signs of crepitus need to be present at least one year post injury.

Ankle: The ankle should be assessed in the mortice view (preferably weight-bearing) with comparison views of the other side, although this is not as necessary as with the hip and knee.

Subtalar: This joint is better assessed by CT (in the coronal plane) than by plain radiography. The complex nature of the joint does not lend itself to accurate and easy plain x-ray assessment of osteoarthritis.

Talonavicular and calcaneocuboid: Anteroposterior and lateral views are necessary. Osteophytes may assist in making the diagnosis.

Intercuneiform and other intertarsal joints: Joint space narrowing may be difficult to assess on plain radiography. CT (in the axial plane) may be required. Associated osteophytes and subarticular cysts are useful adjuncts to making the diagnosis of osteoarthritis in these small joints.

Great toe metatarsophalangeal: Anteroposterior and lateral views are required. Comparison with the other side may be necessary. Secondary signs may be useful.

Interphalangeal: It is difficult to assess small joints without taking secondary signs into account. The plantar–dorsal view may be required to get through the joints in a foot with flexed toes.

- 3.24 If arthritis is used as the basis for assessing impairment assessment, then the rating cannot be combined with gait disturbance, muscle atrophy, muscle strength or range of movement assessments. It can be combined with a diagnosis-based estimate. (Table 17-2, AMA5, p 526.)

Amputation

- 3.25 Where there has been amputation of part of a lower extremity, Table 17-32 (p 545, AMA5) applies. In that Table the references to 3 inches for below-the-knee amputation should be converted to 7.5 cm.

Diagnosis-based estimates (lower extremity)

- 3.26 Section 17.2j (pp 545-549, AMA5) lists a number of conditions that fit a category of Diagnosis-Based Estimates. They are listed in Tables 17-33, 17-34 and 17-35 (pp 546-549, AMA5). When using this Table it is essential to read the footnotes carefully. The category of mild cruciate and collateral ligament laxity has inadvertently been omitted in Table 17-33 of AMA5. The appropriate rating is 5 (12) percent Whole Person (Lower Extremity) Impairment.
- 3.27 It is possible to combine impairments from Tables 17-33, 17-34 and 17-35 for diagnosis-related estimates with other components (eg nerve injury) using the Combined Values Chart (pp 604-606, AMA5) after first referring to the Guide to the Appropriate Combination of Evaluation Methods (see 3.5 above).

3.28 In the interpretation of Table 17-33 (p 547, AMA5), reference to the hindfoot, 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. To avoid the risk of double assessment, if avascular necrosis with collapse is used as the basis of impairment assessment, it cannot be combined with the relevant intra-articular fracture in Table 17-33 column 2. In Table 17-33 column 2, metatarsal fracture with loss of weight transfer means dorsal displacement of the metatarsal head.

The Table given below for the Impairment of Loss of the Tibia-Os Calcis Angle is to replace Table 17-29 (p 542, AMA5) and the section in Table 17-33 dealing with Loss of Tibia-Os Calcis Angle. These two sections are contradictory, and neither gives a full range of loss of angle.

Table 3.2: Impairment for Loss of the Tibia-Os Calcis Angle

Angle (degree)	Whole person (Lower Extremity) [Foot] impairment (%)
110 – 100	5 (12) [17]
99 – 90	8 (20) [28]
Less than 90	+1 (2) [3] per ° up to 15 (37) [54]

3.29 Table 17-34 and Table 17-35 (pp 548-549, AMA5) 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 is converted to an impairment rating from Table 17-33. Tables 17-34 and 17-35 refer to the hip and knee joint replacement respectively. Note that, while all the points are added in Table 17-34, some points are deducted when Table 17-35 is used.

3.30 In respect of “distance walked” under “b. Function” in Table 17-34 (p 548, AMA5), the distance of six blocks should be construed as 600 m, and three blocks as 300 m.

Note that Table 17-35 (p 549, AMA5) is incorrect. The correct table is shown below.

Table 17-35: Rating Knee Replacement Results

	Number of Points
a. Pain	
None	50
Mild or occasional	45
Stairs only	40
Walking and stairs	30
Moderate	
Occasional	20
Continual	10
Severe	0
b. Range of Motion	
Add 1 point per 5° up to 125°	25 (maximum)
c. Stability	
(maximum movement in any position)	
Anteroposterior	
< 5 mm	10
5-9 mm	5
> 9 mm	0
Mediolateral	
5°	15
6-9°	10
10-14°	5
> 14°	0
Subtotal	
Deductions (minus) d, e, f	
d. Flexion contracture	
5-9°	2
10-15°	5
16-20°	10
> 20°	20
e. Extension Lag	
< 10°	5
10-20°	10
> 20°	15
f. Alignment – valgus	
5-10 °	0
0-4 °	3 points per degree
11-15 °	3 points per degree
> 15 °	20
Deductions subtotal	

Skin loss (lower extremity)

- 3.31 Skin loss (p 550, AMA5) can only be included in the calculation of impairment if it is in certain sites and meets the criteria listed in Table 17-36 (p 550, AMA5).

Peripheral nerve injuries (lower extremity)

- 3.32 When assessing the impairment due to peripheral nerve injury (pp 550-552, AMA5) 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 17-37 (p 552, AMA5) are to be combined.
- 3.33 Note that the (posterior) tibial nerve is not included in Table 17-37, but its contribution can be calculated by subtracting ratings of common peroneal nerves from sciatic nerve ratings.
- 3.34 Peripheral nerve injury impairments can be combined with other impairments, but not those for gait derangement, muscle atrophy, muscle strength or complex regional pain syndrome, as shown in Table 17-2 (p 526, AMA5).

Complex regional pain syndrome (lower extremity)

- 3.35 Section 17.2m, "Causalgia and Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy)" (p 553, AMA5) should not be used. Complex Regional Pain Syndrome involving the lower extremity should be evaluated in the same way as the upper limb using the method described in section 16.5e (pp 495-497, AMA5). This section provides a detailed method that is in keeping with current terminology and understanding of the condition. Use of the same methods of impairment assessment for Complex Regional Pain Syndrome involving either the upper or lower extremity also will improve the consistency of these *WorkCover Guidelines*.

Peripheral vascular disease (lower extremity)

- 3.36 Lower extremity impairment due to vascular disorders (pp 553-554, AMA5) is evaluated using Table 17-38 (p 554, AMA5). Note that Table 17-38 gives values for lower extremity not whole person impairment. In that Table there is a range of lower extremity impairments within each of the classes 1 to 5. As there is a clinical description of which conditions place a person's lower extremity in a particular class, the assessor has a choice of impairment rating within a class, the value of which is left to the clinical judgement of the assessor.

Measurement of selected joint motion

- 3.37 Valgus and varus knee angulation are to be measured in a weight-bearing position using a goniometer.

When measuring dorsiflexion at the ankle, the test is carried out initially with the knee in extension and then repeated with the knee flexed to 45°. The average of the maximum angles represents the dorsiflexion range of motion. (Figure 17-5, p 535, AMA5).

Table 3.3: Lower extremity worksheet

Item	Impairment	AMA5 Table	AMA5 page	Potential impairment	Selected impairment
1	Limb length discrepancy	17-4	528		
2	Gait derangement	17-5	529		
3	Unilateral muscle atrophy	17-6	530		
4	Muscle weakness	17-8	532		
5	Range of motion	17-9 to 17-14	537		
6	Joint ankylosis	17-15 to 17-30	538-543		
7	Arthritis	17-31	544		
8	Amputation	17-32	545		
9	Diagnosis-based estimates	17-33 to 17-35	546-549		
10	Skin loss	17-36	550		
11	Peripheral nerve deficit	17-37	552		
12	Complex regional pain syndrome	Section 16.5e	495-497		
13	Vascular disorders	17-38	554		
Combined impairment rating (refer to Table 17-2, p 526 AMA5 for permissible combinations)					

Potential impairment is the impairment percentage for that method of assessment. Selected impairment is the impairment, or impairments selected, that can be legitimately combined with other lower extremity impairments to give a final lower extremity impairment rating.

4 THE SPINE (EXCLUDING SPINAL CORD INJURY)

AMA5 Chapter 15 applies to the assessment of permanent impairment of the spine, subject to the modifications set out below.

Introduction

- 4.1 The spine is discussed in AMA5 Chapter 15 (pp 373-431). That chapter presents two methods of assessment, the diagnosis-related estimates method and the range of motion method. Evaluation of impairment of the spine under WorkCover is only to be done using diagnosis-related estimates (DREs).
- 4.2 The method relies especially on evidence of neurological deficits and less common adverse structural changes such as fractures and dislocations. Using this method, DREs are differentiated according to clinical findings that can be verified by standard medical procedures.
- 4.3 The assessment of spinal impairment is made when the person's condition has stabilised and has reached maximal medical improvement (MMI), as defined in AMA5. If surgery has been performed, the outcome of the surgery as well as structural inclusions must be taken into consideration when making the assessment.

Assessment of the spine

- 4.4 The assessment should include a comprehensive, accurate history; a review of all pertinent records available at the assessment; a comprehensive description of the individual's current symptoms and their relationship to daily activities; 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 assessor should record whether diagnostic tests and radiographs were seen or whether they relied solely on reports.
- 4.5 The DRE model for assessment of spinal impairment should be used. The Range of Motion model (sections 15.8-15.13 inclusive, AMA5 pp 398-427) should not be used.
- 4.6 If a person has spinal cord or cauda equina damage, including bowel, bladder and/or sexual dysfunction, he or she is assessed according to the method described in section 15.7 and Table 15.6 (a) to (g), p 395-398, AMA5.
- 4.7 If an assessor is unable to distinguish between two DRE categories, then the higher of those two categories should apply. The reasons for the inability to differentiate should be noted in the assessor's report.
- 4.8 Possible influence of future treatment should not form part of the impairment assessment. The assessment should be made on the basis of the person's status at the time of interview and examination, if the assessor is convinced that the condition is stable and permanent. Likewise, the possibility of subsequent deterioration, as a consequence of the underlying condition, should not be factored into the impairment evaluation. Commentary can be made regarding the possible influence, potential or requirements for further treatment, but this does not affect the assessment of the individual at the time of impairment evaluation.

- 4.9 All spinal impairments are to be expressed as a percentage whole person impairment (%WPI).
- 4.10 Section 15.1a (AMA5, pp 374-377) is a valuable summary of history and physical examination, and should be thoroughly familiar to all assessors.
- 4.11 The 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.
- 4.12 The optimal method to measure the percentage compression of a vertebral body is a well centred plain x-ray. Assessors should state the method they have used. The loss of vertebral height should be measured at the most compressed part and must be documented in the impairment evaluation report. The estimated normal height of the compressed vertebra should be determined where possible by averaging the heights of the two adjacent (unaffected and normal) vertebrae.

Specific interpretation of AMA5

- 4.13 The range of motion (ROM) method is not used, hence any reference to this is omitted (including Table 15-7, p 404, AMA5).
- 4.14 Motion segment integrity alteration can be either increased translational or angular motion, or decreased motion resulting from developmental changes, fusion, fracture healing, healed infection or surgical arthrodesis. Motion of the individual spine segments cannot be determined by a physical examination, but is evaluated with flexion and extension radiography.
- 4.15 The assessment of altered motion segment integrity is to be based upon a report of trauma resulting in an injury, and not on developmental or degenerative changes.
- 4.16 When routine imaging is normal and severe trauma is absent, motion segment disturbance is rare. Thus, flexion and extension imaging is indicated only when a history of trauma or other imaging leads the physician to suspect alteration of motion segment integrity.

DRE definitions of clinical findings

- 4.17 DRE II is a clinical diagnosis based upon the features of the history of the injury and clinical features. Clinical features which are consistent with DRE II and which are present at the time of assessment include muscle guarding or spasm, asymmetric loss of range of movement or radicular symptoms not objectively present. Localised (not generalised) tenderness may be present. In the lumbar spine additional features include a reversal of the lumbosacral rhythm when straightening from the flexed position and compensatory movement for an immobile spine such as all flexion from the hips. In assigning category DRE II, the assessor must provide detailed reasons why the category was chosen.

While imaging and other studies may assist medical assessors in making a diagnosis, the presence of a morphological variation from ‘normal’ in an imaging study does not make the diagnosis. Approximately 30 per cent of people who have never had back pain will have an imaging study that can be interpreted as ‘positive’ for a herniated disc, and 50 per cent or more will have bulging discs. 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.

- 4.18 The clinical findings used to place an individual in a DRE category are described in Box 15-1 (AMA5, pp 382-383).

The reference to ‘Electrodiagnostic Verification of Radiculopathy’ should be disregarded.

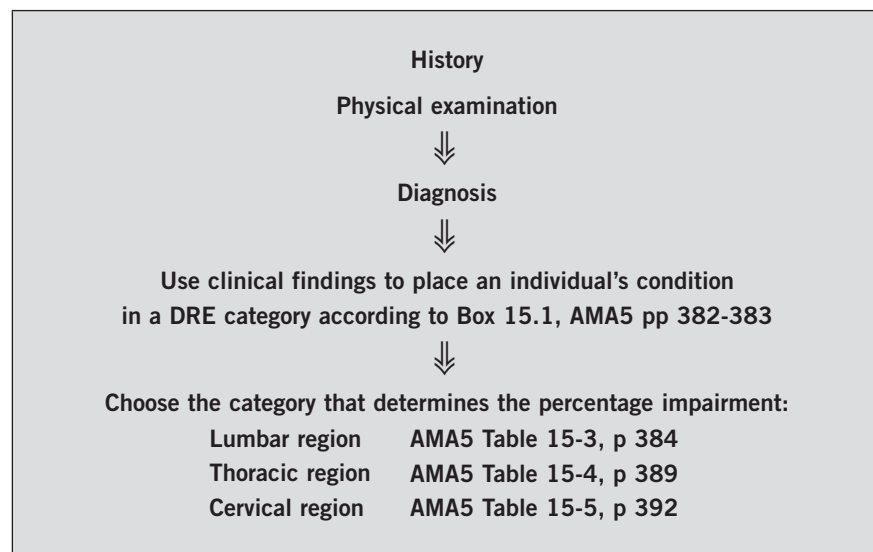
(The use of electrodiagnostic procedures such as electromyography is proscribed as an assessment aid for decisions about the category of impairment into which a person should be placed. It is considered that competent assessors can make decisions about which DRE category a person should be placed in from the clinical features alone. The use of electrodiagnostic differentiators is generally unnecessary).

- 4.19 Cauda equina syndrome and neurogenic bladder disorder are to be assessed by the method prescribed in the Spine chapter of AMA5, section 15.7, pp 395-398. For an assessment of neurological impairment of bowel or bladder, there must be objective evidence of spinal cord or cauda equina injury.

Applying the DRE method

- 4.20 The specific procedures and directions section of AMA5 (section 15.2a, pp 380-381) indicates the steps that should be followed to evaluate impairment of the spine (excluding references to the ROM method). Table 4.1 is a simplified version of that section, incorporating the amendments listed above.

Table 4.1: Procedures in evaluating impairment of the spine



- 4.21 Common developmental findings, spondylosis, spondylolisthesis and disc protrusions without radiculopathy occur in 7 per cent, 3 per cent, and up to 30 per cent respectively in individuals up to the age of 40 (p 383, AMA5). Their presence does not of itself mean that the individual has an impairment due to injury.
- 4.22 **Loss of sexual function** should only be assessed where there is other objective evidence of spinal cord, cauda equina or bilateral nerve root dysfunction. The ratings are described in Table 15-6 (pp 396-397, AMA5). There is no additional impairment rating system for loss of sexual function in the absence of objective neurological findings. Loss of sexual function is not assessed as an activity of daily living.
- 4.23 **Radiculopathy** is the impairment caused by malfunction of a spinal nerve root or nerve roots. In general, in order to conclude that radiculopathy is present, two or more of the following criteria should be found, one of which must be major (major criteria in bold):
- **Loss or asymmetry of reflexes**
 - **Muscle weakness that is anatomically localised to an appropriate spinal nerve root distribution**
 - **Reproducible impairment of sensation that is anatomically localised to an appropriate spinal nerve root distribution**
 - Positive nerve root tension (Box 15-1, p 382, AMA5)
 - Muscle wasting – atrophy (Box 15-1, p 382, AMA5)
 - Findings on an imaging study consistent with the clinical signs (p 382, AMA5)
- 4.24 Note that radicular complaints of pain or sensory features that follow anatomical pathways but cannot be verified by neurological findings (somatic pain, non-verifiable radicular pain), do not alone constitute radiculopathy.
- 4.25 Global weakness of a limb related to pain or inhibition or other factors does not constitute weakness due to spinal nerve malfunction.
- 4.26 Vertebral body fractures and/or dislocations at more than one vertebral level are to be assessed as follows:
- Measure the percentage loss of vertebral height at the most compressed part for each vertebra
 - Add the percentage loss at each level:
 - Total loss of more than 50 per cent = DRE IV
 - Total loss of 25 per cent to 50 per cent = DRE III
 - Total loss of less than 25 per cent = DRE II
 - If radiculopathy is present then the person is assigned one DRE category higher
- One or more end plate fractures in a single spinal region without measurable compression of the vertebral body are assessed as DRE category II.
- Posterior element fractures (excludes fractures of transverse processes and spinous processes) at multiple levels are assessed as DRE III.

