



# **WORKCOVER GUIDES**

## **FOR THE EVALUATION OF PERMANENT IMPAIRMENT**

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# Foreword

These Guidelines, 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) 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 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.

The 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.

Their work has been invaluable in allowing WorkCover to produce guides that reflect current clinical practice and knowledge in NSW, in a time frame that will enable the new legislation to be operational in early 2002. The hours of hard work by these specialists is very much appreciated by the management of WorkCover and by the Minister, the Hon John Della Bosca, MLC.

**Kate McKenzie**  
General Manager  
WorkCover

# 1 Introduction

WorkCover NSW has introduced guides to the evaluation of permanent impairment based on the American Medical Association's *Guides to the Evaluation of Permanent Impairment*, fifth edition (AMA5).

These Guidelines, 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 first edition.

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.

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.

Assessing permanent impairment involves 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, and
- the proportion of permanent impairment due to any previous injury, pre-existing condition or abnormality, if any.

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.

Medical assessors are expected to be familiar with Chapters 1 and 2 of AMA5 in addition to the information contained in this Introduction.

## Development of the *WorkCover Guides*

The *WorkCover Guides* were developed by groups of medical specialists brought together by WorkCover to review the *AMA Guides to the Evaluation of Permanent Impairment*. The groups included specialists who were nominated by the Labor Council of NSW. Initially, the fourth edition of the *AMA Guides to the Evaluation of Permanent Impairment* (AMA4) was considered but, on the advice of the medical practitioners 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 practitioners' advice, assessments are conducted according to the AMA4. The Chapters on Pain (Chapter 18 in AMA 5) and on Mental and Behavioural Disorders (Chapter 14 in AMA 5) 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, page 81, for a fuller explanation). No assessment should be made of impairments associated with chronic pain.

The members of each working group are listed in Appendix 1 (p82).

The *WorkCover Guides* are to be reviewed and updated as subsequent editions of the *AMA 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.

The *WorkCover Guides* are meant to assist suitably qualified and experienced medical practitioners to assess levels of permanent impairment. They are not meant to provide a “recipe approach” to the assessment of permanent impairment and medical practitioners are required to exercise their clinical judgement in determining diagnosis, whether the original condition has resulted in an impairment, whether the impairment is permanent and, if so, the degree of permanent impairment that results. Section 1.5 of Chapter 1 of AMA5 (p10) applies to the conduct of assessments and expands on this concept.

## **Body systems covered by the *WorkCover Guides***

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 (pp245–251), 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**

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*.

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.

A primary 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.

## Multiple impairments

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.

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.

The Combined Values Chart (pp604-606, AMA5 ) is used to derive a %WPI that arises from multiple impairments. An explanation of its use is found on pp9-10 of AMA5.

## Permanent impairment — maximum medical improvement

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 substantially and by greater than 3% in the ensuing 12 months with or without further medical treatment (ie, further recovery or deterioration is not anticipated).

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.

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 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 reasons for refusal by the claimant, but should not adjust the level of impairment on the basis of the worker's decision.

Similarly, if a medical assessor forms the opinion that although the claimant's condition is stable in the foreseeable future, it is expected to deteriorate in the long term, the assessor should make no allowance for 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.

## Relevant information

On referral, the medical assessor should be provided with all relevant medical and allied health information, including results of all investigations related to the injury in question.

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**

An assessor will be a registered medical practitioner with qualifications in the relevant medical specialty who has undertaken the requisite training in use of the *WorkCover Guides*. A list of trained medical assessors may be obtained from the WorkCover website ([www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)).

Assessors may be one of the claimant's treating practitioners or an assessor engaged on behalf of the employer/insurer to conduct an assessment for the purposes of assessing the level of permanent impairment.

Assessors of levels of permanent impairment will be required to use the current *WorkCover Guides for the Evaluation of Permanent Impairment*.

## **Code of conduct**

Assessors are referred to the NSW Medical Board's *Guidelines for Medico-Legal Consultations and Examinations* which are reproduced in Appendix 2 (p84).

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.

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.

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 (p86) and additional copies are available from the AMA.

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.

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

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*.

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

In circumstances where the treatment of a condition leads to a 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.

Where the effective treatment of an illness or condition results in apparent total remission of the claimant's signs and symptoms, but the claimant is likely to revert to the impaired state if treatment is withdrawn, the assessor may increase the percentage of whole person impairment by 1%–3%. This percentage should be combined with any other impairment percentage, using the Combined Values Chart.

As previously indicated, where a claimant has declined treatment which the assessor believes would be beneficial, the impairment rating should be neither increased or decreased.

## Reports

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 practitioner. 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.

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.

The *WorkCover Guides to the Evaluation of Permanent Impairment 2001* 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.

The assessed level of impairment is to be expressed as a percentage of whole person impairment (%WPI). Regional body impairments, where used (for example, percentage upper limb impairment) are to be indicated in the report and then converted to %WPI.

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.

Reports are to be provided within seven days of the assessment being completed, or as agreed between the referee and the assessor.

## **Ordering of additional investigations**

As a general principle, the assessing medical practitioner should not order additional radiographic or other investigations purely for the purpose of conducting an assessment of permanent impairment.

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.

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 practitioner 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, p11) In assessing the degree of permanent impairment resulting from the injury, the assessor is to indicate the proportion of WPI due to any previous injury, pre-existing condition or abnormality. This proportion is known as “the deductible proportion”.

If this amount is difficult or costly to determine, the assessor should indicate this in the report. In this case, for the injury now being assessed, the deduction is 10% of the impairment, unless this is at odds with the available evidence.

Impairment assessors may be requested to specify parts of the deductible proportion in accordance with legislative requirements concerning type of work, when the work was performed, and the dates injuries were received.

## **Compensation for permanent impairment**

The employer, or insurer, and worker can agree on the amount of compensation to be paid following an assessment of permanent impairment. The amount of monetary compensation will be awarded according to the formulae prescribed by the Workers Compensation Act 1987.

## **Compensation for pain and suffering**

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.

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**

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 7 days of being notified of a dispute by the Registrar of the Commission, the Registrar will appoint an AMS to assess the dispute.

Assessments are to be undertaken within the claimant's geographical region as far as is reasonably practicable. The AMS may consult with any medical practitioner or other health professional who is treating or has treated the worker. The AMS may request access to all or any medical records and investigations and any other information that is necessary for the purpose of assessing the dispute. The AMS may also examine the worker.

A certificate will be provided by the appointed AMS after completing the evaluation.

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).

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.

## 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 (pp433–521). This long 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. Diagnosis-related estimates (DREs) are not used to the same extent as in the lower extremity section of AMA5.
- 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. The most practical and useful approach to evaluating impairment of part of the upper extremity is to compare the current loss of function with the loss resulting from amputation. There can be clinical conditions where evaluation of impairment may be difficult, for example 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 effect(s) 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% whole person impairment.
- 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 (pp436–437) are extremely useful, both to document findings and to guide the assessment process. Note, however, that the final summary parts of Figures 16–1a and 16–1b do not make it clear that identifiable impairments which are the result of a peripheral nerve injury (eg, digital nerve sensory loss, decreased range of motion of joints, etc) are not to be separately assessed, evaluated and combined with the impairment evaluation for the peripheral nerve injury. (See also 2.9 below).
- 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 (pp436–437, AMA5) regarding adding or combining impairments.

- 2.8 Table 16–3 (p439, AMA5) is used to convert upper extremity impairment to whole person impairment. **Note that 100% upper extremity impairment is equivalent to 60% whole person impairment.**

## **Specific interpretation of AMA5 — 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 Sections 16.2 to 16.4 (pp441–479, AMA5) for that upper extremity. Section 16.5 should be used for evaluation of such impairment. For peripheral nerve lesions use Table 16–15 (p492, AMA5) together with Tables 16–10a and 16–11a (pp482 and 484, AMA5) for evaluation.
- 2.10 When applying Tables 16–10a (p482, AMA5) and Table 16–11a (p484, AMA5) the maximum value for each grade should be used.

### **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 pp498-507) 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 Radiographs for carpal instability (AMA5 Table 16–25, p503) should only be considered, if available, along with the clinical signs. X-ray examination should not be performed solely for this evaluation.
- 2.13 If strength evaluation is chosen as a method of assessing upper extremity impairment, the caveats detailed on AMA5 page 508, under the heading “16.8a Principles”, need to be observed.

## 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 (pp523–564). 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 (pp528–554 AMA5). Table 17–2 (p526 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 worksheets is essential. Tables 3.2 and 3.3 of these *WorkCover Guides* (pp20–21) are such worksheets 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 (pp604–606, 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 %, Foot impairment %, and so on). The final lower extremity impairment percentage has to be converted to %WPI and then it may be combined with the %WPI assessed for other impairments.
- 3.7 Table 17–2 (p526, 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, p528), the method used must be indicated (for example, tape measure from anterior superior iliac spine to the medial malleolus). Clinical assessment of leg length discrepancy is an acceptable method but if computerised tomography films are available they should be used in preference. Such an examination should not be ordered solely for determining leg lengths.
- 3.9 When applying Table 17–4 (p528, 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, 9, 14, 19, or 20 for lower limb impairment).

### Gait derangement

- 3.10 If gait derangement (AMA5 Section 17.2c, p529) is used as the method of impairment assessment for the lower extremity it cannot be combined with any other evaluation in the lower extremity section of AMA5. It should rarely be used (see 3.13).
- 3.11 Any walking aid used by the subject must be permanent and not temporary.
- 3.12 In the application of Table 17–5 (p529, AMA5), delete item b, as the Trendelenburg sign is not sufficiently reliable.
- 3.13 Assessment of gait derangement should be used as the method of last resort. Methods of impairment assessment most fitting the nature of the disorder should always be used in preference.

### Muscle atrophy (unilateral)

- 3.14 This section (AMA5 Section 17.2d, p530) should be used infrequently. It is not applicable if the limb other than that being assessed is abnormal (for example, if varicose veins cause swelling, or if there is other injury).
- 3.15 In the use of Table 17–6 (p530, 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 %, or lower limb impairment as 0, 8, 13, or 13 % respectively. For the calf the equivalent figures have the same numerical values.

### Manual muscle strength testing

- 3.16 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 (p531, 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 (p532, AMA5) is to be used for this method of evaluation.

## Range of motion

- 3.17 Although range of motion (ROM) (AMA5 Section 17.2f, pp533–538) appears to be a suitable method for evaluating impairment, it is 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.
- 3.18 If range of motion is used as an assessment measure, then Tables 17–9 to 17–14 (p537, 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* (p533, AMA5).

## Ankylosis

- 3.19 For the assessment of impairment when a joint is ankylosed (AMA5 Section 17.2g, pp538–543) 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 (pp538–543, 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	4%	10%	14%
Foot	4%	10%	14%

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

## Arthritis

- 3.20 Impairment due to arthritis (AMA5 section 17.2n, pp544–545) 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, p11, *WorkCover Guides*).
- 3.21 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). MRI using cartilage sensitive sequences is superior to plain radiology in demonstrating cartilage deficiency, but is not required if the diagnosis of osteoarthritis is obvious on plain radiography.
- 3.22 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 the optimal views are not available, they should be obtained. If comparison views are not available, AMA5 Table 17–31 (page 544) is used as a guide to assess joint space narrowing.

- 3.23 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.
- 3.24 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.

**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.

- 3.25 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, p526.)

### **Amputation**

- 3.26 Where there has been amputation of part of a lower extremity Table 17–32 (p545, 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)**

- 3.27 Section 17.2j (pp545–549, 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 (pp546–549, AMA5). When using this table it is essential to read the footnotes carefully.
- 3.28 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 (pp604–606, AMA5) after first referring to the Guide to the Appropriate Combination of Evaluation Methods (see 3.5 above).
- 3.29 In the interpretation of Table 17–33 (p547, 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.
- 3.30 Table 17–34 and Table 17–35 (pp548–549, 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.
- 3.31 In respect of “distance walked” under “b. Function” in Table 17–34 (p548, AMA5), the distance of six blocks should be construed as 600 m, and three blocks as 300 m.

### **Skin loss (lower extremity)**

- 3.32 Skin loss (p550, 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 (p550, AMA5).

### **Peripheral nerve injuries (lower extremity)**

- 3.33 When assessing the impairment due to peripheral nerve injury (pp550–552, 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 (p552, AMA5) are to be *combined*.
- 3.34 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.
- 3.35 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 (p526, AMA5).

### **Complex regional pain syndrome (lower extremity)**

- 3.36 The Section 17.2m, "Causalgia and Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy)" (p553, 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 (pp495–497, 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)**

- 3.37 Lower extremity impairment due to vascular disorders (pp553–554, AMA5) is evaluated using Table 17–38 (p554, 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.

**Table 3.2: 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		
<b>Combined impairment rating</b> (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.

**Table 3.3: Lower extremity impairment flow chart**

(1) Question	(2) Answer	(3) Go to			(4) Enter impairment			(5) Can be combined with another parameter: See Table 17-2, AMA5 p526
		Section	Table	Page	Joint	Lower extremity	Whole person	
Is there gait derangement? ↓ No	→ YES	17.2c	17-5	529				No
Is there unilateral muscle atrophy? ↓ No	→ YES	17.2d	17-6	530				Line 1, 9, 12
Is there true muscle weakness? ↓ No	→ YES	17.2e	17-8	532				Lines 1, 9, 12
Is joint movement restricted but not absent? ↓ No	→ YES	17.2f	17-9 to 17-14	537				Lines 1, 7, 9, 10, 12
Is joint ankylosed? ↓ No	→ YES	17.2g	17-15 to 17-30	538-543				Lines 1, 7, 9, 10, 12
Is there arthritis? ↓ No	→ YES	17.2h	17-31*	544				Lines 1, 7, 8, 9, 10, 11, 12
Is a part amputated? ↓ No	→ YES	17.2i	17-32	545				Lines 4, 5, 6, 8, 9, 10, 11, 12
Can a diagnosis-based estimate be applied? ↓ No	→ YES	17.2j	17-33 to 17-35	546-549				Lines 1, 6, 7, 9, 10, 11, 12
Is there limb length discrepancy? ↓ No	→ YES	17.2b	17-4	528				Lines 3, 4, 5, 6, 8, 9, 10, 11, 12
Is there skin loss? ↓ No	→ YES	17.2k	17-36	550				Lines 1, 3, 4, 5, 6, 7, 8, 10, 11, 12

\*Provided radiography performed in defined positions. see paragraph 3.21 (page 17).

continued...