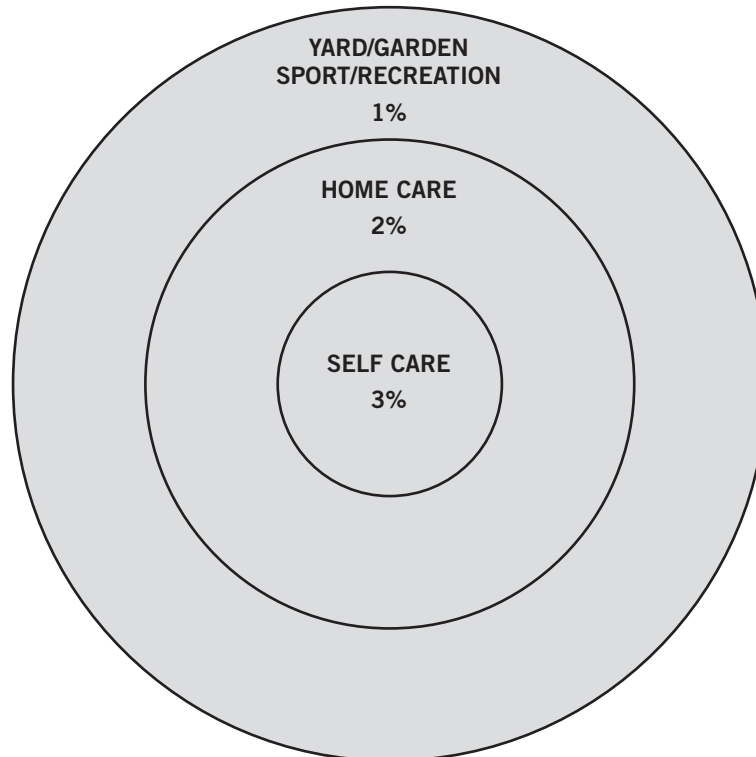
4.27 Displaced fractures of transverse or spinous processes at one or more levels are assessed as DRE Category II because the fracture does not disrupt the spinal canal (p 385, AMA5) and does not cause multilevel structural compromise.

4.28 Within a spinal region, separate spinal impairments are not combined. The highest value impairment within the region is chosen. Impairments in different spinal regions are combined using the combination tables.

If both C7 and T1 are fractured, only one region of the spine (the cervical) is assessed for whole person impairment. If both T12 and L1 are fractured, then only one region of the spine (the thoracic) is assessed.

4.29 Impact of ADL. Tables 15-3, 15-4 and 15-5 of AMA5 give an impairment range for DREs II to V. The bottom of the range is chosen initially, and a percentage of from 0-3 per cent may be added for the impact of the injury on the worker's ADL. Hence, for example, for an injury which is rated DRE Category II, the impairment is 5 per cent, to which may be added an amount of up to 3 per cent for the effect of the injury on the worker's ADL. The determination of the impact on ADL is not solely dependent on self reporting, but is an assessment based on all clinical findings and other reports.

4.30 The following diagram should be used **as a guide** to determine whether 0, 1, 2, or 3%WPI should be added to the bottom of the appropriate impairment range. This is only to be added if there is a difference in activity level as recorded and compared to the worker's status prior to the injury.



4.31 The diagram is to be interpreted as follows:

Increase base impairment by:

- 3%WPI if worker's capacity to undertake personal care activities such as dressing, washing, toileting and shaving has been affected
- 2%WPI if the worker can manage personal care, but is restricted with usual household tasks such as cooking, vacuuming, making beds or tasks of equal magnitude such as shopping, climbing stairs or walking reasonable distances
- 1%WPI for those able to cope with the above, but unable to get back to previous sporting or recreational activities such as gardening, running and active hobbies etc.

4.32 The maximum amount that the base impairment due to spinal injury can be increased due to impact on ADL is 3%WPI. An additional amount for ADL can only be assessed for one spinal region, irrespective of the number of spinal regions injured.

4.33 **Effect of surgery:** Tables 15-3, 15-4 and 15-5 (AMA5, pp 384, 389 and 392) do not adequately account for the effect of surgery upon the impairment rating for certain disorders of the spine.

- Surgical decompression for spinal stenosis is DRE III.
- Operations where the radiculopathy has resolved are considered under the DRE category III (AMA5, Tables 15-3, 15-4, 15-5).
- Operations with surgical ankylosis (fusion) are considered under DRE category IV (AMA5, Tables 15-3, 15-4, 15-5).
- Radiculopathy persisting after surgery is not accounted for by AMA5 Table 15-3, and incompletely by Tables 15-4 and 15-5, which only refer to radiculopathy which has improved after surgery.

Therefore Table 4.2 was developed to rectify this anomaly. Table 4.2 indicates the additional ratings which should be combined with the rating determined using the DRE method where an operation for an intervertebral disc prolapse or spinal canal stenosis has been performed and where there is a residual radiculopathy following surgery.

Example 15-4 (p 386, AMA5) should therefore be ignored.

Table 4.2: Modifiers for DRE categories where radiculopathy persists after surgery

Procedures	Cervical	Thoracic	Lumbar
Discectomy, or single-level decompression with residual signs and symptoms	3%	2%	3%
Second and further levels, operated on, with medically documented pain and rigidity	1% each additional level	1% each additional level	1% each additional level
Second operation	2%	2%	2%
Third and subsequent operations	1% each	1% each	1% each

In summary, to calculate whole person impairment (WPI) for persisting radiculopathy (as per definition) following surgery:

- select the appropriate DRE category from Table 15-3, 15-4, or 15-5
- determine a WPI value within the allowed range in Table 15-3, 15-4 or 15-5 according to the impact on the worker's activities of daily living
- combine this value with the appropriate additional amount from Table 4.2 to determine the final WPI.

4.34 **Disc replacement surgery.** The impairment resulting from this procedure is to be equated to that from a spinal fusion.

4.35 Impairment due to **pelvic fractures** should be evaluated with reference to the following Table which replaces Table 15-19 in AMA5.

Table 4.3: Pelvic Fractures

Disorder	%WPI
1. Non-displaced, healed fractures	0
2. Fractures of the pelvic bones (including sacrum) <ul style="list-style-type: none"> • maximum residual displacement <1 cm • maximum residual displacement 1 to 2 cm • maximum residual displacement >2 cm • bilateral pubic rami fractures, as determined by the most displaced fragment <ul style="list-style-type: none"> maximum residual displacement ≤2 cm maximum residual displacement >2 cm 	2 5 8 5 8
3. Traumatic separation of the pubic symphysis <ul style="list-style-type: none"> • <1 cm • 1 to 2 cm • >2 cm 	5 8 12
4. Sacro-Iliac joint dislocations or fracture dislocations <ul style="list-style-type: none"> • maximum residual displacement ≤1 cm • maximum residual displacement >1 cm 	8 12
5. Fractures of the coccyx <ul style="list-style-type: none"> • healed, (and truly) displaced fracture • excision of the coccyx 	1 5
Fractures of the acetabulum: Evaluate based on restricted range of hip motion	

The rating of WPI is evaluated based on radiological appearance at maximum medical improvement, whether or not surgery has been performed. Multiple disorders of the pelvis are not combined. The maximum WPI for pelvic fractures is 12 per cent.

Very severe injuries which have been treated by open reduction and internal fixation, but are associated with residual symptoms, should be given an assessment commensurate with the severity of their original injuries, at the discretion of the assessor with reasons provided.

4.36 **Arthritis:** See sections 3.19-3.22 of Chapter 3 of these *WorkCover Guides* (p 19).

4.37 **Posterior spacing or stabilisation devices:** The insertion of such devices does not warrant any addition to WPI.

5 NERVOUS SYSTEM

AMA5 Chapter 13 applies to the assessment of permanent impairment of the nervous system, subject to the modifications set out below.

Introduction

- 5.1 AMA5 Chapter 13, The Central and Peripheral Nervous System (pp 305-356), provides guidelines on methods of assessing permanent impairment involving the central nervous system. It is logically structured and consistent with the usual sequence of examination of the nervous system. Cerebral functions are discussed first, followed by the cranial nerves, station, gait and movement disorders, the upper extremities related to central impairment, the brain stem, the spinal cord and the peripheral nervous system, including neuromuscular junction and muscular system. A summary concludes the Chapter.
- 5.2 Spinal cord injuries are to be assessed using AMA5 Chapter 13.
- 5.3 The relevant parts of the upper extremity, lower extremity and spine sections of AMA5 Chapter 13 should be used to evaluate impairments of the peripheral nervous system.

The approach to assessment of permanent neurological impairment

- 5.4 AMA5 Chapter 13 disallows combination of cerebral impairments. However, for the purpose of the *WorkCover Guides*, cerebral impairments should be evaluated and combined as follows:
- consciousness and awareness
 - mental status, cognition and highest integrative function
 - aphasia and communication disorders
 - emotional and behavioural impairments.

The assessor should take care to be as specific as possible and not to double-rate the same impairment, particularly in the mental status and behavioural categories.

These impairments are to be combined using the Combined Values Chart (AMA5, pp 604-606). These impairments should then be combined with other neurological impairments indicated in AMA5 Table 13-1 (p 308).

- 5.5 It should be noted that AMA5 sections 13.5 and 13.6 (pp 336-340) should be used for cortical motor or sensory impairments and therefore this section covers hemiplegia due to cortical injury. However, if a person has a spinal injury with spinal cord or cauda equina damage, including bowel, bladder and/or sexual dysfunction, he or she is assessed according to the method described in section 15.7 and Table 15.6 (a) to (g), pp 395-398, AMA5 (see section 4.19 of these Guides).
- 5.6 Complex regional pain syndrome is to be assessed using the method indicated in AMA5 Chapter 16, The Upper Extremities (pp 495-497).

- 5.7 The nervous system Chapter of AMA5 (Chapter 13) lists many impairments where the range for the associated whole person impairment is 0-9 per cent or 0-14 per cent. Where there is a range of impairment percentages listed, the assessor should nominate an impairment percentage based on the complete clinical circumstances revealed during the consultation and in relation to all other available information.

Specific interpretation of AMA5

- 5.8 In assessing **disturbances of mental status and integrative functioning, and emotional or behavioural disturbances** (sections 13.3d and 13.3f, AMA5, pp 319-322, 325-327), the assessor should make ratings of mental status impairments and emotional and behavioural impairments based on clinical assessment and the results of neuropsychometric testing. Clinical assessment should indicate at least one of the following:

- significant medically verified abnormalities in initial post injury Glasgow Coma Scale score
- significant duration of post traumatic amnesia
- significant intracranial pathology on CT scan or MRI.

Neuropsychological testing should be conducted by a registered clinical neuropsychologist who is a member, or is eligible for membership, of the Australian Psychological Society's College of Neuropsychology.

- 5.9 Assessment of **arousal and sleep disorders** (AMA5 Section 13.3c, pp 317-319) refers to assessment of primary sleep disorders following neurological injury. The assessor should make ratings of arousal and sleep disorders based on the clinical assessment that would normally have been done for clinically significant disorders of this type (ie sleep studies or similar tests).
- 5.10 **Olfaction and taste:** the assessor should use AMA5 Chapter 11, Section 11.4c (p 262) and Table 11-10 (pp 272-275) to assess olfaction and taste, for which a maximum of 5 per cent whole person impairment is allowable for total loss of either sense.
- 5.11 **Visual impairment** assessment (AMA4 Chapter 8, pp 209-222): An ophthalmologist should assess all impairments of visual acuity, visual fields, extra-ocular movements or diplopia.
- 5.12 **Trigeminal nerve** assessment (p 331, AMA5): Sensory impairments of the trigeminal nerve should be assessed with reference to AMA5 Table 13-11 (p 331). The words "sensory loss or dysaesthesia" 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. If present, motor loss for the trigeminal nerve should be assessed in terms of its impact on mastication and deglutition (p 262, AMA5).

- 5.13 **Spinal accessory nerve:** AMA5 provides insufficient reference to the spinal accessory nerve (cranial nerve XI). This nerve supplies the trapezius and sternomastoid muscles. For loss of use of the nerve to trapezius, the assessor should refer to AMA5 Chapter 16 on upper limb assessment, and a maximum of 10 per cent impairment of the upper limb may be assigned. For additional loss of use of sternomastoid, a maximum of 3 per cent upper limb impairment may be added.
- 5.14 Assessment of **sexual functioning** (AMA5, Chapter 7, pp 143-171): Impotence should only be assessed as an impairment where there is objective evidence of spinal cord, cauda equina, or bilateral nerve root dysfunction, or lumbosacral plexopathy. There is no additional impairment rating for impotence in the absence of objective clinical findings.
- 5.15 Impairment due to miscellaneous peripheral nerves should be evaluated with reference to the following Table (p 344, AMA6).

Table 5.1: Criteria for Rating Miscellaneous Peripheral Nerves

Peripheral Nerve	Whole Person Impairment Rating			
	0%	1%	2% – 3%	4% – 5%
Greater Occipital Nerve	No neuralgia	Sensory loss only in an anatomic distribution	Mild to moderate neurogenic pain in an anatomic distribution	Severe neurogenic pain in an anatomic distribution
Lesser Occipital Nerve				
Greater Auricular Nerve				
Intercostal Nerve				
Genitofemoral				
Ilioinguinal				
Iliohypogastric				
Pudendal				

6 EAR, NOSE, THROAT AND RELATED STRUCTURES

AMA5 Chapter 11 applies to the assessment of permanent impairment of the ear (with the exception of hearing impairment), nose, throat and related structures, subject to the modifications set out below.

Introduction

- 6.1 AMA5 Chapter 11 (pp 245-275) details the assessment of the ear, nose, throat and related structures. **With the exception of hearing impairment, which is dealt with in Chapter 9 of the *WorkCover Guides***, AMA5 Chapter 11 should be followed in assessing permanent impairment, with the variations included below.
- 6.2 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.

The ear

- 6.3 Equilibrium is assessed according to AMA5 Section 11.2b (pp 252-255), but add these words to AMA5 Table 11-4 (p 253), Class 2:
- “..without limiting the generality of the above, a positive Hallpikes test is a sign and an objective finding.”

The face (pp 255-259, AMA5)

- 6.4 AMA5 Table 11-5 (p 256) should be replaced with Table 6.1, below, when assessing permanent impairment due to facial disorders and/or disfigurement.

Table 6.1: Criteria for rating permanent impairment due to facial disorders and/or disfigurement

Class 1 0%-5% impairment of the whole person	Class 2 6%-10% impairment of the whole person	Class 3 11%-15% impairment of the whole person	Class 4 16%-50% impairment of the whole person
Facial abnormality limited to disorder of cutaneous structures, such as visible simple scars (not hypertrophic or atrophic) or abnormal pigmentation (refer to AMA5 Chapter 8 for skin disorders) or mild, unilateral, facial paralysis affecting most branches or nasal distortion that affects physical appearance or partial loss or deformity of the outer ear	Facial abnormality involves loss of supporting structure of part of face, with or without cutaneous disorder (eg depressed cheek, nasal, or frontal bones) or near complete loss of definition of the outer ear	Facial abnormality involves absence of normal anatomic part or area of face, such as loss of eye or loss of part of nose, with resulting cosmetic deformity, combined with any functional loss, eg vision (AMA5 Chapter 12) or severe unilateral facial paralysis affecting most branches or mild, bilateral, facial paralysis affecting most branches	Massive or total distortion of normal facial anatomy with disfigurement so severe that it precludes social acceptance or severe, bilateral, facial paralysis affecting most branches or loss of a major portion of or entire nose

Note: Tables used to classify the examples in AMA5 section 11.3 (pp 256-259) should also be ignored and assessors should refer to the modified Table above for classification.

- 6.5 AMA5 Example 11-11 (p 257): Add “Visual impairment related to **enophthalmos** must be assessed by an Ophthalmologist”.

The nose, throat and related structures

Respiration (AMA5 Section 11.4a, pp 259-261)

- 6.6 In regard to sleep apnoea (3rd paragraph, AMA5 Section 11.4a, p 259), a sleep study and an examination by an ear, nose and throat specialist is mandatory before assessment by an approved assessor.
- 6.7 The assessment of sleep apnoea is addressed in AMA5 Section 5.6 (p 105) and assessors should refer to this Chapter, as well as sections 8.8-8.10 (p 46) in these *WorkCover Guides*.

6.8 **AMA5 Table 11-6 criteria for rating impairment due to air passage defects**
 (p 260, AMA5): this table should be replaced with Table 6.2, below, when
 assessing permanent impairment due to air passage defects.