**Table 3.3: Lower extremity impairment flow chart** continued

(1) Question	(2) Answer	(3) Go to			(4) Enter impairment			(5) Can be combined with another parameter: See Table 17-2, AMA5 p526
		Section	Table	Page	Joint	Lower extremity	Whole person	
Is there peripheral nerve injury? ↓ No	→ YES	17.2l	17-37	552				Lines 1, 5, 6, 7, 8, 9, 12
Is there complex regional pain syndrome? ↓ No	→ YES	16.5e	16-16	496				Lines 1, 6, 7, 8, 9
Is there peripheral vascular disease? ↓ No	→ YES	17.2n	17-38	554				Lines 1, 3, 4, 5, 6, 7, 8, 9, 10
Can any of the above be combined?	→ YES	Check AMA5 Table 17-2, p526. Ensure all are lower limb impairments or whole person impairments. Combine using Combined Values Chart (AMA5 pp604-606). Convert to WPI.						
Combined total Lower extremity whole person impairment								
If other body regions are impaired, combine them using Combined Values Chart (AMA5 pp604-606) to arrive at final WPI.					Specify which other impairment			

## 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 (pp373–431). 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 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 DRE model for assessment of spinal impairment should be used. The Range of Motion model (Section 15.1b, AMA5 pp378–379) should *not* be used.
- 4.5 If a person has spinal cord damage, he or she is assessed according to the method described in Chapter 5 of the *WorkCover Guides*. AMA5 Sections 15.2 (pp379–381), and 15.7–15.12 (pp395–426) are not used for assessing impairments of the spinal cord.
- 4.6 Table 4.1 (see over) is a summary table that refers to all areas of the spine. It is to be used in conjunction with the specific criteria for rating impairment categories of DREs in Tables 15–3, 15–4 and 15–5 (AMA5 pp384, 389 and 392).
- 4.7 If an assessor is unable to distinguish between two DRE categories, then the higher of those two categories should apply. The inability to differentiate should be noted in the 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 in to 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).

**Table 4.1: Assessing spinal impairment**

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

\*Whiplash associated disorder. WAD I: Neck complaint of pain, stiffness or tenderness only. No physical sign(s). WAD II: Neck complaint AND musculoskeletal sign(s). Musculoskeletal signs include decreased range of motion and point tenderness. WAD III: Neck complaint AND neurological sign(s). Neurological signs include decreased or absent deep tendon reflexes, weakness and sensory deficits. WAD IV: Neck complaint AND fracture or dislocation. (Motor Accidents Authority. *Update of Quebec Task Force Guidelines for the Management of Whiplash-associated Disorders*. January 2001: p5.)

- 4.10 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 test and radiographs were seen or whether they relied on reports.
- 4.11 Section 15.1a (AMA5 pp374–377) is a valuable summary of history and physical examination, and should be thoroughly familiar to all assessors.
- 4.12 Table 4.2 below (adapted from Figure 61, AMA4 pp96–97) *may* be used for a summary of the spinal history.
- 4.13 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.

## Table 4.2: History of spinal complaint

### 1. History of impairment or injury

Describe all symptoms, location, frequency of occurrence, duration, quality with particular attention to time and circumstances of onset, course of condition, treatment, treatment response; note presence of pain, numbness, weakness, stiffness.

### 2. Condition limits the patient or interferes with which daily activities?

List the activities. What activities has the patient reduced or given up? Describe them

### 3. Patient's perceptions

- a How long at one time and over an 8-hour period can the patient do the following without serious discomfort? (Express in terms of half-hours or hours and note the unit used)

Sit..... Walk ..... Stand.....

- b How many kgs can the patient lift at frequent intervals?.....

Occasionally? .....

### 4. Present symptoms

- a. Starting date of present symptoms: .....

- b. How long have symptoms been the same? If changing, Describe how.

.....  
 .....

- c. Previous back or neck problems or surgeries (Dates)

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

- d. Special tests or procedures

Type	Date	Results

- e. What exercises does the patient do to stay physically fit or "in shape?"

Type	Duration	Frequency per week?

- f. Usual daily activities and postures (tick those that apply):

Sit..... Walk ..... Stand.....  
 Lift..... Maximum number of kilograms.....

Other (describe):

.....  
 .....

### 5. Patient's understanding of reason for this impairment evaluation:

.....  
 .....

History taken by: .....

## Specific interpretation of AMA5

- 4.14 The range-of-motion (ROM) method is *not* used, hence any reference to this is omitted. Specifically, omit AMA5 Section 15.2.
- 4.15 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.
- 4.16 The assessment of altered motion segment integrity is to be based upon a report of the result of an injury, and not on developmental or degenerative changes.
- 4.17 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. Generally, further studies are *not* to be ordered by the assessor.