Table 6.2: Criteria for rating permanent impairment due to air passage defects

Percentage impairment of the whole person					
Class 1a 0%-5%	Class 1 0%-10%	Class 2 11%-29%	Class 3 30%-49%	Class 4 50%-89%	Class 5 90%+
There are symptoms of significant difficulty in breathing through the nose. Examination reveals significant partial obstruction of the right and/or left nasal cavity or nasopharynx or significant septal perforation.	Dyspnea does not occur at rest and dyspnea is not produced by walking freely on a level surface, climbing stairs freely, or performance of other usual activities of daily living and dyspnea is not produced by stress, prolonged exertion, hurrying, hill-climbing, or recreational or similar activities requiring intensive effort* and examination reveals partial obstruction of the oropharynx, laryngopharynx, larynx, upper trachea (to the fourth cartilaginous ring), lower trachea, bronchi, or complete (bilateral) obstruction of the nose or nasopharynx	Dyspnea does not occur at rest and dyspnea is not produced by walking freely on a level surface, climbing one flight of stairs, or performance of other usual activities of daily living but dyspnea is produced by stress, prolonged exertion, hurrying, hill-climbing, or recreational or similar activities (except sedentary forms) and examination reveals partial obstruction of the oropharynx, laryngopharynx, larynx, upper trachea (to the fourth cartilaginous ring), lower trachea, bronchi, or complete (bilateral) obstruction of the nose or nasopharynx	Dyspnea does not occur at rest and dyspnea is produced by walking freely more than one or two level blocks, climbing one flight of stairs even with periods of rest, or performance of other usual activities of daily living and dyspnea is produced by stress, prolonged exertion, hurrying, hill-climbing, or recreational or similar activities and examination reveals partial obstruction of the oropharynx, laryngopharynx, larynx, upper trachea (to the fourth cartilaginous ring), lower trachea or bronchi	Dyspnea occurs at rest, although individual is not necessarily bedridden and dyspnea is aggravated by the performance of any of the usual activities of daily living (beyond personal cleansing, dressing or grooming) and examination reveals partial obstruction of the oropharynx, laryngopharynx, larynx, upper trachea (to the fourth cartilaginous ring), lower trachea, and/or bronchi	Severe dyspnea occurs at rest and spontaneous respiration is inadequate and respiratory ventilation is required and examination reveals partial obstruction of the oropharynx, laryngopharynx, larynx, upper trachea (to the fourth cartilaginous ring), lower trachea or bronchi

*Prophylactic restriction of activity, such as strenuous competitive sport, does not exclude subject from class 1.

Note: Individuals with successful permanent tracheostomy or stoma should be rated at 25 per cent impairment of the whole person. AMA5 Example 11-16 (p 261): Partial obstruction of the larynx affecting only one vocal cord is better linked to voice (AMA5 section 11.4e).

- 6.9 When using AMA5 Table 11-7, Relationship of Dietary Restrictions to Permanent Impairment (p 262), consider percentage impairment of the whole person – first category to be 0-19 per cent, not 5-19 per cent.

Speech (AMA5, pp 262-264)

- 6.10 Regarding the first sentence of the “Examining procedure” subsection (pp 263-264): the examiner should have sufficient hearing for the purpose – disregard “normal hearing as defined in the earlier section of this Chapter on hearing”.
- 6.11 Examining procedure (pp 263-264), second paragraph: “The examiner should base judgements of impairment on two kinds of evidence: (1) attention to and observation of the individual’s speech in the office – for example, during conversation, during the interview, and while reading and counting aloud – and (2) reports pertaining to the individual’s performance in everyday living situations.” Disregard the next sentence: “The reports or the evidence should be supplied by reliable observers who know the person well.”
- 6.12 Examining procedure (pp 263-264): where the word “American” appears as a reference, substitute “Australian”, and change measurements to the metric system (eg 8.5 inch = 22 cm).

The voice (AMA5 Section 11.4e, pp 264-267)

- 6.13 Substitute the word “laryngopharyngeal” for “gastroesophageal” in all examples where it appears.
- 6.14 Example 11.25 (Impairment Rating, p 269), second sentence: add the underlined phrase “Combine with appropriate ratings due to other impairments including respiratory impairment to determine whole person impairment.”

Ear, nose, throat and related structures impairment evaluation summary

- 6.15 AMA5 Table 11-10 (pp 272-275): Disregard this table, except for impairment of olfaction and/or taste, and hearing impairment as determined in the *WorkCover Guides*.

7 URINARY AND REPRODUCTIVE SYSTEMS

AMA5 Chapter 7 applies to the assessment of permanent impairment of the urinary and reproductive systems, subject to the modifications set out below.

Introduction

- 7.1 AMA5 Chapter 7 (pp 143-171) provides clear details for assessment of the urinary and reproductive systems. Overall the Chapter should be followed in assessing permanent impairment, with the variations included below.
- 7.2 For both male and female sexual dysfunction, identifiable pathology should be present for an impairment percentage to be given.

Urinary diversion

- 7.3 AMA5 Table 7-2 (p 150) should be replaced with Table 7.1, below, when assessing permanent impairment due to urinary diversion disorders. This table includes ratings for neobladder and continent urinary diversion.
- 7.4 **Continent urinary diversion** is defined as a continent urinary reservoir constructed of small or large bowel with a narrow catheterisable cutaneous stoma through which it must be emptied several times a day.

Table 7.1: Criteria for rating permanent impairment due to urinary diversion disorders

Diversion type	% Impairment of the whole person
Ureterointestinal	10%
Cutaneous ureterostomy	10%
Nephrostomy	15%
Neobladder/replacement cystoplast	15%
Continent urinary diversion	20%

Bladder

- 7.5 AMA5 Table 7-3 (p 151) should be replaced with Table 7.2, below, when assessing permanent impairment due to bladder disease. This table includes ratings involving urge and total incontinence (defined in paragraph 7.8).

Table 7.2: Criteria for rating permanent impairment due to bladder disease

Class 1 0%-15% WPI	Class 2 16%-40% WPI	Class 3 41%-70% WPI
Symptoms and signs of bladder disorder and requires intermittent treatment and normal functioning between malfunctioning episodes	Symptoms and signs of bladder disorder eg urinary frequency (urinating more than every two hours); severe nocturia (urinating more than three times a night); urge incontinence more than once a week and requires continuous treatment	Abnormal (ie under or over) reflex activity (eg intermittent urine dribbling, loss of control, urinary urgency and urge incontinence once or more each day) and/or no voluntary control of micturition; reflex or areflexic bladder on urodynamics and/or total incontinence eg fistula

- 7.6 AMA5 Example 7-16 (p 151) should be reclassified as an example of Class 2, as the urinary frequency is more than every two hours and continuous treatment would be expected.

Urethra

- 7.7 AMA5 Table 7-4 (p 153) should be replaced with Table 7.3, below, when assessing permanent impairment due to urethral disease. This table includes ratings involving stress incontinence

Table 7.3: Criteria for rating permanent impairment due to urethral disease

Class 1 0%-10% WPI	Class 2 11%-20% WPI	Class 3 21%-40% WPI
Symptoms and signs of urethral disorder and requires intermittent therapy for control	Symptoms and signs of urethral disorder; stress urinary incontinence more than three times a week and cannot effectively be controlled by treatment	Urethral dysfunction resulting in intermittent urine dribbling, or stress urinary incontinence at least daily

Urinary incontinence

7.8 **Urge urinary incontinence** is the involuntary loss of urine associated with a strong desire to void. **Stress urinary incontinence** is the involuntary loss of urine occurring with clinically demonstrable raised intra-abdominal pressure. It is expected that urinary incontinence of a regular or severe nature (necessitating the use of protective pads or appliances) will be assessed as follows:

Stress urinary incontinence (demonstrable clinically):	11-25% according to severity
Urge urinary incontinence:	16-40% according to severity
Mixed (urge and stress) incontinence:	16-40% according to severity
Nocturnal enuresis or wet in bed:	16-40% according to severity
Total incontinence (continuously wet, eg from fistula):	50-70%

The highest scoring condition is to be used to assess impairment – combinations are not allowed.

Male reproductive organs

Penis

7.9 AMA5, (p 157): the box labelled “Class 3, 21–35% ” should read “Class 3, 20 per cent Impairment of the Whole Person” as the descriptor “No sexual function possible” does not allow a range. (The correct value is shown in Table 7-5). Note, however, that there is a loading for age, so a rate higher than 20 per cent is possible.

Testicles, epididymides and spermatic cords

- 7.10 AMA5 Table 7–7 (p 159) should be replaced with Table 7.4, below, when assessing permanent impairment due to testicular, epididymal and spermatic cord disease. This table includes rating for infertility and equates impairment with female infertility (see Table 7.5 in this Chapter of the *WorkCover Guides*). Infertility in either sex must be considered to be of equal impact, age for age.
- 7.11 **Male infertility** is defined as azoospermia or other cause of inability to cause impregnation even with assisted contraception techniques.
- 7.12 Loss of sexual function **related to spinal injury** should only be assessed as an impairment where there is other objective evidence of spinal cord, cauda equina or bilateral nerve root dysfunction. The ratings described in Table 13-21 on p 342 of AMA5 are used in this instance. There is no additional impairment rating system for loss of sexual function in the absence of objective clinical findings.

Table 7.4: Criteria for rating permanent impairment due to testicular, epididymal and spermatic cord disease

Class 1 0%-10% WPI	Class 2 11%-15% WPI	Class 3 16%-35% WPI
Testicular, epididymal or spermatic cord disease symptoms and signs and anatomic alteration and no continuous treatment required and no seminal or hormonal function or abnormalities or solitary testicle	Testicular, epididymal or spermatic cord disease symptoms and signs and anatomic alteration and cannot effectively be controlled by treatment and detectable seminal or hormonal abnormalities	Trauma or disease produces bilateral anatomic loss of the primary sex organs or no detectable seminal or hormonal function or infertility

Female reproductive organs

Fallopian tubes and ovaries

7.13 AMA5 Table 7-11 (p 167) should be replaced with Table 7.5, below, when assessing permanent impairment due to fallopian tube and ovarian disease. This table includes rating for infertility and equates impairment with male infertility (see Table 7.4, above). Infertility in either sex must be considered to be of equal impact, age for age.

7.14 **Female infertility:** a woman in the childbearing age is infertile when she is unable to conceive naturally. This may be due to anovulation, tubal blockage, cervical or vaginal blocking or an impairment of the uterus.

Table 7.5: Criteria for rating permanent impairment due to fallopian tube and ovarian disease

Class 1 0%-15% WPI	Class 2 16%-25% WPI	Class 3 26%-35% WPI
Fallopian tube or ovarian disease or deformity symptoms and signs do not require continuous treatment or only one functioning fallopian tube or ovary in the premenopausal period or bilateral fallopian tube or ovarian functional loss in the postmenopausal period	Fallopian tube or ovarian disease or deformity symptoms and signs require continuous treatment, but tubal patency persists and ovulation is possible	Fallopian tube or ovarian disease or deformity symptoms and signs and total tubal patency loss or failure to produce ova in the premenopausal period or bilateral fallopian tube or bilateral ovarian loss in the premenopausal period; infertility

8 RESPIRATORY SYSTEM

AMA5 Chapter 5 applies to the assessment of permanent impairment of the respiratory system, subject to the modifications set out below.

Introduction

- 8.1 AMA5 Chapter 5 provides a useful summary of the methods for assessing permanent impairment arising from respiratory disorders.
- 8.2 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 Section 5.4)

- 8.3 AMA5 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.
- 8.4 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.

Asthma (AMA5 Section 5.5)

- 8.5 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.
- 8.6 Bronchial challenge testing should not be performed as part of the impairment assessment, therefore in AMA5 Table 5-9 (p 104) ignore column 4 (PC₂₀ mg/mL or equivalent, etc).
- 8.7 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, AMA5 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 AMA5 Table 5-10 (p 104).

Obstructive sleep apnoea (AMA5 Section 5.6)

- 8.8 This section needs to be read in conjunction with AMA5 Section 11.4 (p 259) and Section 13.3c (p 317).
- 8.9 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.
- 8.10 Degree of permanent impairment due to sleep apnoea should be calculated with reference to AMA5 Table 13-4 (p 317).

Hypersensitivity pneumonitis (AMA5 Section 5.7)

- 8.11 Permanent impairment arising from disorders included in this section are assessed according to the impairment classification in AMA5 Table 5-12.

Pneumoconiosis (AMA5 Section 5.8)

- 8.12 This section is excluded from the *WorkCover Guides*, as these impairments are the subject of the Dust Diseases Legislation.

Lung cancer (AMA5 Section 5.9)

- 8.13 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.
- 8.14 Persons with residual lung cancer after treatment are classified in Respiratory Impairment Class 4 (Table 5-12).

Permanent impairment due to respiratory disorders (AMA5 Section 5.10)

- 8.15 Table 5-12 (p 107, AMA5) 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.
- 8.16 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.

9 HEARING

AMA5 Chapter 11 applies to the assessment of permanent impairment of hearing, subject to the modifications set out below.

Assessment of hearing impairment (hearing loss)

- 9.1 A worker may present for assessment of hearing loss for compensation purposes before having undergone all or any of the health investigations that generally occur before assessment of permanent impairment. For this reason and to ensure that conditions other than “occupational hearing impairment” are precluded, the medical assessment should be undertaken by an ear, nose and throat specialist or another appropriately qualified medical specialist. The medical assessment needs to be undertaken in accordance with the hearing impairment section of AMA5 Table 11-10 (pp 272-275). The medical specialist performing the assessment must examine the worker. The medical specialist’s assessment must be based on medical history and ear, nose and throat examination, evaluation of relevant audiological tests and evaluation of other relevant investigations available to the medical assessor. Only medical specialists can sign medical reports.
- 9.2 Disregard AMA5 sections 11.1b and 11.2 (pp 246-255), but retain section 11.1a (Interpretation of Symptoms and Signs, p 246).
- 9.3 Some of the relevant tests are discussed in the AMA5 Hearing Impairment Evaluation Summary Table 11-10 (pp 272-275). The relevant row for these guides is the one headed “Hearing impairment” with the exception of the last column headed “Degree of impairment”. The degree of impairment is determined according to the *WorkCover Guides*.
- 9.4 The level of hearing impairment caused by non-work-related conditions is assessed by the medical specialist and considered when determining the level of work-related hearing impairment. While this requires medical judgement on the part of the examining medical specialist, any non-work-related deductions should be recorded in the report.
- 9.5 Disregard AMA5 Tables 11-1, 11-2, 11-3 (pp 247-250). For the purposes of the *WorkCover Guides*, National Acoustic Laboratory (NAL) Tables from the NAL Report No. 118, “Improved Procedure for Determining Percentage Loss of Hearing” (January 1988) are adopted as follows:
- Tables RB 500-4000 (pp 11-16)
 - Tables RM 500-4000 (pp 18-23)
 - Appendix 1 and 2 (pp 8-9)
 - Appendix 5 and 6 (pp 24-26)
 - Tables EB 4000-8000 (pp 28-30)
 - Table EM 4000-8000 (pp 32-34)

In the presence of significant conduction hearing loss, the extension tables do not apply.

AMA5 Table 11-3 is replaced by Table 9.1 at the end of this chapter.

Hearing impairment

- 9.6 Impairment of a worker's hearing is determined according to evaluation of the individual's binaural hearing impairment.
- 9.7 **Permanent hearing impairment** should be evaluated when the condition is stable. Prosthetic devices (ie hearing aids) must not be worn during the evaluation of hearing sensitivity.
- 9.8 **Hearing threshold level for pure tones** is defined as the number of decibels above standard audiometric zero 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.
- 9.9 **Evaluation of binaural hearing impairment:** Binaural hearing impairment is determined by using the tables in the 1988 NAL publication with allowance for presbycusis according to the presbycusis correction table, if applicable, in the same publication.

The Binaural Tables RB 500-4000 (NAL publication, pp 11-16) are to be used, except when it is not possible or would be unreasonable to do so. For the purposes of calculating binaural hearing impairment, the better and worse ear may vary as between frequencies.

Where it is necessary to use the monaural tables, the binaural hearing impairment (BHI) is determined by the formula:

$$\text{BHI} = \frac{[4 \times (\text{better ear hearing loss})] + \text{worse ear hearing loss}}{5}$$

- 9.10 **Presbycusis correction** (NAL publication, p 24) only applies to occupational hearing loss contracted by gradual process – for example, occupational noise induced hearing loss and/or occupational solvent induced hearing loss.
- 9.11 **Binaural hearing impairment and severe tinnitus:** Up to 5 per cent may be added to the work-related binaural hearing impairment for severe tinnitus caused by a work-related injury:
- after presbycusis correction, if applicable, and
 - before determining whole person impairment.

Assessment of severe tinnitus is based on a medical specialist's assessment.

- 9.12 **Only hearing ear:** A worker has an "only hearing ear" if he or she has suffered a non-work-related severe or profound sensorineural hearing loss in the other ear. If a worker suffers a work-related injury causing a hearing loss in the only hearing ear of x dBHL at a relevant frequency, the worker's work-related binaural hearing impairment at that frequency is calculated from the binaural tables using x dB as the hearing threshold level in both ears. Deduction for presbycusis if applicable and addition for severe tinnitus is undertaken according to this Guide.