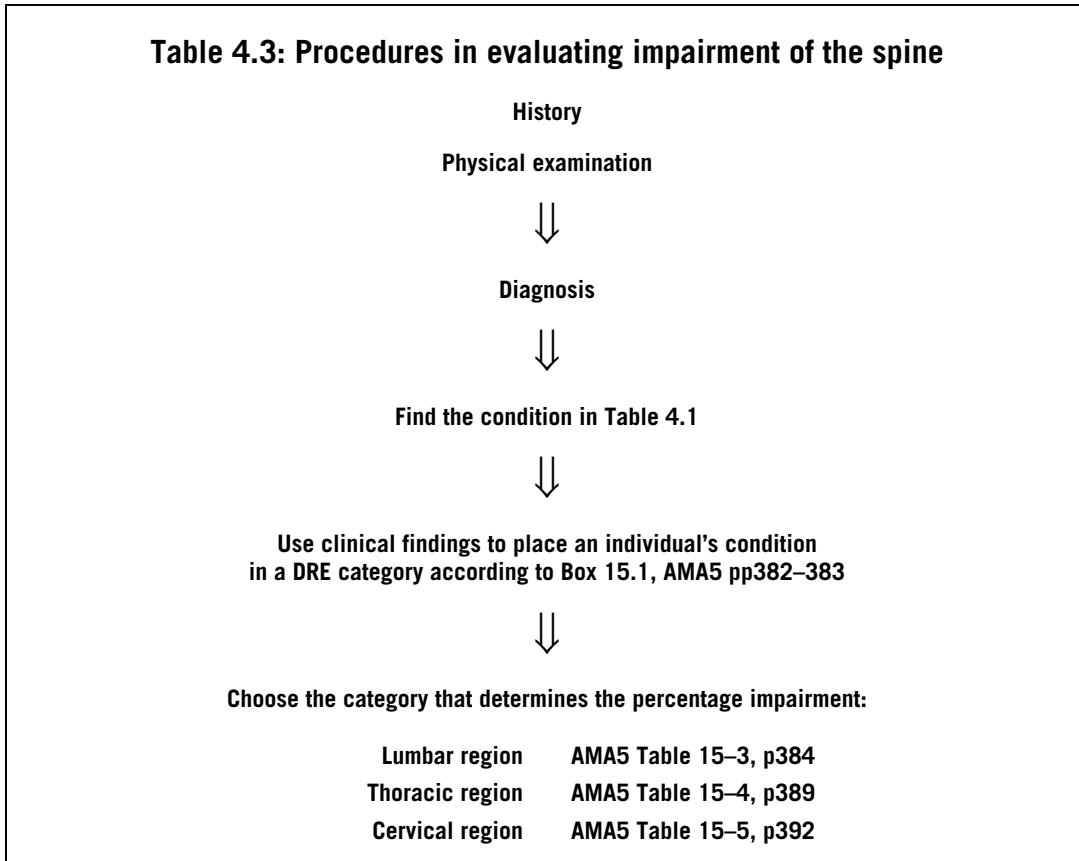
## DRE definitions of clinical findings

- 4.18 The clinical findings used to place an individual in a DRE category are described in Box 15–1 (AMA5, pp382–383).
- 4.19 In “Clinical Findings” in Box 15–1 (AMA5, pp382–383), references to electrodiagnostic verification of the cauda equina syndrome 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 both unnecessary and subject to artefact. If there is doubt about which of two DRE categories should be used, the higher should be chosen.)
- 4.20 Cauda equina syndrome and neurogenic bladder disorder are to be assessed by the method prescribed in the nervous system Chapter of AMA5 (pp305–356).

## Applying the DRE method

- 4.21 The specific procedures and directions section of AMA5 (Section 15.2a, pp380–381) indicates the steps that should be followed to evaluate impairment of the spine. Table 4.3 is a simplified version of that section, incorporating the amendments listed above.

**Table 4.3: Procedures in evaluating impairment of the spine**



- 4.22 Common developmental findings, spondylolysis, spondylolisthesis and disc protrusions without radiculopathy occur in 7%, 3 %, and up to 30% respectively in individuals up to the age of 40 (AMA5, p383). Their presence does not of itself mean that the individual has an impairment due to injury.
- 4.23 **Impotence** should only be assessed as an impairment related to spinal injury where there is other objective evidence of spinal cord, cauda equina or bilateral nerve root dysfunction. The ratings described in Table 13-21 on p342 of AMA5 are used in this instance. There is no additional impairment rating system for impotence in the absence of objective clinical findings.
- 4.24 **Radiculopathy** is the impairment caused by malfunction of a spinal nerve root or nerve roots. Assigning of a DRE for spinal injury includes the presence or absence of radiculopathy (Category III in the lumbo-sacral region). In general, in order to conclude that a radiculopathy is present two or more of the following signs should be found:
- Dermatomal distribution of pain or numbness or paraesthesia;
  - Positive root tension sign;
  - Concordant finding on an imaging study (Box 15-1, AMA5 p382);
  - Loss or asymmetry of reflexes;
  - Muscle weakness that is anatomically localised to an appropriate spinal nerve root distribution;
  - Reproducible sensory loss that is anatomically localised to an appropriate spinal nerve root distribution.

- 4.25 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.
- 4.26 Global weakness of a limb related to pain or inhibition or other factors does not constitute weakness due to spinal nerve malfunction.
- 4.27 If imaging is to be used to support a diagnosis, the anatomical features that are reported to be abnormal on the imaging studies must be concordant with the distribution of the radicular malfunction.
- 4.28 **Multilevel structural compromise** implies spinal fractures and/or dislocations at more than one spinal level, without spinal cord compromise. If there is no radiculopathy, the individual is assigned to DRE category IV; if radiculopathy is present, then the person is assigned to category DRE category V.

(Multilevel structural compromise is to be interpreted as fractures of more than one vertebra. Such fractures are defined as *any* fracture of the vertebral body, or of the posterior elements forming the ring of the spinal canal. It *does not* include fractures of transverse processes or spinous processes, even at multiple levels.)

- 4.29 Fractures of transverse or spinous processes are assessed as DRE Category II because the fracture does not disrupt the spinal canal (AMA5, p385) and they do not cause multilevel structural compromise.
- 4.30 Effect of surgery: Tables 15–3, 15–4 and 15–5 (AMA5, pp384, 389 and 392), do not adequately account for the effect of surgery upon the impairment rating for certain disorders of the spine.
- 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).

Table 4.4 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 stenosis has been performed and where there is a residual radiculopathy following surgery.

**Table 4.4: 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%
Multiple levels, operated on, with medically documented pain and rigidity	1% each level	1% each level	1% each level
Second operation	2%	2%	2%
Third and subsequent operations	1%	1%	1%

- 4.31 Impairment due to **pelvic fractures** should be evaluated with reference to AMA5 Section 15.14 (pp427–428). Specific ratings for pelvic fractures are provided in Table 15–19 (AMA5, p428). Impairment due to disorders of the pelvis, other than those due to specific pelvic fractures, should be estimated using the criteria and categories indicated in Table 17–33 (AMA5, p546).
- 4.32 **Arthritis:** See sections 3.20–3.23 of Chapter 3 of these *WorkCover Guides* (p17–19).

## 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 (pp305–356), 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 (p308).

- 5.5 Impairments due to spinal cord pathology (AMA5, pp340–342) are to be combined using the Combined Values Chart (AMA5, pp604–606). It should be noted that AMA5 Sections 13.5 and 13.6 (pp336–340) should be used for *all* motor or sensory impairments caused by a central nervous system lesion. Thus this section covers hemiplegia due to cortical injury as well as spinal cord injury.
- 5.6 Complex regional pain syndrome is to be assessed using the method indicated in AMA5 Chapter 16, The Upper Extremities (pp495–497).
- 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% or 0–14%. 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 pp319–322, 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, or
- significant duration of post traumatic amnesia, or
- 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 (p262) and Table 11–10 (pp272–275) to assess olfaction and taste, for which a maximum of 5% whole person impairment is allowable for total loss of either sense.

5.11 **Visual impairment** assessment (AMA4 Chapter 8, pp209–222): An ophthalmologist should assess all impairments of visual acuity, visual fields, extra-ocular movements or diplopia.

5.12 **Trigeminal nerve** assessment (AMA5, p331): Sensory impairments of the trigeminal nerve should be assessed with reference to AMA5 Table 13–11 (p331). 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 (AMA5, p262).

5.13 **Spinal accessory nerve:** AMA5 provide 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% impairment of the upper limb may be assigned. For additional loss of use of sternomastoid, a maximum of 3% upper limb impairment may be added.

5.14 Assessment of **sexual functioning** (AMA5, Chapter 7, pp 143–171): Impotence is assessed as an impairment only if there is an associated neurological impairment.

## 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 practitioner's report.

### The ear

- 6.3 **Equilibrium** is assessed according to AMA 5 Section 11.2b (pp252–255), but add these words to AMA5 Table 11–4 (p253), Class 2:  
“..without limiting the generality of the above, a positive Hallpikes test is a sign and an objective finding.”

### The face (AMA5, pp255–259)

- 6.4 AMA5 Table 11–5 (p256) 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**

<b>Class 1 0%–5% impairment of the whole person</b>	<b>Class 2 6%–10% impairment of the whole person</b>	<b>Class 3 11%–15% impairment of the whole person</b>	<b>Class 4 16%–50% impairment of the whole person</b>
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, combine 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, combine with any mental and behavioural impairment (AMA5 Chapter 14) 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 (pp256–259) should also be ignored and assessors should refer to the modified table above for classification.

- 6.5 AMA5 Example 11–11 (p257): Add “Visual impairment related to **enophthalmos** must be assessed by an Ophthalmologist”.

## The nose, throat and related structures

### Respiration (AMA5 Section 11.4a, pp259–261)

- 6.6 In regard to **sleep apnea** (3rd paragraph, AMA5 Section 11.4a, p259): 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 apnea is addressed in AMA5 Section 5.6 (p105) and assessors should refer to this Chapter, as well as sections 8.8–8.10 in these *WorkCover Guides*.
- 6.8 **AMA5 Table 11–6 criteria for rating impairment due to air passage defects** (AMA5, p260): 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% impairment of the whole person. AMA5 Example 11–16 (p261): 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 (p262), consider % impairment of the whole person — first category to be 0–19%, not 5%–19%.

## **Speech (AMA5, pp262–264)**

- 6.10 Regarding the first sentence of the “Examining procedure” subsection (pp263–264): 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 (pp263–264), 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 (pp263–264): 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, pp264–267)**

- 6.13 Substitute the word “laryngopharyngeal” for “gastroesophageal” in all examples where it appears.
- 6.14 Example 11.25 (Impairment Rating, p269), 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 (pp272–275): 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 (pp143–171) 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 (p150) 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**

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

### Bladder

- 7.5 AMA5 Table 7–3 (p151) 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 7.80).

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

<b>Class 1 0%–15% impairment of the whole person</b>	<b>Class 2 16%–40% impairment of the whole person</b>	<b>Class 3 41%–70% impairment of the whole person</b>
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 AMA 5 Example 7–16 (p151) 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 (p153) 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**

<b>Class 1 0%–10% impairment of the whole person</b>	<b>Class 2 11%–20% impairment of the whole person</b>	<b>Class 3 21%–40% impairment of the whole person</b>
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:

<b>Stress urinary incontinence</b> (demonstrable clinically):	11–25% according to severity
<b>Urge urinary incontinence:</b>	16–40% according to severity
<b>Mixed (urge and stress) incontinence:</b>	16–40% according to severity
<b>Nocturnal enuresis or wet in bed:</b>	16–40% according to severity
<b>Total incontinence</b> (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, p157: the box labelled “Class 3, 21–35% ” should read “Class 3, 20% 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% is possible.

### Testicles, epididymides and spermatic cords

7.10 AMA5 Table 7–7 (p159) 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.

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

<b>Class 1 0%–10% impairment of the whole person</b>	<b>Class 2 11%–15% impairment of the whole person</b>	<b>Class 3 16%–35% impairment of the whole person</b>
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

7.12 AMA5 Table 7–11 (p167) 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.

7.13 **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**

<b>Class 1 0%–15% impairment of the whole person</b>	<b>Class 2 16%–25% impairment of the whole person</b>	<b>Class 3 26%–35% impairment of the whole person</b>
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 practitioner'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 (p104) ignore column four (PC<sub>20</sub> 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 (FEV<sub>1</sub>) (score in column 2, AMA5 Table 5–9) plus per cent of FEV<sub>1</sub> (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 (p104).

### **Obstructive sleep apnea (AMA5 Section 5.6)**

- 8.8 This section needs to be read in conjunction with AMA5 Section 11.4 (p259) and Section 13.3c (p317).
- 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 apnea should be calculated with reference to AMA5 Table 13–4 (p317).

### **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 (AMA5, p107) 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 other appropriately qualified medical specialist. The medical assessment needs to be undertaken in accordance with the hearing impairment section of AMA5 Table 11–10 (pp272–275). The medical practitioner performing the assessment must examine the worker. The medical practitioner’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 practitioners can sign medical reports.
- 9.2 Disregard AMA5 Sections 11.1b and 11.2 (pp246-255), but retain Section 11.1a (Interpretation of Symptoms and Signs, p246).
- 9.3 Some of the relevant tests are discussed in the AMA 5 Hearing Impairment Evaluation Summary Table 11–10 (pp272–275). 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 this WorkCover guide.
- 9.4 The level of hearing impairment caused by non-work-related conditions is assessed by the medical practitioner and considered when determining the level of work-related hearing impairment. While this requires medical judgement on the part of the examining medical practitioner, any non-work-related deductions should be recorded in the report.
- 9.5 Disregard AMA 5 Tables 11–1, 11–2, 11–3 (pp247–250). 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 (pp11–16)
  - Tables RM 500–4000 (pp18–23)
  - Appendix 1 and 2 (pp8–9)
  - Appendix 5 and 6 (pp24–26)
  - Tables EB 4000–8000 (pp28–30)
  - Table EM 4000–8000 (pp32–34)

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 (that is, 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, pp11–16) 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, p24) 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% 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 practitioner'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%. Rounding up should occur if equal to or greater than .05%, and rounding down should occur if equal to or less than .04%.
- 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 whole person impairment.

**Table 9.1: Relationship of binaural hearing impairment to whole person impairment**

<b>% Binaural hearing impairment</b>	<b>% Whole person impairment</b>	<b>% Binaural hearing impairment</b>	<b>% Whole person impairment</b>
0.0–6.0	0	51.1–53.0	26
		53.1–55.0	27
6.1–6.7	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

9.15 AMA5 Examples 11.1, 11.2, 11.3 (pp250–251) 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**

<b>Element</b>	<b>Example No.</b>
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 whole person impairment	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 practitioner 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 practitioner 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% whole person impairment (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 practitioner diagnosed occupational noise-induced hearing loss with mild tinnitus.

#### Pure tone audiometry

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)	Comment
500	15	15	0.0	The assessing medical practitioner'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.
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% whole person impairment (Table 9.1)				

### 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 practitioner diagnosed bilateral noise-induced hearing loss and bilateral solvent-induced hearing loss with severe tinnitus.

The assessing medical practitioner'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%.

The appropriate presbycusis deduction was applied. Then, the assessing medical practitioner added 2% 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% whole person impairment (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 practitioner 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**

<b>Frequency (Hz)</b>	<b>Left (dB HL)</b>	<b>Right (dB HL)</b>	<b>Binaural hearing impairment (%BHI)</b>
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% whole person impairment (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 practitioner diagnosed occupational noise-induced hearing loss and left acute acoustic trauma. The assessing medical practitioner 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% whole person impairment (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% whole person impairment (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 practitioner was of the opinion that there was a special requirement for hearing above 4000 Hz. There was no conductive hearing loss.