- 9.13 When necessary, binaural hearing impairment figures should be rounded to the nearest 0.1 per cent. Rounding up should occur if equal to or greater than .05 per cent, and rounding down should occur if equal to or less than .04 per cent.
- 9.14 Table 9.1 is used to convert binaural hearing impairment, after deduction for presbycusis if applicable and after addition for severe tinnitus, to WPI.
- 9.15 The method of subtracting a previous impairment for noise induced hearing loss, where the previous impairment was **not** assessed in accordance with the *WorkCover Guides*, is as shown in the following example:
- The current level of binaural hearing impairment is established by the relevant specialist.
 - Convert this to WPI from Table 9.1 in the *WorkCover Guides*.
 - Calculate the proportion of the current binaural hearing impairment that was accounted for by the earlier assessment and express it as a percentage of the current hearing impairment.
 - The percentage of current hearing impairment that remains is the amount to be compensated.
 - This needs to be expressed in terms of WPI for calculation of compensation entitlement.

Example:

- The current binaural hearing loss is 8 per cent
- Percentage WPI is 4 per cent
- The binaural hearing impairment for which compensation was paid previously is 6 per cent which is 75 per cent of the current hearing impairment of 8 per cent.
- The remaining percentage, 25 per cent, is the percentage of WPI to be compensated
- 25 per cent of the WPI of 4 per cent is 1 per cent.

The worker is compensated an additional 1 per cent WPI.

Table 9.1: Relationship of binaural hearing impairment to WPI

% Binaural hearing impairment	% Whole person impairment	% Binaural hearing impairment	% Whole person impairment
0.0-5.9	0	51.1-53.0	26
		53.1-55.0	27
6.0-6.7	3	55.1-57.0	28
6.8-8.7	4	57.1-59.0	29
8.8-10.6	5	59.1-61.0	30
10.7-12.5	6	61.1-63.0	31
12.6-14.4	7	63.1-65.0	32
14.5-16.3	8	65.1-67.0	33
16.4-18.3	9	67.1-69.0	34
18.4-20.4	10	69.1-71.0	35
20.5-22.7	11	71.1-73.0	36
22.8-25.0	12	73.1-75.0	37
25.1-27.0	13	75.1-77.0	38
27.1-29.0	14	77.1-79.0	39
29.1-31.0	15	79.1-81.0	40
31.1-33.0	16	81.1-83.0	41
33.1-35.0	17	83.1-85.0	42
35.1-37.0	18	85.1-87.0	43
37.1-39.0	19	87.1-89.0	44
39.1-41.0	20	89.1-91.0	45
41.1-43.0	21	91.1-93.0	46
43.1-45.0	22	93.1-95.0	47
45.1-47.0	23	95.1-97.0	48
47.1-49.0	24	97.1-99.0	49
49.1-51.0	25	99.1-100	50

9.16 AMA5 Examples 11.1,11.2, 11.3 (pp 250-251) are replaced by WorkCover Examples 9.1-9.7, below, which were developed by the Working Party.

Table 9.2: Medical assessment elements in examples

Element	Example No.
General use of binaural table — NAL 1988	1, 2
“Better ear”–“worse ear” crossover	1, 2
Assessable audiometric frequencies	7 – also 1, 2, 4, 5, 6
Tinnitus	1, 2, 3, 4
Presbycusis	All examples
Binaural hearing impairment	All examples
Conversion to WPI	All examples
Gradual process injury	3
Noise-induced hearing loss	1, 2, 3, 5, 6, 7
Solvent-induced hearing loss	3
Acute occupational hearing loss	4, 5
Acute acoustic trauma	5
Pre-existing non-occupational hearing loss	6
Only hearing ear	6
NAL 1988 Extension Table Use	7
Multiple Causes of Hearing Loss	3, 5, 6
Head injury	4

Example 9.1: Occupational noise-induced hearing loss and severe tinnitus

A 60-year-old man, a boilermaker for 30 years, gave a history of progressive hearing loss and tinnitus. The assessing medical specialist has assessed the tinnitus as severe. The external auditory canals and tympanic membranes were normal. Rinne test was positive bilaterally and the Weber test result was central. Clinical assessment of hearing was consistent with results of pure tone audiometry, which showed a bilateral sensorineural hearing loss. The medical specialist diagnosed noise induced hearing loss.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)
500	15	10	0
1000	15	15	0
1500	15	20	0.4
2000	25	30	1.5
3000	50	45	4.2
4000	65	70	6.8
6000	30	30	–
8000	20	20	–
Total %BHI			12.9
Less Presbycusis correction of 0.8			12.1
Add 3.0% for severe tinnitus			15.1
Adjusted total %BHI			15.1
Resultant total BHI of 15.1% = 8%WPI (Table 9.1)			

Example 9.2: Occupational noise-induced hearing loss and mild tinnitus

A 55-year-old man, a steelworker for 30 years, gave a history of increasing difficulties with hearing and tinnitus. The assessing medical specialist diagnosed occupational noise-induced hearing loss with mild tinnitus.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)
500	15	15	0.0
1000	15	15	0.0
1500	20	25	1.0
2000	30	35	2.5
3000	50	45	4.2
4000	55	55	5.2
6000	30	30	–
8000	20	20	–
Total %BHI			12.9
No presbycusis correction			12.9
Adjusted total %BHI			12.9
Resultant total BHI of 12.9% = 7%WPI (Table 9.1)			

Comment

The assessing medical specialist's opinion is that the tinnitus suffered by the worker is not severe and thus no addition to the binaural hearing impairment was made for tinnitus.

Example 9.3: Multiple gradual process occupational hearing loss

A 63-year-old male boat builder and printer gave a history of hearing difficulty and tinnitus. There had been marked chronic exposure to noise and solvents in both occupations for 35 years altogether. The assessing medical specialist diagnosed bilateral noise-induced hearing loss and bilateral solvent-induced hearing loss with severe tinnitus.

The assessing medical specialist's opinion is that the solvent exposure contributed to the hearing impairment as a gradual process injury. The total noise-induced and solvent-induced BHI was 17.5 per cent.

The appropriate presbycusis deduction was applied. Then, the assessing medical specialist added 2 per cent to the after-presbycusis binaural hearing impairment for severe tinnitus.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)
500	15	15	0.0
1000	15	15	0.0
1500	25	25	1.4
2000	35	40	3.8
3000	60	60	6.3
4000	60	60	6.0
6000	45	50	–
8000	40	40	–
Total noise-induced and solvent-induced BHI (%)			17.5
Presbycusis correction of 1.7%			15.8
2% addition for medically assessed severe tinnitus			17.8
Adjusted Total BHI			17.8
Resultant total BHI of 17.8% = 9%WPI (Table 9.1)			

Example 9.4: Occupational hearing loss from head injury

A 62-year-old male worker sustained a head injury after falling from a ladder. He suffered left hearing loss and tinnitus unaccompanied by vertigo. The assessing medical specialist assesses his tinnitus as severe. External auditory canals and tympanic membranes are normal. Rinne test is positive bilaterally and Weber test lateralises to the right. CT scan of the temporal bones shows a fracture on the left. Clinical assessment of hearing is consistent with pure tone audiometry, which shows a flat left sensorineural hearing loss and mild right sensorineural hearing loss.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)
500	45	15	2.0
1000	50	15	2.8
1500	55	10	2.5
2000	50	15	1.7
3000	60	20	1.7
4000	60	25	1.5
6000	60	15	–
8000	60	20	–
Total %BHI			12.2
No correction for presbycusis applies			–
Add 4.0% for severe tinnitus			16.2
Adjusted total BHI			16.2
Resultant total BHI of 16.2% = 8%WPI (Table 9.1)			

Example 9.5: Occupational noise-induced hearing loss with acute occupational hearing loss

A 65-year-old production worker for 10 years was injured in an explosion at work. He reported immediate post-injury otalgia and acute hearing loss in the left ear. The assessing medical specialist diagnosed occupational noise-induced hearing loss and left acute acoustic trauma. The assessing medical specialist had no medical evidence that, immediately before the explosion, the hearing in the left ear was significantly different from that in the right ear.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)	BHI due to noise-induced hearing loss
500	30	15	1.0	0.0
1000	45	15	2.5	0.0
1500	55	15	2.5	0.0
2000	70	15	2.2	0.0
3000	80	25	2.4	0.7
4000	80	30	2.3	0.8
6000	>80	30	–	–
8000	>80	25	–	–
Total BHI (%)			12.9	
Occupational noise-induced BHI(%) before presbycusis correction				1.5
Occupational noise-induced BHI(%) after presbycusis correction of 2.4%				0
Acute acoustic trauma BHI (%)			11.4	
Presbycusis does not apply to acute acoustic trauma			–	
Resultant total BHI due to acute acoustic trauma of 11.4% = 6%WPI (Table 9.1)				

Example 9.6: Occupational noise-induced hearing loss in an only hearing ear

A 66-year-old woman has been a textile worker for 30 years. Childhood mumps had left her with profound hearing loss in the left ear. She gave a history of progressive hearing loss in her only hearing ear unaccompanied by tinnitus or vertigo. External auditory canals and tympanic membranes appeared normal. Rinne test was positive on the right and was false negative on the left. Weber test lateralised to the right. Clinical assessment of hearing is consistent with pure tone audiogram showing a profound left sensorineural hearing loss and a partial right sensorineural hearing loss. The medical assessor diagnosed noise induced hearing loss in the right ear.

Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)	Occupational %BHI
500	>95	10	3.4	0
1000	>95	15	4.3	0
1500	>95	20	4.2	0.6
2000	>95	25	3.8	1.1
3000	>95	50	5.4	4.8
4000	>95	70	8.0	7.5
6000	>95	50	–	–
8000	>95	40	–	–
Total %BHI			29.1	
Total occupational %BHI				14.0
Presbycusis correction does not apply to a 66 year old woman				–
No addition for tinnitus				–
Adjusted total occupational %BHI				14.0
Total occupational BHI of 14% = 7%WPI (Table 9.1)				

Example 9.7: Occupational noise-induced hearing loss where there is a special requirement for ability to hear at frequencies above 4000 Hz

A 56-year-old female electronics technician who worked in a noisy factory for 20 years had increasing hearing difficulty. The diagnosis made was bilateral occupational noise-induced hearing loss extending to 6000 Hz or 8000 Hz. The assessing medical specialist was of the opinion that there was a special requirement for hearing above 4000 Hz. There was no conductive hearing loss.

Pure tone audiometry

			Binaural hearing impairment (%BHI)	
Frequency (Hz)	Left (dB HL)	Right (dB HL)	Using extension table – 4000, 6000 and 8000 Hz	Not using extension table
500	10	10	0.0	0.0
1000	15	15	0.0	0.0
1500	20	25	1.0	1.0
2000	30	35	2.5	2.5
3000	45	45	4.1	4.1
4000	45	50	2.2	3.6
6000	60	55	1.6	–
8000	50	20	0.2	–
Total BHI (%) using extension table			11.6	
Total BHI (%) not using extension table				11.2
Presbycusis correction			0	
The assessing medical specialist is of the opinion that the binaural hearing impairment in this matter is 11.6% rather than 11.2%				
Adjusted total %BHI			11.6	
Resultant Total BHI of 11.6% = 6%WPI (Table 9.1)				

10 THE VISUAL SYSTEM

AMA4 Chapter 8 applies to the assessment of permanent impairment of the visual system, subject to the modifications set out below.

Introduction and approach to assessment

- 10.1 The visual system must be assessed by an ophthalmologist.
- 10.2 Chapter 8 (pp 209-222) of the American Medical Association's *Guides to the Assessment of Permanent Impairment* Fourth Edition (AMA4) are adopted for the *WorkCover Guides* without significant change.
- 10.3 AMA4 is used rather than AMA5 for the assessment of permanent impairment of the visual system because:
 - the equipment recommended for use in AMA5 is expensive and not owned by most privately practising ophthalmologists (eg the Goldman apparatus for measuring visual fields)
 - the assessments recommended in AMA5 are considered too complex, raising a risk that resulting assessments may be of a lower standard than if the AMA4 method was used
 - there is little emphasis on diplopia in AMA5, yet this is a relatively frequent problem
 - many ophthalmologists are familiar with the Royal Australian College of Ophthalmologists' impairment guide, which is similar to AMA4.
- 10.4 Impairment of vision should be measured with the injured worker wearing their prescribed corrective spectacles and/or contact lenses, if that was normal for the injured worker before the workplace injury. If, as a result of the workplace injury, the injured worker has been prescribed corrective spectacles and/or contact lenses for the first time, or different spectacles and/or contact lenses than those prescribed before injury, the difference should be accounted for in the assessment of permanent impairment.
- 10.5 The ophthalmologist should perform, or review, all tests necessary for the assessment of permanent impairment rather than relying on tests, or interpretations of tests, done by the orthoptist or optometrist.
- 10.6 An ophthalmologist should assess visual field impairment in all cases.
- 10.7 In AMA4 Section 8.5, "Other Conditions" (p 222), the "additional 10 per cent impairment" referred to means 10%WPI, not 10 per cent impairment of the visual system.

11 PSYCHIATRIC AND PSYCHOLOGICAL DISORDERS

AMA5 Chapter 14 is excluded and replaced by this chapter.

Introduction

- 11.1 This chapter lays out the method for assessing psychiatric impairment. The evaluation of impairment requires a medical examination.
- 11.2 Evaluation of psychiatric impairment is conducted by a psychiatrist who has undergone appropriate training in this assessment method.
- 11.3 Permanent impairment assessments for psychiatric and psychological disorders are only required where the primary injury is a psychological one. The psychiatrist needs to confirm that the psychiatric diagnosis is the injured worker's primary diagnosis. This assessment is not done for the purposes of determining "pain and suffering" as defined for the purposes of section 67 of the *Workers Compensation Act 1987*. "Pain and suffering" means actual pain, distress or anxiety, suffered or likely to be suffered by the injured worker, whether resulting from the permanent impairment concerned or from any necessary treatment of that impairment.

Background to the development of the scale

- 11.4 The psychiatric impairment rating scale (PIRS) used here was originally developed, using AMA4, for the New South Wales Motor Accidents Authority. It was then further modified for Comcare. At this time the conversion table was added. Finally, to ensure relevance in the NSW Workers Compensation context, the PIRS was extensively reviewed with reference to AMA5. Changes have been made to the method for assessing pre-injury impairment, and to some of the descriptors within each of the functional areas.

Diagnosis

- 11.5 The impairment rating 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 arising from any of the somatoform disorders (DSM IV TR, pp 485-511) are excluded from this chapter.
- 11.6 If pain is present as the result of an organic impairment, it should be assessed as part of the organic condition under the relevant table. This does not constitute part of the assessment of impairment relating to the psychiatric condition. The impairment ratings in the body organ system chapters in AMA5 make allowance for any accompanying pain.

11.7 It is expected that the psychiatrist will provide a rationale for the rating based on the injured worker's psychiatric symptoms. The diagnosis is among the factors to be considered in assessing the severity and possible duration of the impairment, but is not the sole criterion to be used. Clinical assessment of the person may include information from the injured worker's own description of his or her functioning and limitations; from family members and others who may have knowledge of the person. Medical reports, feedback from treating professionals, results of standardised tests, including appropriate psychometric testing performed by a qualified clinical psychologist, and work evaluations may provide useful information to assist with the assessment. Evaluation of impairment will need to take into account variations in the level of functioning over time. Percentage impairment refers to "whole person impairment".

Permanent impairment

11.8 A psychiatric disorder is permanent if, in your clinical opinion, it is likely to continue indefinitely. Regard should be given to:

- the duration of impairment
- the likelihood of improvement in the injured workers' condition
- whether the injured worker has undertaken reasonable rehabilitative treatment
- any other relevant matters.

Effects of treatment

11.9 Consider the effects of medication, treatment and rehabilitation to date. Is the condition stable? Is treatment likely to change? Are symptoms likely to improve? If the injured worker declines treatment, this should not affect the estimate of permanent impairment. The psychiatrist may make a comment in the report about the likely effect of treatment or the reasons for refusal of treatment.

Co-morbidity

11.10 Consider co-morbid features (eg Alzheimer's disease, personality disorder, substance abuse) and determine whether they are directly linked to the work-related injury or whether they were pre-existing or unrelated conditions.

Pre-existing impairment

11.11 To measure the impairment caused by a work-related injury or incident, the psychiatrist must measure the proportion of WPI due to a pre-existing condition. Pre-existing impairment is calculated using the same method for calculating current impairment level. The assessing psychiatrist uses all available information to rate the injured workers pre-injury level of functioning in each of the areas of function. The percentage impairment is calculated using the aggregate score and median class score using the conversion table below. The injured worker's current level of impairment is then assessed, and the pre-existing impairment level (%) is then subtracted from their current level to obtain the percentage of permanent impairment directly attributable to the work-related injury. If the percentage pre-existing impairment cannot be assessed, 10 per cent of the estimated level of the condition now being assessed is to be deducted.

Psychiatric impairment rating scale (PIRS)

11.12 Behavioural consequences of psychiatric disorder are assessed on six scales, each of which evaluates an area of functional impairment:

- Self care and personal hygiene (Table 11.1)
 - Social and recreational activities (Table 11.2)
 - Travel (Table 11.3)
 - Social functioning (relationships) (Table 11.4)
 - Concentration (Table 11.5)
 - Employability (Table 11.6)
- } Activities of daily living

11.13 Impairment in each area is rated using class descriptors. Classes range from 1 to 5, in accordance with severity. The standard form must be used when scoring the PIRS. The examples of activities are examples only. The assessing psychiatrist should take account of the person's cultural background. Consider activities that are usual for the person's age, sex and cultural norms.

Table 11.1: Psychiatric impairment rating scale – Self care and personal hygiene

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population
Class 2	Mild impairment: 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	Moderate impairment: 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) 2-3 times per week to ensure minimum level of hygiene and nutrition.
Class 4	Severe impairment: Needs supervised residential care. If unsupervised, may accidentally or purposefully hurt self.
Class 5	Totally impaired: Needs assistance with basic functions, such as feeding and toileting.

Table 11.2: Psychiatric impairment rating scale – Social and recreational activities

Class 1	No deficit, or minor deficit attributable to the normal variation in the general population: regularly participates in social activities that are age, sex and culturally appropriate. May belong to clubs or associations and is actively involved with these.
Class 2	Mild impairment: occasionally goes out to such events without needing a support person, but does not become actively involved (eg dancing, cheering favourite team).
Class 3	Moderate impairment: rarely goes out to such 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	Severe impairment: 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	Totally impaired. Cannot tolerate living with anybody, extremely uncomfortable when visited by close family member.

Table 11.3: Psychiatric impairment rating scale – 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	Mild impairment: can travel without support person, but only in a familiar area such as local shops, visiting a neighbour.
Class 3	Moderate impairment: cannot travel away from own residence without support person. Problems may be due to excessive anxiety or cognitive impairment.
Class 4	Severe impairment: finds it extremely uncomfortable to leave own residence even with trusted person.
Class 5	Totally impaired: may require two or more persons to supervise when travelling.

Table 11.4: Psychiatric impairment rating scale – 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 (eg partner, close friendships lasting years).
Class 2	Mild impairment: existing relationships strained. Tension and arguments with partner or close family member, loss of some friendships.
Class 3	Moderate impairment: previously established relationships severely strained, evidenced by periods of separation or domestic violence. Spouse, relatives or community services looking after children.
Class 4	Severe impairment: unable to form or sustain long term relationships. Pre-existing relationships ended (eg lost partner, close friends). Unable to care for dependants (eg own children, elderly parent).
Class 5	Totally impaired: unable to function within society. Living away from populated areas, actively avoiding social contact.

Table 11.5: Psychiatric impairment rating scale – 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	Mild impairment: 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 30 minutes, then feels fatigued or develops headache.
Class 3	Moderate impairment: unable to read more than newspaper articles. Finds it difficult to follow complex instructions (eg operating manuals, building plans), make significant repairs to motor vehicle, type long documents, follow a pattern for making clothes, tapestry or knitting.
Class 4	Severe impairment: 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	Totally impaired: needs constant supervision and assistance within institutional setting.

Table 11.6: Psychiatric impairment rating scale – Employability

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 injured worker's education and training. The person is able to cope with the normal demands of the job.
Class 2	Mild impairment. Able to work full time but in a different environment from that of the pre-injury job. The duties require comparable skill and intellect as those of the pre-injury job. Can work in the same position, but no more than 20 hours per week (eg no longer happy to work with specific persons, or work in a specific location due to travel required).
Class 3	Moderate impairment: 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 (eg less stressful).
Class 4	Severe impairment: cannot work more than one or two days at a time, less than 20 hours per fortnight. Pace is reduced, attendance is erratic.
Class 5	Totally impaired. Cannot work at all.

Using the PIRS to measure impairment

11.14 Rating psychiatric impairment using the PIRS is a two-step procedure:

- Determine the median class score.
- Calculate the aggregate score.

Determining the median class score

11.15 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

*If a score falls between two classes, it is rounded up to the next class. A median class score of 2.5 thus becomes 3.

11.16 The median class score method was chosen, as it is not influenced by extremes. Each area of function is assessed separately. While 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.

Median class score and percentage impairment

11.17 Each median class score represents a range of impairment, as shown below.

Class 1 = 0-3%
Class 2 = 4-10%
Class 3 = 11-30%
Class 4 = 31-60%
Class 5 = 61-100%

Calculation of the aggregate score

11.18 The aggregate score is used to determine an exact percentage of impairment within a particular Median Class range. The six class scores are added to give the aggregate score.

Use of the conversion table to arrive at percentage impairment

11.19 The aggregate score is converted to a percentage score using the conversion table.

11.20 The conversion table was developed to calculate the percentage impairment based on the aggregate and median scores.

11.21 The scores within the conversion table are spread in such a way to ensure that the final percentage rating is consistent with the measurement of permanent impairment percentages for other body systems.

Table 11.7: Conversion table

		Aggregate score																																
		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								
% Impairment	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	37	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 obtained is: $1+1+1+1+1+1 = 6$
- The highest aggregate score is $5+5+5+5+5+5 = 30$
- The table therefore has aggregate scores ranging from 6 to 30
- Each Median Class score has an impairment range, and a range of possible aggregate scores (eg Class 3 = 11-30%)
- The lowest aggregate score for Class 3 is 13 ($1+1+2+3+3+3 = 13$)
- The highest aggregate score for Class 3 is 22. ($3+3+3+3+5+5 = 22$)
- The conversion table distributes the impairment percentages across aggregate scores

B. Same aggregate score in different classes

- The conversion table shows that the same aggregate score leads to different percentages of impairment in 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
 - 34% in Class 4.
- This is due to the fact that an injured worker whose impairment is in Median Class 2 is likely to have a lower score across most areas of function. They may be significantly impaired in one aspect of their life, such as Travel, yet have low impairment in Social Function, Self-care or Concentration.
- Someone whose impairment reaches Median Class 4 will experience significant impairment across most aspects of his or her life.

Examples: (Using the previous cases)

Example A

PIRS scores

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

Median class

= 3

Aggregate score

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

Total

% Impairment

18	22%
----	-----

Example B

PIRS scores

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

Median class

= 3

Aggregate score

1+	2+	2+	3+	3+	4 =
----	----	----	----	----	-----

Total

% Impairment

15	15%
----	-----

Example C

PIRS scores

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

Median class

= 4

Aggregate score

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

Total

% Impairment

21	44%
----	-----

Table 11.8: PIRS rating form

Name:	Claim reference number:
DOB:	Age at time of injury:
Date of injury:	Occupation before injury:
Date of assessment:	Marital status before injury:

Psychiatric diagnoses	1.	2.
	3.	4.
Psychiatric treatment		
Is impairment permanent?	Yes No (Circle one)	

PIRS category	Class	Reason for decision
Self care and personal hygiene		
Social and recreational activities		
Travel		
Social functioning		
Concentration, persistence and pace		
Employability		

Score Class

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

Median

=

Aggregate score

+	+	+	+	+	=

Total %

Impairment (%WPI) from table 11.7

Less pre existing impairment (if any)

Final Impairment (%WPI)

12 HAEMATOPOIETIC SYSTEM

AMA5 Chapter 9 applies to the assessment of permanent impairment of the haematopoietic system, subject to the modifications set out below.

Introduction

- 12.1 AMA5 Chapter 9 (pp 191-210) provides guidelines on the method of assessing permanent impairment of the haematopoietic system. Overall, that chapter should be followed when conducting the assessment, with variations indicated below.
- 12.2 Impairment of end organ function due to haematopoietic disorder should be assessed separately, using the relevant chapter of the *WorkCover Guides*. The %WPI due to end organ impairment should be combined with any %WPI due to haematopoietic disorder, using the Combined Values Table (AMA5, pp 604-606).

Anaemia

- 12.3 Table 12.1 (below) replaces AMA5 Table 9-2 (p 193).

Table 12.1: Classes of anaemia and percentage whole person impairment

Class 1: 0-10% WPI	Class 2: 11-30% WPI	Class 3: 31-70% WPI	Class 4: 71-100% WPI
No symptoms and haemoglobin 100-120g/L and no transfusion required	Minimal symptoms and haemoglobin 80-100g/L and no transfusion required	Moderate to marked symptoms and haemoglobin 50-80g/L before transfusion and transfusion of 2 to 3 units required, every 4 to 6 weeks	Moderate to marked symptoms and haemoglobin 50-80g/L before transfusion and transfusion of 2 to 3 units required, every 2 weeks

- 12.4 The assessor should exercise clinical judgement in determining %WPI, using the criteria in Table 12.1. For example, if comorbidities exist which preclude transfusion, the assessor may assign Class 3 or Class 4, on the understanding that transfusion would under other circumstances be indicated. Similarly, there may be some claimants with Class 2 impairment who, because of comorbidity, may undergo transfusion.
- 12.5 Pre-transfusion haemoglobin levels in Table 12.1 are to be used as indications only. It is acknowledged that for some claimants, it would not be medically advisable to permit the claimant's haemoglobin levels to be as low as indicated in the criteria of Table 12.1.
- 12.6 The assessor should indicate a %WPI, as well as the Class.

Polycythaemia and myelofibrosis

12.7 The level of symptoms (as in Table 12.1) should be used a guide for the assessor in cases where non-anaemic tissue iron deficiency results from venesection.

White blood cell diseases

12.8 In cases of functional asplenia, the assessor should assign 3%WPI. This should be combined with any other impairment rating, using the Combined Values Table (pp 604-606, AMA5).

12.9 AMA5 Table 9-3 (p 200) should not be used for rating impairment due to HIV infection or auto immune deficiency disease. Section 67A (1) of the *Workers Compensation Act 1987* indicates that HIV infection and AIDS are each considered to result in a degree of permanent impairment of 100 per cent.

Haemorrhagic and platelet disorders

12.10 AMA5 Table 9-4 (p 203) is to be used as the basis for assessing haemorrhagic and platelet disorders.

12.11 For the purposes of these *WorkCover Guides*, the criteria for inclusion in Class 3 of AMA5 Table 9-4 (p 203) is:

- symptoms and signs of haemorrhagic and platelet abnormality
- requires continuous treatment
- interference with daily activities; requires occasional assistance.

12.12 For the purposes of these *WorkCover Guides*, the criteria for inclusion in Class 4 of Table 9-4 (p 203, AMA5) is:

- symptoms and signs of haemorrhagic and platelet abnormality
- requires continuous treatment
- difficulty performing daily activities; requires continuous care.

Thrombotic disorders

12.13 AMA5 Table 9-4 (p 203) is used as the basis for determining impairment due to thrombotic disorder.

13 THE ENDOCRINE SYSTEM

AMA5 Chapter 10 applies to the assessment of permanent impairment of the endocrine system, subject to the modifications set out below.

Introduction

- 13.1 AMA5 Chapter 10 provides a useful summary of the methods for assessing permanent impairment arising from disorders of the endocrine system.
- 13.2 Refer to other chapters in AMA5 for related structural changes – the visual system (Chapter 12), the skin (eg pigmentation – Chapter 8), the central and peripheral nervous system (memory, Chapter 13), the urinary and reproductive systems (infertility, renal impairment, Chapter 7), the digestive system (dyspepsia, Chapter 6), the cardiovascular system (Chapters 3 and 4).
- 13.3 The clinical findings to support the impairment assessment are to be reported in the units recommended by the Royal College of Pathologists of Australia. (See Appendix 13.1, p 71).
- 13.4 Westergren erythrocyte sedimentation rate (WSR) is equivalent to ESR.

Adrenal cortex

- 13.5 AMA5, p 222, first paragraph: disregard the last sentence, “They also affect inflammatory response, cell membrane permeability, and immunologic responses, and they play a role in the development and maintenance of secondary sexual characteristics.” Replace with: “Immunological and inflammatory responses are reduced by these hormones and they play a role in the development and maintenance of secondary sexual characteristics.”
- 13.6 AMA5 Example 10-18 (pp 224-225): see reference to ESR (13.4, above).
- 13.7 AMA5 Example 10-20 (p 225): History: For “hypnotic bladder” read “hypotonic bladder”.

Diabetes mellitus

- 13.8 AMA5, p 231: refer to the Australian Diabetes Association Guidelines with regard to levels of fasting glucose. (Position statement from the Australian Diabetes Society, reprinted in Appendix 13.2, p 76).
- 13.9 AMA5, p 231: insert at the end of the second paragraph: ‘The goal of treatment is to maintain haemoglobin A1c within 1 per cent of the normal range (4 per cent – 6.3 per cent)’.

Mammary glands

- 13.10 AMA5 Example 10-45 (p 239), Current Symptoms: disregard the last sentence, “Both bromocriptine and cabergoline cause nausea, precluding use of either drug” and replace with: “Routine use of bromocriptine and cabergoline is normal in Australia. It is rare that nausea precludes their use.”

Criteria for rating permanent impairment due to metabolic bone disease

13.11 AMA5, p 240: Impairment due to a metabolic bone disease itself is unlikely to be associated with a work injury and would usually represent a pre-existing condition.

13.12 Impairment from fracture, spinal collapse or other complications may arise as a result of a work injury associated with these underlying conditions (as noted in AMA5, Section 10.10c) and would be assessed using the other Chapters indicated, with the exception of Chapter 18 (Pain) which is excluded from the *WorkCover Guides*.

Appendix 13.1: Interpretation of pathology tests

From *Manual of Use and Interpretation of Pathology Tests*, 3rd edition. Reprinted with kind permission of the Royal College of Pathologists of Australasia.

Reference ranges, plasma or serum, unless otherwise indicated		
Alanine aminotransferase (ALT)	(adult)	< 35 U/L
Albumin	(adult)	32-45 g/L
Alkaline phosphatase (ALP)	(adult, non-pregnant)	25-100 U/L
Alpha fetoprotein	(adult, non-pregnant)	< 10 mg/L
Alpha-1-antitrypsin		1.7-3.4 g/L
Anion gap		8-16 mmol/L
Aspartate aminotransferase (AST)		< 40 U/L
Bicarbonate (total CO ₂)		22-32 mmol/L
Bilirubin (total)	(adult)	< 20 µmol/L
Calcium	(total) (ionised)	2.10-2.60 mmol/L 1.17-1.30 mmol/L
Chloride		95-110 mmol/L
Cholesterol (HDL)	(male) (female)	0.9-2.0 mmol/L 1.0-2.2 mmol/L
Cholesterol (total) <i>(National Heart Foundation [Australia] recommendation)</i>		< 5.5 mmol/L
Copper		13-22 µmol/L
Creatine kinase (CK)	(male) (female)	60-220 U/L 30-180 U/L
Creatinine	(adult male) (adult female)	0.06-0.12 mmol/L 0.05-0.11 mmol/L
Gamma glutamyl transferase (GGT)	(male) (female)	< 50 U/L < 30 U/L
Globulin	adult	25-35 g/L

Reference ranges, plasma or serum, unless otherwise indicated (continued)		
Glucose	(venous plasma) – (fasting)	3.0-5.4 mmol/L
	(venous plasma) – (random)	3.0-7.7 mmol/L
Lactate dehydrogenase (LD)	(adult)	110-230 U/L
Magnesium	(adult)	0.8-1.0 mmol/L
Osmolality	(adult)	280-300 m.osmol/kg water
pCO ₂	(arterial blood)	4.6-6.0 kPa (35-45 mmHg)
PH	(arterial blood)	7.36-7.44 (36-44 nmol/L)
Phosphate		0.8-1.5 mmol/L
pO ₂	(arterial blood)	11.0-13.5 kPa (80-100 mmHg)
Potassium	(plasma)	3.4-4.5 mmol/L
	(serum)	3.8-4.9 mmol/L
Prolactin	(male)	150-500 mU/L
	(female)	0-750 mU/L
Protein, total	(adult)	62-80 g/L
Sodium		135-145 mmol/L
Testosterone and related androgens	See Table A (below)	

Therapeutic intervals		
Amitriptyline	150-900 nmol/L	60-250 µg/L
Carbamazepine	20-40 µmol/L	6-12 mg/L
Digoxin	0.6-2.3 nmol/L	0.5-1.8 µg/L
Lithium	0.6-1.2 mmol/L	
Nortriptyline	200-650 nmol/L	50-170 µg/L
Phenobarbitone	65-170 µmol/L	15-40 mg/L
Phenytoin	40-80 µmol/L	10-20 mg/L
Primidone	22-50 µmol/L	4.8-11.0 mg/L
Procainamide	17-42 µmol/L	4-10 mg/L
Quinidine	7-15 µmol/L	2.3-4.8 mg/L
Salicylate	1.0-2.5 mmol/L	140-350 mg/L
Theophylline	55-110 µmol/L	10-20 mg/L
Valproate	350-700 µmol/L	50-100 mg/L
Thyroid stimulating hormone (TSH)		0.4-5.0 mIU/L
Thyroxine (free)		10-25 pmol/L
Triglycerides (fasting)		< 2.0 mmol/L
Triiodothyronine (free)		4.0-8.0 pmol/L
Urate	(male)	0.20-0.45 mmol/L
	(female)	0.15-0.40 mmol/L
Urea	(adult)	3.0-8.0 mmol/L
Zinc		12-20 µmol/L