**Pure tone audiometry**

Frequency (Hz)	Left (dB HL)	Right (dB HL)	Binaural hearing impairment (%BHI)	
			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 practitioner 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% whole person impairment (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 (pp209–222) of the American Medical Association 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" (p222), the "additional 10% impairment" referred to means 10% *whole person* impairment, not 10% 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, pp445–469) 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% 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:

1. Self care and personal hygiene (Table 11.1)
  2. Social and recreational activities (Table 11.2)
  3. Travel (Table 11.3)
  4. Social functioning (relationships) (Table 11.4)
  5. Concentration (Table 11.5)
  6. 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:

1. Determine the median class score.
2. 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. Eg:

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

Total

% Impairment

### Example B

PIRS scores

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

Median class

= 3
-----

Aggregate score

1 +	2 +	2 +	3 +	3 +	4 =	15	15%
-----	-----	-----	-----	-----	-----	----	-----

Total

% Impairment

### Example C

PIRS scores

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

Median class

= 4
-----

Aggregate score

1 +	2 +	3 +	5 +	5 +	5 =	21	44%
-----	-----	-----	-----	-----	-----	----	-----

Total

% Impairment

**Table 11.8: PIRs rating form**

Name		Claim reference number	
D.O.B.		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							Median Class
							=

Aggregate Score						Total	%
Impairment							
+	+	+	+	+	=		

# 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 (pp191–210) provides guidelines on the method of assessing permanent impairment of the haematopoietic system. Overall, that chapter should be followed in 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 percentage whole person impairment due to end organ impairment should be combined with any percentage whole person impairment due to haematopoietic disorder, using the Combined Values Table (AMA5, pp604–606).

## Anaemia

- 12.3 Table 12.1 (below) replaces AMA5 Table 9–2 (, p193).

**Table 12.1: Classes of anaemia and percentage whole person impairment**

<b>Class 1: 0–10% WPI</b>	<b>Class 2: 11–30% WPI</b>	<b>Class 3: 31–70% WPI</b>	<b>Class 4: 71–100% WPI</b>
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 whole person impairment, 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 percentage whole person impairment, 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% whole person impairment. This should be combined with any other impairment rating, using the Combined Values Table (AMA5, pp604–606).
- 12.9 AMA5 Table 9–3 (p200) 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%.

## Haemorrhagic and platelet disorders

- 12.10 AMA5 Table 9–4 (p203) 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 (p203) is:
- Symptoms and signs of haemorrhagic and platelet abnormality and/or
  - Requires continuous treatment and
  - 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 (p203, AMA5) is:
- Symptoms and signs of haemorrhagic and platelet abnormality and/or
  - Requires continuous treatment and
  - Difficulty performing daily activities; requires continuous care.

## Thrombotic disorders

- 12.13 AMA5 Table 9–4 (p203) 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 system (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 1 of this Chapter, page 64).
- 13.4 Westergren erythrocyte sedimentation rate (WSR) is equivalent to ESR.

### Adrenal cortex

- 13.5 AMA5, p222, 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 (p224–225): see reference to ESR (13.4, above).
- 13.7 AMA5 Example 10–20 (p225): History: For “hypnotic bladder” read “hypotonic bladder”.

### Diabetes mellitus

- 13.8 AMA5, p231: refer to the Australian Diabetes Association Guidelines with regard to levels of fasting glucose. (Position statement from the Australian Diabetes Society, reprinted in Appendix 2 to this chapter).
- 13.9 AMA5, p231: insert at the end of the second paragraph: ‘The goal of treatment is to maintain haemoglobin A 1c within 1% of the normal range (4%–6.3%)’.

### Mammary glands

- 13.10 AMA5 Example 10–45 (p239), 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, p240: 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 µg/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 <sub>2</sub> )		22–32 mmol/L
Bilirubin (total)	(adult)	< 20 µmol/L
Calcium	(total)	2.10–2.60 mmol/L
	(ionised)	1.17–1.30 mmol/L
Chloride		95–110 mmol/L
Cholesterol (HDL)	(male)	0.9–2.0 mmol/L
	(female)	1.0–2.2 mmol/L
Cholesterol (total)		< 5.5 mmol/L
<i>(National Heart Foundation [Australia] recommendation)</i>		
Copper		13–22 µmol/L
Creatine kinase (CK)	(male)	60–220 U/L
	(female)	30–180 U/L
Creatinine	(adult male)	0.06–0.12 mmol/L
	(adult female)	0.05–0.11 mmol/L
Gamma glutamyl transferase (GGT)	(male)	< 50 U/L
	(female)	< 30 U/L
Globulin	adult	25–35g/L
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.osmoll/kg water

**Reference ranges, plasma or serum, unless otherwise indicated (continued)**

pCO <sub>2</sub>	(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 <sub>2</sub>	(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)	0.07–0.19 mmol/24 hours/kg
	(male)	9–18 mmol/24 hours
	(female)	5–16 mmol/24 hours
HMMA	(infant)	< 10 mmol/mol creatinine
	(adult)	< 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		< 150 mg/24 hours
	(pregnancy)	< 250 mg/24 hours
Sodium (depends on intake, plasma levels)		75–300 mmol/24 hours
Urate	(male)	2.2–6.6 mmol/24 hours
	(female)	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)	130–180 g/L
	(adult female)	115–165 g/L
Red cell count (RCC)	(adult male)	4.5–6.5 x 10 <sup>12</sup> /L
	(adult female)	3.8–5.8 x 10 <sup>12</sup> /L
Packed cell volume (PCV)	(adult male)	0.40–0.54
	(adult female)	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 <sup>9</sup> /L
Leucocyte differential count		
– Neutrophils		2.0–7.5 x 10 <sup>9</sup> /L
– Eosinophils		0.04–0.4 x 10 <sup>9</sup> /L
– Basophils		< 0.1 x 10 <sup>9</sup> /L
– Monocytes		0.2–0.8 x 10 <sup>9</sup> /L
– Lymphocytes		1.5–4.0 x 10 <sup>9</sup> /L
Platelet count		150–400 x 10 <sup>9</sup> /L
Erythrocyte sedimentation rate (ESR)	male 17–50 years	1–10 mm/hour
	male >50 years	2–14 mm/hour
	female 17–50 years	3–12 mm/hour
	female >50 years	5–20 mm/hour
Reticulocyte count		10–100 x 10 <sup>9</sup> /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)	30–300 µg/L
	(female)	15–200 µg/L
Vitamin B12		120–680 pmol/L
Folate	(red cell)	360–1400 nmol/L
	(serum)	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)	
– Therapeutic range for oral anticoagulant therapy	2.0–4.5
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,<sup>†</sup> Royal College of Pathologists of Australasia<sup>‡</sup> and Australasian Association of Clinical Biochemists<sup>§</sup>

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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,<sup>1</sup> while the WHO group published its provisional conclusions for consultation and comment in June 1998.<sup>2</sup> 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  $\geq 11.1$  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  $\geq 7.0$  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 recommendation<sup>3</sup> is the lowering of the diagnostic level of fasting plasma glucose to  $\geq 7.0$  mmol/L, from the former level of  $\geq 7.8$  mmol/L. For whole blood, the proposed new level is  $\geq 6.1$  mmol/L, from the former  $\geq 6.7$  mmol/L.