Table A: Reference intervals for testosterone and related androgens (serum)

	Male		Female	
	Pre-pubertal	Adult (age related)	Pre-pubertal	Adult (age related)
Free testosterone (pmol/L)		170-510		< 4.0
Total testosterone (nmol/L)	< 0.5	8-35	< 0.5	< 4.0
SHBG (nmol/L)	55-100	10-50	55-100	30-90 (250-500 in the 3rd trimester)
Dihydrotestosterone (nmol/L)		1-2.5		

Reference ranges, urine		
Calcium		2.5-7.5 mmol/24 hours
Chloride (depends on intake, plasma levels)		100-250 mmol/24 hours
Cortisol (free)		100-300 nmol/24 hours
Creatinine	(child) (male) (female)	0.07-0.19 mmol/24 hours/kg 9-18 mmol/24 hours 5-16 mmol/24 hours
HMMA	(infant) (adult)	< 10 mmol/mol creatinine < 35 µmol/24 hours
Magnesium		2.5-8.0 mmol/24 hours
Osmolality (depends on hydration)		50-1200 m.osmol/kg water
Phosphate (depends on intake, plasma levels)		10-40 mmol/24 hours
Potassium (depends on intake, plasma levels)		40-100 mmol/24 hours
Protein, total	(pregnancy)	< 150 mg/24 hours < 250 mg/24 hours
Sodium (depends on intake, plasma levels)		75-300 mmol/24 hours
Urate	(male) (female)	2.2-6.6 mmol/24 hours 1.6-5.6 mmol/24 hours
Urea (depends on protein intake)		420-720 mmol/24 hours

Reference ranges, whole blood		
Haemoglobin (Hb)	(adult male) (adult female)	130-180 g/L 115-165 g/L
Red cell count (RCC)	(adult male) (adult female)	4.5-6.5 x 10 ¹² /L 3.8-5.8 x 10 ¹² /L
Packed cell volume (PCV)	(adult male) (adult female)	0.40-0.54 0.37-0.47
Mean cell volume (MCV)		80-100 fL
Mean cell haemoglobin (MCH)		27-32 pg
Mean cell haemoglobin concentration (MCHC)		300-350 g/L
Leucocyte (White Cell) Count (WCC)		4.0-11.0 x 10 ⁹ /L
Leucocyte differential count: <ul style="list-style-type: none"> • Neutrophils • Eosinophils • Basophils • Monocytes • Lymphocytes Platelet count		2.0-7.5 x 10 ⁹ /L 0.04-0.4 x 10 ⁹ /L < 0.1 x 10 ⁹ /L 0.2-0.8 x 10 ⁹ /L 1.5-4.0 x 10 ⁹ /L 150-400 x 10 ⁹ /L
Erythrocyte sedimentation rate (ESR)	male 17-50 yrs male >50 yrs female 17-50 yrs female >50 yrs	1-10 mm/hour 2-14 mm/hour 3-12 mm/hour 5-20 mm/hour
Reticulocyte count		10-100 x 10 ⁹ /L (0.2-2.0%)

Reference ranges, plasma or serum, unless otherwise indicated		
Iron	(adult)	10-30 µmol/L
Iron (total) binding capacity (TIBC)		45-80 µmol/L
Transferrin		1.7-3.0 g/L
Transferrin saturation		0.15-0.45 (15-45%)
Ferritin	(male) (female)	30-300 µg/L 15-200 µg/L
Vitamin B12		120-680 pmol/L
Folate	(red cell) (serum)	360-1400 nmol/L 7-45 nmol/L

Reference ranges, citrated plasma	
Activated partial thromboplastin time (APTT)	25-35 seconds
• Therapeutic range for continuous infusion heparin	1.5-2.5 x baseline
Prothrombin time (PT)	11-15 seconds
International normalised ratio (INR)	2.0-4.5
• Therapeutic range for oral anticoagulant therapy	
Fibrinogen	1.5-4.0 g/L

Reference ranges, serum	
Rheumatoid factor (nephelometry)	< 30 IU/L
C3	0.9–1.8 g/L
C4	0.16–0.50 g/L
C-reactive protein	< 5.0 mg/L
Immunoglobulins:	
IgG	6.5–16.0g/L
IgA	0.6–4.0g/L
IgM	0.5–3.0g/L

Reference intervals for lymphocyte subsets	
	Adult
Total lymphocytes	1.5–4.0
CD3	0.6–2.4
CD4 (T4)	0.5–1.4
CD8 (T8)	0.2–0.7
CD19	0.04–0.5
CD16	0.2–0.4
CD4/CD8 ratio	1.0–3.2

Appendix 13.2: New classification and criteria for diagnosis of diabetes mellitus

Position Statement from the Australian Diabetes Society,* New Zealand Society for the Study of Diabetes,[†] Royal College of Pathologists of Australasia[‡] and Australasian Association of Clinical Biochemists[§]

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Introduction

Recently, there has been major growth in knowledge about the aetiology and pathogenesis of different types of diabetes and about the predictive value of different blood glucose levels for development of complications. In response, both the American Diabetes Association (ADA) and the World Health Organization (WHO) have re-examined, redefined and updated the classification of and criteria for diabetes, which have been unchanged since 1985. While the two working parties had cross-representation, they met separately, and differences have emerged between their recommendations.

The ADA published its final recommendations in 1997,¹ while the WHO group published its provisional conclusions for consultation and comment in June 1998.²

The WHO process called for comments on the proposal by the end of September 1998, with the intention of finalising definitive classification and criteria by the end of December 1998 and of publishing these soon thereafter. However, WHO publications need to go through an internal approval process and it may be up to 12 months before the final WHO document appears.

A combined working party of the Australian Diabetes Society, New Zealand Society for the Study of Diabetes, Royal College of Pathologists of Australasia and Australasian Association of Clinical Biochemists was formed to formulate an Australasian position on the two sets of recommendations and, in particular, on the differences between them. This is an interim statement pending the final WHO report, which will include recommendations on diabetes classification as well as criteria for diagnosis. We see it as very important to inform Australasian health professionals treating patients with diabetes about these changes.

Key messages

Diagnosis of diabetes is not in doubt when there are classical symptoms of thirst and polyuria and a random venous plasma glucose level ≥ 11.1 mmol/L.

The Australasian Working Party on Diagnostic Criteria for Diabetes Mellitus recommends:

- immediate adoption of the new criterion for diagnosis of diabetes as proposed by the American Diabetes Association (ADA) and the World Health Organization (WHO) – fasting venous plasma glucose level ≥ 7.0 mmol/L
- immediate adoption of the new classification for diabetes mellitus proposed by the ADA and WHO, which comprises four aetiological types – type 1, type 2, other specific types, and gestational diabetes – with impaired glucose tolerance and impaired fasting glycaemia as stages in the natural history of disordered carbohydrate metabolism
- awareness that some cases of diabetes will be missed unless an oral glucose tolerance test (OGTT) is performed. If there is any suspicion or other risk factor suggesting glucose intolerance, the OGTT should continue to be used pending the final WHO recommendation.

What are the new diagnostic criteria?

The new WHO criteria for diagnosis of diabetes mellitus and hyperglycaemia are shown in Box 1. The major change from the previous WHO recommendation³ is the lowering of the diagnostic level of fasting plasma glucose to ≥ 7.0 mmol/L, from the former level of ≥ 7.8 mmol/L. For whole blood, the proposed new level is ≥ 6.1 mmol/L, from the former ≥ 6.7 mmol/L.

This change is based primarily on cross-sectional studies demonstrating the presence of microvascular⁴ and macrovascular complications⁵ at these lower glucose concentrations. In addition, the 1985 WHO diagnostic criterion for diabetes based on fasting plasma glucose level (≥ 7.8 mmol/L) represents a greater degree of hyperglycaemia than the criterion based on plasma glucose level two hours after a 75 g glucose load (≥ 11.1 mmol/L).⁶ A fasting plasma glucose level of ≥ 7 mmol/L accords more closely with this 2 h post-glucose level.

Recommendation: The ADA and the WHO committee are unanimous in adopting the changed diagnostic level, and the Australasian Working Party on Diagnostic Criteria recommends that healthcare providers in Australia and New Zealand should adopt it immediately.

Clinicians should note that the diagnostic criteria differ between clinical and epidemiological settings. In clinical practice, when symptoms are typical of diabetes, a single fasting plasma glucose level of ≥ 7.0 mmol/L or 2 h post-glucose or casual postprandial plasma glucose level of ≥ 11.1 mmol/L suffices for diagnosis. If there are no symptoms, or symptoms are equivocal, at least one additional glucose measurement (preferably fasting) on a different day with a value in the diabetic range is necessary to confirm the diagnosis. Furthermore, severe hyperglycaemia detected under conditions of acute infective, traumatic, circulatory or other stress may be transitory and should not be regarded as diagnostic of diabetes. The situation should be reviewed when the primary condition has stabilised.

In epidemiological settings, for study of high-prevalence populations or selective screening of high-risk individuals, a single measure – the glucose-level 2 h post-glucose load – will suffice to describe prevalence of impaired glucose tolerance (IGT).

1: Values for diagnosis of diabetes mellitus and other categories of hyperglycaemia²

	Glucose concentration (mmol/L [mg/dL])			
	Whole blood		Plasma	
	Venous	Capillary	Venous	Capillary
Diabetes mellitus				
Fasting or 2 h post-glucose load or both	≥ 6.1 (≥ 110) ≥ 10.0 (≥ 180)	≥ 6.1 (≥ 110) ≥ 11.1 (≥ 200)	≥ 7.0 (≥ 126) 11.1 (≥ 200)	≥ 7.0 (≥ 126) ≥ 12.2 (≥ 220)
Impaired glucose tolerance (IGT)				
Fasting (if measured) and 2 h post-glucose load	< 6.1 (< 110) ≥ 6.7 (≥ 120) and < 10.0 (< 180)	< 6.1 (< 110) ≥ 7.8 (≥ 140) and < 11.1 (< 200)	< 7.0 (< 126) ≥ 7.8 (≥ 140) and 11.1 (< 200)	< 7.0 (< 126) ≥ 8.9 (≥ 160) and < 12.2 (< 220)
Impaired fasting glycaemia (IFG)				
Fasting	5.6 (≥ 100) and < 6.1 (< 110)	≥ 5.6 (≥ 100) and < 6.1 (< 110)	≥ 6.1 (≥ 110) and 7.0 (< 126)	≥ 6.1 (≥ 110) and 7.0 (< 126)
2 h post-glucose load (if measured)	< 6.7 (< 120)	< 7.8 (< 140)	< 7.8 (< 140)	< 8.9 (< 160)
<p>For epidemiological or population screening purposes, the fasting or 2 h value after 75 g oral glucose may be used alone. For clinical purposes, the diagnosis of diabetes should always be confirmed by repeating the test on another day, unless there is unequivocal hyperglycaemia with acute metabolic decompensation or obvious symptoms. Glucose concentrations should not be determined on serum unless red cells are immediately removed, otherwise glycolysis will result in an unpredictable underestimation of the true concentrations. It should be stressed that glucose preservatives do not totally prevent glycolysis. If whole blood is used, the sample should be kept at 0-4° C or centrifuged immediately, or assayed immediately. Table reproduced with permission from Alberti KGMM, Zimmet PZ. Definition, diagnosis and classification of diabetes mellitus and its complications. Part 1: diagnosis and classification of diabetes mellitus. Provisional Report of a WHO Consultation. Diabet Med 1998; 15: 539-553. Copyright John Wiley & Sons Limited.</p>				

What about the oral glucose tolerance test?

Previously, the oral glucose tolerance test (OGTT) was recommended in people with a fasting plasma glucose level of 5.5–7.7 mmol/L or random plasma glucose level of 7.8–11.0 mmol/L. After a 75 g glucose load, those with a 2 h plasma glucose level of < 7.8 mmol/L were classified as normoglycaemic, of 7.8–11.0 mmol/L as having IGT and of ≥ 11.1 mmol/L as having diabetes.

The new diagnostic criteria proposed by the ADA and WHO differ in their recommendations on use of the OGTT. The ADA makes a strong recommendation that fasting plasma glucose level can be used on its own and that, in general, the OGTT need not be used.¹ The WHO group² argues strongly for the retention of the OGTT and suggests using fasting plasma glucose level alone only when circumstances prevent the performance of the OGTT.

There are concerns that many people with a fasting plasma glucose level < 7.0 mmol/L will have manifestly abnormal results on the OGTT and are at risk of microvascular and macrovascular complications. This has major ramifications for the approach to diabetes screening, particularly when the Australian National Diabetes Strategy proposal,⁷ launched in June 1998 by Dr Michael Wooldridge, then Federal Minister for Health and Aged Care, has early detection of type 2 diabetes as a key priority.

Recommendation: The Australasian Working Party on Diagnostic Criteria has major concerns about discontinuing use of the OGTT and recommends that a formal recommendation on its use in diabetes screening be withheld until the final WHO recommendation is made. However, in the interim, the OGTT should continue to be used.

Diabetes in pregnancy

The ADA has retained its old criteria for diagnosis of gestational diabetes.¹ These differ from those recommended by both WHO² and the Australian Working Party on Diabetes in Pregnancy⁸ and are generally not recognised outside the United States. The new WHO statement retains the 1985 WHO recommendation that both IGT and diabetes should be classified as gestational diabetes. This is consistent with the recommendations of the Australasian Diabetes in Pregnancy Society, which recommended a diagnostic 2 h venous plasma glucose level on the OGTT of ≥ 8.0 mmol/L. In New Zealand, a cut-off level of ≥ 9.0 mmol/L has been applied.⁸

How has the classification of diabetes changed?

The proposed new classification encompasses both clinical stages and aetiological types of hyperglycaemia and is supported by numerous epidemiological studies. The classification by aetiological type (Box 2) results from new knowledge of the causes of hyperglycaemia, including diabetes. The terms insulin-dependent and non-insulin-dependent diabetes (IDDM and NIDDM) are eliminated and the terms type 1 and type 2 diabetes retained. Other aetiological types, such as diabetes arising from genetic defects of β -cell function or insulin action, are grouped as “other specific types”, with gestational diabetes as a fourth category.

The proposed staging (Box 3) reflects the fact that any aetiological type of diabetes can pass or progress through several clinical phases (both asymptomatic and symptomatic) during its natural history. Moreover, individuals may move in either direction between stages.

Impaired glucose tolerance and impaired fasting glycaemia

Impaired glucose tolerance (IGT), a discrete class in the previous classification, is now categorised as a stage in the natural history of disordered carbohydrate metabolism. Individuals with IGT are at increased risk of cardiovascular disease, and not all will be identified by fasting glucose level.

In reducing the use of the OGTT, the ADA recommended a new category – impaired fasting glycaemia (IFG) – when fasting plasma glucose level is lower than that required to diagnose diabetes but higher than the reference range (< 7.0 mmol/L but ≥ 6.1 mmol/L). Limited data on this category show that it increases both risk of progressing to diabetes⁹ and cardiovascular risk.⁵ However, data are as yet insufficient to determine whether IFG has the same status as IGT as a risk factor for developing diabetes and cardiovascular disease and as strong an association with the metabolic syndrome (insulin resistance syndrome).

2: Aetiological classification of disorders of glycaemia*

Type 1 (β -cell destruction, usually leading to absolute insulin deficiency)

- Autoimmune
- Idiopathic

Type 2 (may range from predominantly insulin resistance with relative insulin deficiency to a predominantly secretory defect with or without insulin resistance)

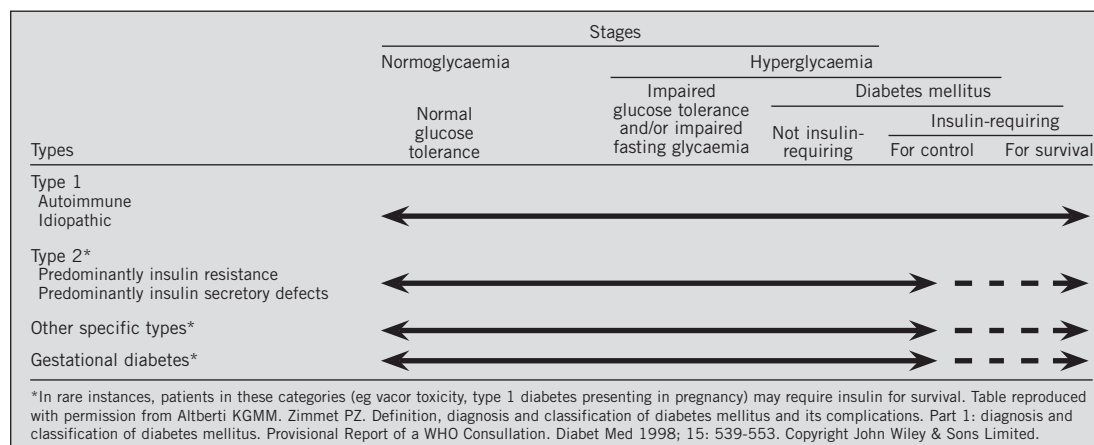
Other specific types

- Genetic defects of β -cell function
- Genetic defects in insulin action
- Diseases of the exocrine pancreas
- Endocrinopathies
- Drug or chemical induced
- Infections
- Uncommon forms of immune-mediated diabetes
- Other genetic syndromes sometimes associated with diabetes

Gestational diabetes

* As additional subtypes are discovered, it is anticipated they will be reclassified within their own specific category. Includes the former categories of gestational impaired glucose tolerance and gestational diabetes. Table reproduced with permission from Alberti KGMM, Zimmet PZ. Definition, diagnosis and classification of diabetes mellitus and its complications. Part 1: diagnosis and classification of diabetes mellitus. Provisional Report of a WHO Consultation. Diabet Med 1998; 15: 539-553. Copyright John Wiley & Sons Limited.

3: Disorders of glycaemia: aetiological types and clinical stages



IFG can be diagnosed by fasting glucose level alone, but if 2 h glucose level is also measured some individuals with IFG will have IGT and some may have diabetes. In addition, the number of people with OGTT results indicating diabetes but fasting plasma glucose level < 7.0 mmol/L is unknown, but early data suggest there may be major variation across different populations.¹⁰ A number of studies, including the DECODE initiative of the European Diabetes Epidemiology Group, have reported that individuals classified with IFG are not the same as the IGT group.¹¹⁻¹⁵ The European Group believes that, on available European evidence, the ADA decision to rely solely on fasting glucose level would be unwise.

Recommendation: The Australasian Working Party on Diagnostic Criteria recommends immediate adoption of the new classification. However, clinicians should be aware that some cases of diabetes will be missed unless an OGTT is performed. Thus, if there is any suspicion or other risk factor suggesting glucose intolerance, the working party continues to recommend use of an OGTT pending the final WHO recommendation.

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14 THE SKIN

AMA5 Chapter 8 applies to the assessment of permanent impairment of the skin, subject to the modifications set out below.

- 14.1 AMA5 Chapter 8 (pp 173-190) refers to skin diseases generally rather than work-related skin diseases alone. This Chapter has been adopted for measuring impairment of the skin system, with the following variations.
- 14.2 Disfigurement, scars and skin grafts may be assessed as causing significant permanent impairment when the skin condition causes limitation in the performance of activities of daily living (ADL).
- 14.3 For cases of facial disfigurement, refer to Table 6.1 in the *WorkCover Guides* (p 38).
- 14.4 AMA5 Table 8-2 (p 178) provides the method of classification of impairment due to skin disorders. Three components – signs and symptoms of skin disorder, limitations in activities of daily living and requirements for treatment – define five classes of permanent impairment. The assessing specialist should derive a specific percentage impairment within the range for the class that best describes the clinical status of the claimant.
- 14.5 The skin is regarded as a single organ and all non-facial scarring is measured together as one overall impairment rather than assessing individual scars separately and combining the results.
- 14.6 A scar may be present and rated as 0%WPI.
- 14.7 The Table for the Evaluation of Minor Skin Impairment (TEMSKI) (See Table 14.1) is an extension of Table 8-2 in AMA5. The TEMSKI divides Class 1 of Permanent Impairment (0-9 per cent) due to skin disorders into five categories of impairment. The TEMSKI may be used by trained assessors (who are not trained in the skin body system) for determining impairment from 0-4 per cent in the Class 1 category that has been caused by minor scarring following surgery. Impairment greater than 4 per cent must be assessed by a specialist who has undertaken the requisite training in the assessment of the skin body system.
- 14.8 The TEMSKI is to be used in accordance with the principle of 'best fit'. The 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 assessor must provide detailed reasons as to why this category has been chosen over other categories.
- 14.9 Where there is a range of values in the TEMSKI categories, the assessor should use clinical judgement to determine the exact impairment value.
- 14.10 The case examples provided in AMA5 Chapter 8 do not, in most cases, relate to permanent impairment that results from a work-related injury. The following New South Wales examples are provided for information.
- 14.11 Work-related case study examples 14.1, 14.2, 14.3, 14.4, 14.5, 14.6 are included below, in addition to AMA5 Examples 8.1-8.22 (pp 178-187).

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)	Claimant is not conscious or is barely conscious of the scar(s) or skin condition Good colour match with surrounding skin and the scar(s) or skin condition is barely distinguishable. Claimant is unable to easily locate the scar(s) or skin condition No trophic changes Any staple or suture marks are barely visible	Claimant is conscious of the scar(s) or skin condition Some parts of the scar(s) or skin condition colour contrast with the surrounding skin as a result of pigmentary or other changes Claimant is able to locate the scar(s) or skin condition Minimal trophic changes Any staple or suture marks are visible	Claimant is conscious of the scar(s) or skin condition Noticeable colour contrast of scar(s) or skin condition with surrounding skin as a result of pigmentary or other changes Claimant is able to easily locate the scar(s) or skin condition Trophic changes evident to touch Any staple or suture marks are clearly visible	Claimant is conscious of the scar(s) or skin condition Easily identifiable colour contrast of scar(s) or skin condition with surrounding skin as a result of pigmentary or other changes Claimant is able to easily locate the scar(s) or skin condition Trophic changes evident to touch Any staple or suture marks are clearly visible	Claimant is conscious of the scar(s) or skin condition Distinct colour contrast of scar(s) of skin condition with surrounding skin as a result of pigmentary or other changes Claimant is able to easily locate the scar(s) or skin condition Trophic changes are visible Any staple or suture marks are clearly visible
Location	Anatomic location of the scar(s) or skin condition 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 visible with usual clothing/hairstyle	Anatomic location of the scar(s) or skin condition is usually and clearly visible with usual clothing/hairstyle
Contour	No contour defect	Minor contour defect	Contour defect visible	Contour defect easily visible	Contour defect easily visible
ADL / Treatment	No effect on any ADL No treatment, or intermittent treatment only, required	Negligible effect on any ADL No treatment, or intermittent treatment only, required	Minor limitation in the performance of few ADL No treatment, or intermittent treatment only, required	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 No treatment, or intermittent treatment only, required	Limitation in the performance of few ADL (INCLUDING restriction in grooming or 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
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.

Example 14.1: **Cumulative irritant dermatitis**

Subject: 42-year-old man.

History: Spray painter working on ships in dry dock. Not required to prepare surface but required to mix paints (including epoxy and polyurethane) with “thinners” (solvents) and spray metal ships’ surface. At end of each session, required to clean equipment with solvent. Not supplied with gloves or other personal protective equipment until after onset of symptoms. Gradual increase in severity in spite of commencing to wear gloves. Off work two months leading to clearance, but frequent recurrence, especially if the subject attempted prolonged work wearing latex or PVC gloves or wet work without gloves.

Current: Returned to dry duties only at work. Mostly clear of dermatitis, but flares.

Physical examination: Varies between no abnormality detected to mild dermatitis of the dorsum of hands.

Investigations: Patch test standard + epoxy + isocyanates (polyurethanes). No reactions.

Impairment: 0 per cent.

Comment: No interference with activities of daily living (ADL).

Example 14.2: **Allergic contact dermatitis to hair dye**

Subject: 30-year-old woman.

History: Hairdresser 15 years, with six month history of hand dermatitis, increasing despite beginning to wear latex gloves after onset. Dermatitis settled to very mild after four weeks off work, but not clear. As the condition flared whenever the subject returned to hairdressing, she ceased and is now a computer operator.

Current: Mild continuing dermatitis of the hands which flares when doing wet work (without gloves) or when wears latex or PVC gloves. Has three young children and impossible to avoid wet work.

Investigation: Patch test standard + hairdressing series. Possible reaction to paraphenylene diamine.

Impairment: 5 per cent.

Comment: Able to carry out ADL with difficulty, therefore limited performance of some ADL.

Example 14.3: **“Cement dermatitis” due to chromate in cement**

Subject: 43-year-old man.

History: Concreter since age 16. Eighteen month history of increasing hand dermatitis eventually on dorsal and palmar surface of hands and fingers. Off work and treatment led to limited improvement only.

Physical examination: Fissured skin, hyperkeratotic chronic dermatitis.

Investigation: Patch test. Positive reaction to dichromate.

Current: Intractable, chronic, fissured dermatitis.

Impairment: 12 per cent.

Comment: Unable to obtain any employment because has chronic dermatitis and on disability support pension. Difficulty gripping items including steering wheel, hammer and other tools. Unable to do any wet work (eg painting). Former home handyman, now calls in tradesman to do any repairs and maintenance. Limited performance in some ADL.

Example 14.4: **Latex contact urticaria/angioedema with cross reactions**

Subject: Female nurse, age 40.

History: Six month history of itchy hands minutes after applying latex gloves at work. Later swelling and redness associated with itchy hands and wrists and subsequently widespread urticaria. One week off led to immediate clearance. On return to work wearing PVC gloves, developed anaphylaxis on first day back.

Physical examination: No abnormality detected or generalised urticaria/angioedema.

Investigation: Latex radioallergosorbent test, strong positive response.

Current: The subject experiences urticaria and mild anaphylaxis if she enters a hospital, some supermarkets or other stores (especially if latex items are stocked), at children’s parties or in other situations where balloons are present, or on inadvertent contact with latex items including sport goods handles, some clothing, and many shoes (latex based glues). Also has restricted diet (must avoid bananas, avocados and kiwi fruit).

Impairment: 17 per cent.

Comment: Severe limitation in some ADL in spite of intermittent activity.

Example 14.5: Non-melanoma skin cancer

Subject:	53-year-old married man.
History:	“Road worker” since 17 years of age. Has had a basal cell carcinoma on the left forehead, squamous cell carcinoma on the right forehead (graft), basal cell carcinoma on the left ear (wedge resection) and squamous cell carcinoma on the lower lip (wedge resection) excised since 45 years of age. No history of loco-regional recurrences. Multiple actinic keratoses treated with cryotherapy or Efidix over 20 years (forearms, dorsum of hands, head and neck).
Current:	New lesion right preauricular area. Concerned over appearance “I look a mess.”
Physical examination:	Multiple actinic keratoses forearms, dorsum of hands, head and neck. Five millimetre diameter nodular basal cell carcinoma right preauricular area, hypertrophic red scar 3 cm length left forehead, 2 cm diameter graft site (hypopigmented with 2 mm contour deformity) right temple, non-hypertrophic scar left lower lip (vermilion) with slight step deformity and non-hypertrophic pale wedge resection scar left pinna leading to 30 per cent reduction in size of the pinna. Graft sites taken from right post auricular area. No regional lymphadenopathy.
Impairment rating:	6 per cent
Comment:	Refer to Table 6.1 (facial disfigurement), p 38.

Example 14.6: Non-melanoma skin cancer

Subject:	35-year-old single female professional surf life-saver.
History:	Occupational outdoor exposure since 19 years of age. Basal cell carcinoma on tip of nose excised three years ago with full thickness graft following failed intralesional interferon treatment.
Current:	Poor self esteem because of cosmetic result of surgery.
Physical examination:	One centimetre diameter graft site on the tip of nose (hypopigmented with 2 mm depth contour deformity, cartilage not involved). Graft site taken from right post-auricular area.
Impairment rating:	10 per cent
Comment:	Refer to Table 6.1 (facial disfigurement), p 38.

15 CARDIOVASCULAR SYSTEM

AMA5 Chapters 3 and 4 apply to the assessment of permanent impairment of the cardiovascular system, subject to the modifications set out below.

Introduction

- 15.1 The cardiovascular system is discussed in AMA5 Chapters 3 (Heart and Aorta) and 4 (Systemic and Pulmonary Arteries) (pp 25-85). These Chapters can be used to assess permanent impairment of the cardiovascular system with the following minor modifications.
- 15.2 It is noted that in this chapter there are wide ranges for the impairment values in each category. When conducting a WorkCover assessment, assessors should use their clinical judgement to express a specific percentage within the range suggested.

Exercise stress testing

- 15.3 As with other investigations, it is not the role of a WorkCover medical assessor to order exercise stress tests purely for the purpose of evaluating the extent of permanent impairment.
- 15.4 If exercise stress testing is available, then it is a useful piece of information in arriving at the overall percentage impairment.
- 15.5 If previous investigations are inadequate for a proper assessment to be made, the medical assessor should consider the value of proceeding with the evaluation of permanent impairment without adequate investigations and data (see Chapter 1, p 9 – Ordering of additional investigations).

Permanent impairment – maximum medical improvement

- 15.6 As for all assessments, maximal medical improvement is considered to have occurred when the worker's condition has been medically stable for the previous three months, and is unlikely to change substantially in the next 12 months without further medical treatment.

Vascular diseases affecting the extremities

- 15.7 Note that in this section, AMA5 Table 4-4 and Table 4-5 (p 76) refer to percentage impairment of the upper or lower extremity. Therefore, an assessment of impairment concerning vascular impairment of the arm or leg requires that the percentages identified in Tables 4-4 and 4-5 be converted to whole person impairment. The table for conversion of the upper extremity is AMA5 Table 16-3 (p 439) and the table for conversion of the lower extremity is AMA5 Table 17-3 (p 527).

Thoracic outlet syndrome

- 15.8 Impairment due to thoracic outlet syndrome is assessed according to AMA5 Chapter 16, The Upper Extremities and *WorkCover Guides*, Chapter 2 (p 13).

Effect of medical treatment

15.9 If the claimant has been offered, but refused, additional or alternative medical treatment which the medical assessor considers is likely to improve the claimant's condition, the assessor should evaluate the current condition, without consideration for potential changes associated with the proposed treatment. The assessor may note the potential for improvement in the claimant's condition in the evaluation report, and the reason for refusal by the claimant, but should not adjust the level of impairment on the basis of the worker's decision (Chapter 1, Permanent impairment – maximum medical improvement, p 6).

Future deterioration

15.10 If a medical assessor forms the opinion that the claimant's condition is stable in the foreseeable future, but expected to deteriorate in the longer term, the assessor should make no allowance for deterioration, but note its likelihood in the evaluation report. Where the claimant's condition suffers long term deterioration, the claimant may reapply for further evaluation of the condition at a later time.

16 DIGESTIVE SYSTEM

AMA5 Chapter 6 applies to the management of permanent impairment of the digestive system.

- 16.1 The digestive system is discussed in AMA5 Chapter 6 (pp 117-142). This Chapter can be used to assess permanent impairment of the digestive system.
- 16.2 **AMA5, p 136: Section 6.6 Hernias.** Occasionally in regard to inguinal hernias there is damage to the ilio inguinal nerve following surgical repair. Where there is loss of sensation in the distribution of the ilio inguinal nerve involving the upper anterior medial aspect of the thigh, a 1%WPI should be assessed.
- 16.3 Where, following repair, there is severe dysaesthesia in the distribution of the ilio inguinal nerve, a 2%WPI should be assessed.
- 16.4 Where, following repair of a hernia of the abdominal wall, there is residual persistent excessive induration at the site, which is associated with significant discomfort, this should be assessed as a Class 1 herniation (AMA5, Table 6-9, p 136).
- 16.5 Impairments due to nerve injury and induration cannot be combined. The higher impairment should be chosen.
- 16.6 A person who has suffered more than one work related hernia recurrence and who now has limitation of ADLs (eg lifting) should be assessed as herniation Class 1 (AMA5, Table 6-9, p 136).

NOTE: EVALUATION OF PERMANENT IMPAIRMENT ARISING FROM CHRONIC PAIN (EXCLUSION OF AMA5, CHAPTER 18)

Following consultation with Professor Michael Cousins and Doctor Mike Nicholas of the University of Sydney Pain Management and Research Centre, the AMA5 Chapter devoted to assessment of chronic pain is to be disregarded for the purposes of the *WorkCover Guides*.

The reasons for this are:

- the Chapter does not contain validated instruments that convert the rating given by an examiner into a whole body impairment rating
- no work has been done at this time to enable such conversion to occur
- measuring impairment for this condition is complex and requires a high degree of specialised knowledge and experience. This level of knowledge and experience is not widespread and it would be difficult to ensure consistency and equity in the assessment process.

Impairment ratings in the *WorkCover Guides* attempt to account for the pain commonly associated with many disorders and others, such as complex regional pain syndrome, are specifically included in the Guides. It is recognised in AMA5 that chronic pain is not adequately accounted for in the other Chapters. However, work on a better method is still in progress and it would be premature to specify an alternative at present.