This change is based primarily on cross-sectional studies demonstrating the presence of microvascular<sup>4</sup> and macrovascular complications<sup>5</sup> at these lower glucose concentrations. In addition, the 1985 WHO diagnostic criterion for diabetes based on fasting plasma glucose level ( $\geq 7.8$  mmol/L) represents a greater degree of hyperglycaemia than the criterion based on plasma glucose level two hours after a 75 g glucose load ( $\geq 11.1$  mmol/L).<sup>6</sup> A fasting plasma glucose level of  $\geq 7$  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  $\geq 7.0$  mmol/L or 2 h post-glucose or casual postprandial plasma glucose level of  $\geq 11.1$  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

### 1: Values for diagnosis of diabetes mellitus and other categories of hyperglycaemia<sup>2</sup>

	Glucose concentration (mmol/L [mg/dL])			
	Whole blood		Plasma	
	Venous	Capillary	Venous	Capillary
<b>Diabetes mellitus</b>				
Fasting	$\geq 6.1$ ( $\geq 110$ )	$\geq 6.1$ ( $\geq 110$ )	$\geq 7.0$ ( $\geq 126$ )	$\geq 7.0$ ( $\geq 126$ )
or 2 h post-glucose load	$\geq 10.0$ ( $\geq 180$ )	$\geq 11.1$ ( $\geq 200$ )	$\geq 11.1$ ( $\geq 200$ )	$\geq 12.2$ ( $\geq 220$ )
<b>or both</b>				
<b>Impaired glucose tolerance (IGT)</b>				
Fasting (if measured)	$< 6.1$ ( $< 110$ )	$< 6.1$ ( $< 110$ )	$< 7.0$ ( $< 126$ )	$< 7.0$ ( $< 126$ )
and 2 h post-glucose load	$\geq 6.7$ ( $\geq 120$ ) and $< 10.0$ ( $< 180$ )	$\geq 7.8$ ( $\geq 140$ ) and $< 11.1$ ( $< 200$ )	$\geq 7.8$ ( $\geq 140$ ) and $< 11.1$ ( $< 200$ )	$\geq 8.9$ ( $\geq 160$ ) and $< 12.2$ ( $< 220$ )
<b>Impaired fasting glycaemia (IFG)</b>				
Fasting	$\geq 5.6$ ( $\geq 100$ ) and $< 6.1$ ( $< 110$ )	$\geq 5.6$ ( $\geq 100$ ) and $< 6.1$ ( $< 110$ )	$\geq 6.1$ ( $\geq 110$ ) and $< 7.0$ ( $< 126$ )	$\geq 6.1$ ( $\geq 110$ ) and $< 7.0$ ( $< 126$ )
2 h post-glucose load (if measured)	$< 6.7$ ( $< 120$ )	$< 7.8$ ( $< 140$ )	$< 7.8$ ( $< 140$ )	$< 8.9$ ( $< 160$ )

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.

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).

### 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  $\geq$  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.<sup>1</sup> The WHO group<sup>2</sup> 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,<sup>7</sup> launched in June 1998 by Dr Michael Wooldridge, 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.<sup>1</sup> These differ from those recommended by both WHO<sup>2</sup> and the Australian Working Party on Diabetes in Pregnancy<sup>8</sup> 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

## 2: Aetiological classification of disorders of glycaemia\*

**Type 1** ( $\beta$ -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  $\beta$ -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.

plasma glucose level on the OGTT of  $\geq 8.0$  mmol/L. In New Zealand, a cut-off level of  $\geq 9.0$  mmol/L has been applied.<sup>8</sup>

### 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  $\beta$ -cell function or insulin action, are grouped as “other specific types”, with gestational diabetes as a fourth category.

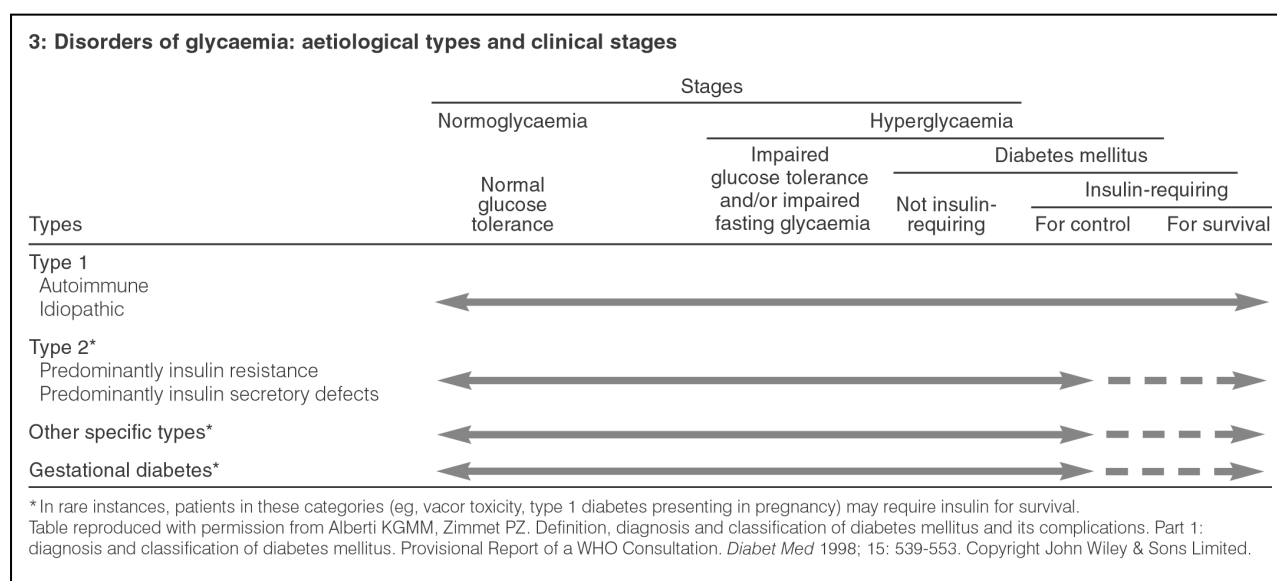
The proposed staging (Box 3) reflects the fact that any aetiological type of diabetes can pass or progress through several clinical phases (both asymptomatic and symptomatic) during its natural history. Moreover, individuals may move in either direction between stages.

### 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  $\geq 6.1$  mmol/L). Limited data on this category show that it increases both risk of progressing to diabetes<sup>9</sup> and cardiovascular risk.<sup>5</sup> 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).

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.<sup>10</sup> 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.<sup>11-15</sup> 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 (pp173–190) 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* (page 33).
- 14.4 AMA5 Table 8–2 (p178) 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 physician should derive a specific percentage impairment within the range for the class that best describes the clinical status of the claimant.
- 14.5 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.
- 14.6 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 (pp178–187) .

**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%.

**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%.

**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%.

**Comment:** Unable to obtain any employment because has chronic dermatitis and on invalid 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%

**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 Efudix 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 (vermillion) with slight step deformity and non-hypertrophic pale wedge resection scar left pinna leading to 30% reduction in size of the pinna. Graft sites taken from right post auricular area. No regional lymphadenopathy.

**Impairment rating:** 6%

**Comment:** Refer to Table 6.1 (facial disfigurement), page 33.

**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%

**Comment:** Refer to Table 6.1 (facial disfigurement), page 33.

# 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) (pp25–85). 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, page 11 — Ordering of additional investigations).

## Permanent impairment — maximum medical improvement

- 15.6 As for all assessments, maximal medical improvement it 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 (see Chapter 1, page 8).