Work is being undertaken by the University of Sydney Pain Management and Research Centre that will enable such a chapter to be written in the future.

As with all largely subjective complaints in compensation systems, there is a concern that monetary compensation for non-specific conditions such as chronic pain can in some cases complicate the restorative and rehabilitative efforts of the worker and his or her health advisers. Hence the need for further investigation to determine a better and fairer system that recognises the difficulties associated with these conditions while, at the same time, promoting effective rehabilitation.

When the work is completed, it will be possible to review this policy decision and introduce assessment of permanent impairment arising from chronic pain, at which time it may be possible to use this assessment as the means of quantifying “pain and suffering” compensation under section 67 of the *Workers Compensation Act 1987*.

APPENDIX 1: WORKING GROUPS ON PERMANENT IMPAIRMENT

Permanent Impairment Co-ordinating Group 2001

Name	Position
Dr Jim Stewart	Chair
Ms Kate McKENZIE	WorkCover
Mr John ROBERTSON	Labor Council of NSW
Ms Mary YAAGER	Labor Council of NSW
Dr Ian GARDNER	Medical Representative to Workers Compensation and Workplace Occupational Health and Safety Council of NSW
Dr Stephen BUCKLEY	Rehabilitation Physician
Prof Michael FEARNside	Professor of Neurosurgery
Dr John HARRISON	Orthopaedic Surgeon
Dr Jonathan PHILLIPS	Psychiatrist
Prof Bill MARSDEN	Professor of Orthopaedic Surgery
Dr Dwight DOWDA	Occupational Physician
Assoc Prof Ian CAMERON	Assoc Professor of Rehabilitation Medicine
Dr Robin CHASE	Australian Medical Association
2005 Revisions	
Dr Robin PILLEMER	Orthopaedic Surgeon
Dr John DIXON HUGHES	General Surgeon
Dr Yvonne SKINNER	Psychiatrist

Permanent Impairment Co-ordinating Committee 2008

Name	Position
Mr Rob THOMSON	Chair
Ms Mary YAAGER	Unions NSW
Dr Ian GARDNER	Workers Compensation and Workplace Occupational Health and Safety Council of NSW
Assoc Prof Michael FEARNside	Assoc Professor of Neurosurgery, Neurological Society of Australasia
Dr John HARRISON	Orthopaedic Surgeon, Australian Orthopaedic Association, Australian Society of Orthopaedic Surgeons
Dr Yvonne SKINNER	Psychiatrist, Royal Australian and New Zealand College of Psychiatrists
Prof Ian CAMERON	Professor of Rehabilitation Medicine, Australasian Faculty of Rehabilitation Medicine
Dr Roger PILLEMER	Approved Medical Specialist
Dr Michael GLIKSMAN	Australian Medical Association
Dr Neil BERRY	Australasian College of Surgeons

Working Groups

Psychiatric and Psychological	Spine	Upper Limb
Dr Julian PARMEGIANI Dr Derek LOVELL Dr Rod MILTON Dr Yvonne SKINNER Dr Jonathan PHILLIPS Dr Chris BLACKWELL Dr Bruce WESTMORE Dr Susan BALLINGER Ms Lyn SHUMACK Dr Jack WHITE Ms Sandra DUNN Dr Tim HANNON	Prof Michael FEARNSIDE Dr John CUMMINE Prof Michael RYAN Dr Dwight DOWDA Assoc Prof Ian CAMERON Dr Hugh DICKSON Dr Conrad WINER Dr Mario BENANZIO Dr Jim ELLIS Dr Jim BODEL Dr William WOLFENDEN Dr Kevin BLEASEL Dr John HARRISON Prof Sydney NADE 2005 Revisions Dr Roger PILLEMER 2008 Revisions Dr Phillipa HARVEY-SUTTON Assoc Prof Michael FEARNSIDE Dr Jim BODEL Assoc Prof Michael RYAN Dr Roger PILLEMER Prof Ian CAMERON	Dr Dwight DOWDA Assoc Prof Ian CAMERON Prof Bill MARSDEN Assoc Prof Bruce CONELLY Dr David CROCKER Dr Richard HONNER Dr Jim ELLIS Dr Conrad WINER Dr David DUCKWORTH 2005 Revisions Dr Roger PILLEMER Dr Graham MCDOUGALL Dr Brian NOLL Dr Bruce CONNELLY
Hearing	Urinary and Reproductive	Respiratory, Ear, Nose and Throat
Dr Brian WILLIAMS Dr Joseph SCOPPA Dr Stanley STYLIS Dr Paul NIALL Assoc Prof Ian CAMERON	Prof Richard MILLARD Dr Kim Boo KUAH Assoc Prof Ian CAMERON	Dr Julian LEE Prof David BRYANT Dr Joseph SCOPPA Dr Michael BURNS Dr Frank MACCIONI Dr Peter CORTE Dr Brian WILLIAMS Assoc Prof Ian CAMERON

Skin	Vision	Lower Limb
Dr Victor ZIELINSKI Dr Scott MENZIES Dr Edmund LOBEL Assoc Prof Ian CAMERON	Dr Michael DELANEY Dr Peter DUKE Dr Peter ANDERSON Dr John KENNEDY Dr Neville BANKS Assoc Prof Ian CAMERON	Dr Dwight DOWDA Assoc Prof Ian CAMERON Prof Bill MARSDEN Dr Peter HOLMAN Dr Jay GOVIND Dr Jim BODEL Dr Mario BENANZIO Dr Jim ELLIS Dr Conrad WINER Dr Cecil CASS Dr John HARRISON Dr John KORBER 2008 Revisions Dr Roger PILLEMER Dr John HARRISON Prof Ian CAMERON Dr Michael GLIKSMAN Dr Jim BODEL Dr Robert BREIT Dr Ian MEAKIN
Cardiovascular	Digestive	Haematopoietic
Dr Thomas NASH Dr John GUNNING Dr George MICHELL Dr Stephen BUCKLEY Dr Melissa DOOHAN Dr Charles FISHER	Prof Philip BARNES Dr David De CARLE Dr Dwight DOWDA	Prof John GIBSON Dr Stephen FLECKNOE Dr Peter SLEZAK Assoc Prof Ian CAMERON Prof John DWYER
Endocrine	Nervous System	
Dr Alfred STEINBECK Prof Peter HALL Dr Stephen BUCKLEY	Dr Stephen BUCKLEY Assoc Prof Ian CAMERON Dr Dwight DOWDA Dr Ivan LORENTZ Dr Keith LETHLEAN Dr Peter BLUM Prof Michael FEARNESIDE Dr Tim HANNON	

APPENDIX 2: GUIDELINES FOR MEDICO-LEGAL CONSULTATIONS AND EXAMINATIONS

(issued by the New South Wales Medical Board, December 2005)

The Medical Board receives many complaints about medico-legal consultations. In these circumstances, the practitioner is not in a therapeutic relationship with the examinee, and the interview and examination may need to be more extensive than the examinee might have been expecting. While some procedures may be simple or routine for the practitioner, they may not be seen as such by the examinee. Effective communication is crucial, especially when the examinee may be nervous and anxious about the possibility of receiving an adverse medical report from the practitioner.

Practitioners are reminded that they have a duty to act in an ethical, professional and considerate manner when examining people, whether or not they are responsible for their care. The same level of professional skill is required of a practitioner acting in a medico-legal capacity as in a therapeutic setting.

Practitioners practising as medico-legal consultants are practising medicine, and accordingly are subject to the provisions of the *Medical Practice Act, 1992* regarding conduct, health and performance and must abide by the Board's Code of Professional Conduct: *Good Medicine Practice*.

Practitioners should only undertake medico-legal assessments in their areas of expertise and should decline a request if:

- they are not adequately qualified or experienced
- there may be a conflict of interest (personal, work-related or financial)
- for any other reason they are unable to complete the task within the terms stipulated by the third party.

At all times, practitioners should treat the examinee with dignity and respect. In order to avoid appearing insensitive, rude, or abrupt in their manner or rough in their examination, practitioners are advised to give particular attention to identifying the examinee's concerns, and to adequately explain the reasons for the examination. Adequate time should be allowed for the consultation to enable a complete assessment to be carried out.

In order to prevent misunderstandings between doctors and examinees, the Board has proposed the following guidelines:

The consultation

1. At all times the practitioner should communicate with the examinee in language they can understand.
2. The examinee has the option of having an accompanying person present during the history and/or the examination. This should be explained to the examinee when the interview is being scheduled. The role of the accompanying person is to support the examinee, but not to answer questions or contribute to the assessment. However, should the examinee have an intellectual or speech difficulty, it is appropriate for the accompanying person to assist in the communication between practitioner and examinee.

3. A professional interpreter should be used where the examinee has a difficulty with spoken English. Interpretation should not be provided by a support person or member of the examinee's family.
4. The practitioner should not make unnecessary personal remarks, especially when the consultation involves an intimate examination.
5. The practitioner should be aware of differing cultural sensitivities, especially when conducting an intimate examination.
6. Some practitioners choose to video or audio record the examination. The reason for this should be clearly explained to the examinee and consent should be obtained in advance.
7. The practitioner should not offer any opinion to the examinee on their claim or medico-legal circumstances.
8. The practitioner should not offer any opinion on the examinee's medical or surgical management by other practitioners.
9. In the majority of cases it is appropriate to advise the examinee of an incidental clinical finding which has been identified by the examining practitioner. There may be some situations where it is preferable to notify the examinee's treating practitioner.
10. It is not appropriate for the practitioner to undertake any form of treatment in relation to the examinee.

The introduction

1. The practitioner should properly introduce himself or herself and explain his or her specialty field of medicine in language which the examinee can understand.
2. The practitioner should explain the purpose and nature of the consultation and examination and that it is not the practitioner's role to treat the examinee.
3. The practitioner should explain that his or her role is that of an independent reviewer who is providing an impartial opinion for use in a court or before another decision making body and that there are limitations on the confidentiality of the assessment. The practitioner should be aware that the patient may believe that they are not independent, but are working for the third party.

The interview

1. The practitioner should limit their questions to matters that are relevant to the purpose of the assessment, prefacing personal questions with an explanation as to why they are necessary.
2. The examinee should be given an opportunity to provide information that they believe may be relevant to the assessment.

The physical examination

1. It is essential that prior to commencing an examination, the practitioner explains which part of the body is to be examined, why it is to be examined, and what the examination entails, including the extent to which undressing is required. The position of the practitioner during the examination should also be explained, particularly when the practitioner will be standing behind the examinee.
2. The examinee's modesty should be preserved by:
 - the provision of a screen behind which the examinee can undress and dress
 - the practitioner excusing himself or herself from the consulting room whilst the examinee is undressing
 - the provision of a gown or sheet.
3. The practitioner should examine the examinee in privacy, unless the examinee has brought a support person to be with them at the time, although the practitioner may choose to have a chaperone present during the examination.
4. Examination should be limited to the area relevant to the examinee's problem. It is inappropriate for the practitioner to examine any part of the body without the examinee's consent. This may limit the scope of the practitioner's examination and subsequent report.
5. If an intimate examination is warranted, the reasons and nature of the examination must be carefully explained to the examinee, and the examinee's permission obtained. This should be noted in the report.

The report

1. The practitioner should ensure that their report contains both the examinee's history and examination findings and that it notes all diagnostic possibilities. Any limitations to a full assessment should be noted.
2. The report should be impartial and unbiased, and reflect the practitioner's consideration of the available opinions of other practitioners and health professionals who have assessed, treated or provided reports on the examinee in the past.
3. The report should be completed within the timeframe requested by the third party unless there are foreseeable delays or the deadline is unreasonable, in which case the practitioner should negotiate a new timeframe.
4. The report should set out the material relied upon and any assumptions made.
5. The report should be comprehensible, easy to read and explain medical terminology.
6. The practitioner should be aware of the risks inherent in utilising his or her previous reports as the basis of a subsequent report without further review of the examinee.

APPENDIX 3: UNDERSTANDING MEDICO-LEGAL EXAMINATIONS

[Text of a pamphlet prepared by the New South Wales Branch of the Australian Medical Association and the Law Society of New South Wales for the information of members of the public.]

You have been asked to go to a medical examination as part of the legal action you are taking. This brochure will help you understand the examination and your part in it.

This examination aims:

- to find out what injury or medical condition you have
- to find out its cause
- to find out if your condition is caused by an accident or by your work conditions
- to find out if an accident or your work has aggravated some underlying condition.

The examination is intended to be an independent and honest effort to assess your problem so that an impartial report can be prepared.

Who arranges the examination?

The examination has been arranged by your solicitor or by one of the other parties to the legal action, such as the employer, the insurance company or a solicitor acting for one of the other parties.

You have the right to know who has arranged the examination, and you may ask your solicitor or the doctor who carries out the examination.

A report will be sent from the doctor to the person who has arranged the examination. That person pays the doctor for the report. The report will be confidential and the doctor will not be able to give you an opinion about your condition or about any treatment you have had.

About the doctor

The doctor is a specialist who is generally an expert in diagnosing and advising about conditions such as yours. The doctor is usually not an employee of an insurance company or legal firm but a privately or self-employed doctor who often runs a busy medical or surgical practice. The doctor will write a report based on what he learns from you, and your cooperation will be most important. The report will be independent; that is, it will be saying exactly what the doctor thinks about your condition and not aiming to be for or against any side in the legal case.

As you are not seeing the examining doctor as his/her patient, the doctor is not able to give you advice about your problem. The doctor cannot give you treatment. Please do not embarrass the doctor by asking. You will need to ask your own doctor about such matters.

Before the appointment

Please check that you have the correct appointment time and address. You should tell your solicitor or the person arranging the appointment if you are likely to need an interpreter. You should bring all x-rays and tests relevant to your condition so that the doctor can make a thorough assessment.

The report

This will be sent to the person who has arranged the examination and who has paid for it. The report could be used in determining the outcome of your claim. It becomes a legal document and could be used as evidence in court.

The examination

The examination has several parts.

The doctor's secretary will ask you to give some routine particulars. The doctor will introduce himself/herself and try to put you at ease.

The examining doctor will not know whether you need the help of an interpreter.

If such help is needed, your solicitor should arrange the interpreter. By mutual agreement with the doctor, you may wish to have a friend or relative with you, but that person should not interrupt or interfere with the examination.

The doctor will ask you about your work history and will ask you about the accident or circumstances that caused your injury or condition. He/she will ask you about the treatment you have had and about how the injury or condition affects you now. He/she will ask you about your medical history. The questions may be wide-ranging and not just about the body part that has been injured.

Your x-rays and any other investigations will be examined.

The doctor will carry out a physical examination and will explain or demonstrate what he/she wants you to do. The doctor will examine the injured parts of your body and possibly other parts of your body as well. The examination may involve measuring height and weight and the movement of various joints and reflexes.

Every consideration will be given

The doctor will carry out an examination of you in a respectful manner. In the physical examination he/she will not hurt you. The doctor will not expect you to do anything that would cause pain.

A complex medical history may take an hour or more, but many examinations are completed in less than that time. The doctor will be aiming to let you go as soon as possible.

How can you help?

Be punctual. The doctor will try and be punctual too, but remember that doctors sometimes have to deal with urgent matters.

It is best to turn off your mobile phone.

Be pleasant to the doctor, particularly if the examination has been arranged by the other side. Remember that the doctor will be giving an independent report. No one benefits from an unpleasant atmosphere. A hostile attitude might mean deferral or termination of the examination.

Be prepared if possible with important dates and names. Don't be worried if you cannot remember – the doctor simply wants your best recollection.

Be honest and straightforward with your answers, even if you think that the questions are not closely related to the main problem.

Wear clothes that are suitable. For example, if your back is to be examined, it is usual for outer clothing to be removed. Women should wear a bra and pants so that the back can be examined thoroughly while preserving the modesty of the patient and out of respect for the practitioner. It is never necessary to fully disrobe a patient. Modesty will be considered at all times, but an adequate examination requires adequate exposure. The doctor's report may mention the fact if a patient is unwilling to undress sufficiently for adequate examination.

What if there are problems during an examination?

Reading this brochure should help you know what to expect.

If the doctor asks you a question that you do not wish to answer, then you may say so. However, this may be mentioned in the medical report.

If the doctor asks you to do something that would cause pain, then mention this to the doctor. But don't forget that the doctor is expecting your best cooperation during the examination.

If you believe that there is a complete breakdown in your relationship with the doctor, then you may choose to say so and to leave the examination. However, if you do, you may be liable for the cost of the examination and report.

If you are in doubt about something during the examination, a quick phone call to your solicitor may help.

Repeat examinations

Sometimes legal cases go on for a long time. Repeat examinations are arranged so that the doctor can report on your progress. The doctor has no say about whether the case is resolved or whether you get compensation and simply reports on your condition.

Feedback

Please let the AMA or the Law Society know if you think this brochure can be improved; everyone is keen to make this necessary examination as easy as possible for you.

Comments in writing on suggested brochure improvements will be received by:

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