## Vascular diseases affecting the extremities

- 15.7 Note that in this section, AMA5 Table 4–4 and Table 4–5 (p76) 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 (p439) and the table for conversion of the lower extremity is AMA5 Table 17–3 (p527).

## **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 (page 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, page 8).

## **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 (pp117–142). That Chapter can be used to assess permanent impairment of the digestive system. There are no modifications for the purposes of the *WorkCover Guides*.

**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

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	Professor of Rehabilitation Medicine
Dr Robin CHASE	Australian Medical Association

### Working Groups

<u>Psychiatric and Psychological</u>	<u>Spine</u>	<u>Upper Limb</u>
Dr Julian PARMEGIANI	Prof Michael FEARNside	Dr Dwight DOWDA
Dr Derek LOVELL	Dr John CUMMINE	Assoc Prof Ian CAMERON
Dr Rod MILTON	Prof Michael RYAN	Prof Bill MARSDEN
Dr Yvonne SKINNER	Dr Dwight DOWDA	Dr Bruce CONOLLY
Dr Jonathan PHILLIPS	Assoc Prof Ian CAMERON	Dr David CROCKER
Dr Chris BLACKWELL	Dr Hugh DICKSON	Dr Richard HONNER
Dr Bruce WESTMORE	Dr Conrad WINER	Dr Jim ELLIS
Dr Susan BALLINGER	Dr Mario BENANZIO	Dr Conrad WINER
Ms Lyn SHUMACK	Dr Jim ELLIS	Dr David DUCKWORTH
Dr Jack WHITE	Dr Jim BODEL	
Ms Sandra DUNN	Dr William WOLFENDEN	
Dr Tim HANNON	Dr Kevin BLEASEL	
	Dr John HARRISON	
	Prof Sydney NADE	
		<u>Respiratory and Nose and Throat</u>
		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
<u>Hearing</u>	<u>Urinary and Reproductive</u>	
Dr Brian WILLIAMS	Prof Richard MILLARD	
Dr Joseph SCOPPA	Dr Kim Boo KUAH	
Dr Stanley STYLIS	Assoc Prof Ian CAMERON	
Dr Paul NIALL		
Assoc Prof Ian CAMERON		

**Skin**

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Dr Victor ZIELINSKI  
Dr Scott MENZIES  
Dr Edmund LOBEL  
Assoc Prof Ian CAMERON

**Cardiovascular**

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Dr Thomas NASH  
Dr John GUNNING  
Dr George MICHELL  
Dr Stephen BUCKLEY  
Dr Melissa DOOHAN  
Dr Charles FISHER

**Endocrine**

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Dr Alfred STEINBECK  
Prof Peter HALL  
Dr Stephen BUCKLEY

**Vision**

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Dr Michael DELANEY  
Dr Peter DUKE  
Dr Peter ANDERSON  
Dr John KENNEDY  
Dr Neville BANKS  
Assoc Prof Ian CAMERON

**Digestive**

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Prof Philip BARNES  
Dr David De CARLE  
Dr Dwight DOWDA

**Nervous System**

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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

**Lower Limb**

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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

**Haematopoietic**

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Prof John GIBSON  
Dr Stephen FLECKNOE-BROWN  
Dr Peter SLEZAK  
Assoc Prof Ian CAMERON  
Prof John DWYER

## **Appendix 2: Guidelines for medico-legal consultations and examinations**

**(issued by the New South Wales Medical Board, September 2001)**

The Medical Board is aware of a number of complaints by examinees about the manner in which they have been dealt with by doctors conducting examinations for medico-legal reasons or for other third parties. In these cases, the doctor is not in a therapeutic relationship with the examinee, and the history-taking and examination may need to be more extensive than the examinee might have been expecting. In addition, the examinee may be generally nervous and, in particular, anxious about the possibility of receiving an adverse medical report from the doctor.

Doctors 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 the examinee's care. It is the Board's view that the same level of professional skill and care is required of a medical practitioner acting in a medico-legal capacity as in a therapeutic setting. Whilst some procedures may be simple or routine for the doctor, they may not be seen as such by the examinee. Effective communication is integral to this aspect of the doctor-examinee relationship, especially when the doctor is examining the examinee on behalf of a third party.

Medical practitioners should generally only work in their areas of expertise, whether in medico-legal or clinical practice.

In order to avoid appearing insensitive, rude, or abrupt in their manner or rough in their examination, doctors are advised to give particular attention to identifying the examinee's concerns, and to explain adequately the reasons for the examination. Adequate time should be allowed for appointments to enable a proper history to be taken and examination to be made.

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

### **The introduction**

1. The doctor should properly introduce himself or herself and explain his or her specialty field of medicine in language which the examinee can understand.
2. The doctor should explain the purpose and nature of the consultation and examination.
3. The doctor 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.
4. The examinee has the option of having an accompanying person to be 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 should normally be to support the examinee — and not to answer questions. However, should the examinee have an intellectual, speech or language difficulty, it is appropriate for the accompanying person to assist in the communication between doctor and examinee. An interpreter should be used where the examinee has a difficulty with spoken English.
5. The doctor should consider the needs of examinees with an intellectual disability. Further, the doctor should be aware of differing cultural sensitivities such as being touched on parts of the body.
6. Some doctors choose to video or audio record the examination. The reason for this should be clearly explained to the examinee and consent must be obtained in advance.

### **Explanation to the examinee**

1. It is essential that before commencing an examination, the doctor explains which part of the body is to be examined, why it is to be examined, and what the examination entails.
2. Similarly, the position of the doctor during the examination should be explained (this is particularly important when the doctor is standing behind the examinee).
3. Before commencing the examination, the doctor should explain the extent to which undressing is required.

### **Conversation during the consultation**

1. The doctor should not offer any opinion on the examinee's claim on the third party concerned.
2. The doctor should not offer any opinion on the examinee's medical or surgical management.
3. The doctor should not make any unnecessary personal remarks, especially when the consultation involves an intimate examination.

### **Physical examination**

1. The doctor should examine the examinee in privacy, unless the examinee has brought a friend to be with them at that time.
2. Before the examination the doctor should provide a sheet, or a gown or some other garment, with which to preserve the examinee's modesty.
3. The examinee's modesty should be preserved in undressing before, and dressing after, the physical examination.
4. Modesty may be preserved by:
  - i. the provision of a screen behind which the examinee can undress; or
  - ii the doctor excusing himself or herself from the consulting room whilst the examinee in undressing;
5. The doctor ought to consider the desirability of having a chaperone present during the examination.
6. Examination should be limited to the area relevant to the examinee's problem. It is inappropriate for a medical practitioner to examine any part of the body without the examinee's consent. This may limit the scope of a practitioner's examination and subsequent report.
7. If an intimate examination is warranted, ie breasts or anogenital region, 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 medical records. The examinee's wishes concerning the presence of a chaperone or friend should be respected.
8. In the majority of cases it is appropriate to notify the examinee of an incidental problem which has been identified by the examining doctor. There may be some situations where it is preferable to notify the examinee's treating doctor.

## 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:

The Australian Medical Association (NSW)  
33 Atchison Street  
St Leonards, NSW 2065

and

The Law Society of New South Wales  
170 Phillip Street  
Sydney NSW 2000

