



# **Seafarers Rehabilitation and Compensation Act 1992 – Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0**

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I, the Hon Tony Burke MP, Minister for Employment and Workplace Relations, make the following instrument.

Dated 7 March 2023

Tony Burke  
Minister for Employment and Workplace Relations

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## 1 Name

This instrument is the *Seafarers Rehabilitation and Compensation Act 1992 – Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0*.

## 2 Commencement

This instrument commences on 1 April 2023 (the *commencement date*).

## 3 Authority

This instrument is made under section 42 of the *Seafarers Rehabilitation and Compensation Act 1992*.

## 4 Definitions

Note: A number of expressions used in this instrument are defined in the Seafarers Act, including the following:

- (a) aggravation (subsection 3(1));
- (b) ailment (subsection 6(1));
- (c) Authority (subsection 3(1));
- (d) determination (subsection 76(1));
- (e) employee (section 4);
- (f) impairment (subsection 3(1));
- (g) non-economic loss (subsection 3(1));
- (h) permanent (subsection 3(1));
- (i) reviewable decision (subsection 76(1)).

In this instrument:

*Activities of daily living* has the meaning given in the approved Guide.

*AMA4* has the meaning given in the approved Guide.

*AMA5* has the meaning given in the approved Guide.

*approved Guide* means the Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0 set out in Schedule 1 to this instrument.

*assessor* has the meaning given in the approved Guide.

*binaural hearing loss* has the meaning given in the approved Guide.

*commencement date* has the meaning given in section 2 of this instrument.

*disease* has the meaning given in the approved Guide.

*employer*, in relation to an employee, has the same meaning as in the Seafarers Act (see also subsection 4(3) of that Act).

*injury* has the same meaning as in the Seafarers Act (see subsection 3(1) and sections 6 and 7 of that Act) and the TPCA Act (see sections 6 and 7 of that Act).

*loss of amenities* has the meaning given in the approved Guide.

*medical treatment* has the meaning given in the approved Guide.

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*pain* has the meaning given in the approved Guide.

*repealed Guide* has the meaning given in section 7 of this instrument.

*Seafarers Act* means the *Seafarers Rehabilitation and Compensation Act 1992*.

*suffering* has the meaning given in the approved Guide.

*TPCA Act* means the *Seafarers Rehabilitation and Compensation (Transitional Provisions and Consequential Amendments) Act 1992*.

## 5 Approved Guide

The Guide prepared by the Authority, which is set out in Schedule 1 to this instrument, is approved for the purposes of the Seafarers Act.

Note: If an employer or the Administrative Appeals Tribunal is required to assess or reassess, or review the assessment or reassessment of, the degree of permanent impairment of an employee resulting from an injury, or the degree of non-economic loss suffered by an employee, the assessment, reassessment or review must be made in accordance with the approved Guide (Seafarers Act, subsection 42(4)).

## 6 Application of the approved Guide

- (1) The approved Guide applies to the assessment or reassessment of the degree of permanent impairment of an employee resulting from an injury, or the degree of non-economic loss suffered by an employee as a result of an injury or impairment, relating to a claim for compensation under sections 39, 40 or 41 of the Seafarers Act received by the employer on or after the commencement date.
- (2) The approved Guide applies to the reassessment of the degree of permanent impairment of an employee resulting from an injury, or the degree of non-economic loss suffered by an employee as a result of an injury or impairment, relating to a claim for compensation under sections 39, 40 or 41 of the Seafarers Act received by the employer before the commencement date where the request for reassessment was received on or after the commencement date.
- (3) For the purposes of subsection (2), a request for reassessment does not include the following in relation to a determination made under sections 39, 40 or 41 of the Seafarers Act, whether the determination was made before, on or after the commencement date:
  - (a) a request for reconsideration of that determination under section 78 of the Seafarers Act;
  - (b) an application to the Administrative Appeals Tribunal for review of a reviewable decision made in relation to that determination under section 88 of the Seafarers Act.
- (4) The approved Guide applies to the assessment or reassessment of the degree of permanent impairment of an employee resulting from an injury relating to a request under section 40 of the Seafarers Act received by the employer on or after the commencement date.
- (5) The approved Guide applies to all reviews by the Administrative Appeals Tribunal of an assessment or reassessment to which subsection (1), (2) or (4) applies.

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## 7 Repeal

The *Seafarers Rehabilitation and Compensation Act 1992 – Guide to the Assessment of the Degree of Permanent Impairment Edition 2.1* [F2012C00534] (the **repealed Guide**) is repealed.

Note 1: The *Acts Interpretations Act 1901* (subsection 7(2)) relevantly provides, in effect, that:

- (a) the repeal does not: revive anything not in force or existing at the time at which the repeal takes effect; or affect the previous operation of the repealed Guide, or anything duly done under the repealed Guide; or affect any right, privilege, obligation or liability acquired, accrued or incurred under the repealed Guide; or affect any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation or liability; and
- (b) any such investigation, legal proceeding or remedy may be instituted, continued or enforced, as if the repealed Guide had not been repealed.

Note 2: The *Acts Interpretations Act 1901* applies to the approved Guide and repealed Guide as if it were an Act by operation of the *Legislation Act 2003* (subsection 13(1)).

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# **Schedule 1—Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0**



**Australian Government**

**Seafarers Safety, Rehabilitation  
and Compensation Authority**

# **GUIDE TO THE ASSESSMENT OF THE DEGREE OF PERMANENT IMPAIRMENT EDITION 3.0**

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# INTRODUCTION TO EDITION 3.0 OF THE GUIDE

## STRUCTURE OF THIS GUIDE

- 1 [Division 1](#) is used to assess the degree of the permanent impairment of an employee resulting from an injury.
- 2 [Division 2](#) is used to assess the degree of non-economic loss suffered by an employee as a result of an injury or impairment.
- 3 [Division 3](#) is used to calculate the total entitlement to compensation for permanent impairment and non-economic loss based on the assessments completed in Divisions 1 and 2.
- 4 [Appendix 1](#) is used to obtain the combined value of multiple impairments resulting from a single injury where combination is required.
- 5 The [Principles of Assessment](#) and [Glossary](#) contain information relevant to the interpretation and application of Divisions 1 and 2.

## APPLICATION OF THIS GUIDE

- 6 This Guide (including the [Principles of Assessment](#) and [Glossary](#)) applies to the assessment or re-assessment of the degree of permanent impairment or non-economic loss of an employee relating to all claims and requests under sections 39, 40 and 41 of the Seafarers Act received by the employer on or after the commencement date and to the review by the Administrative Appeals Tribunal of any such assessment or re-assessment. See sections 2 and 6 of the instrument titled *Seafarers Rehabilitation and Compensation Act 1992 – Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0* for when this Guide applies to a particular assessment, reassessment or review.
- 7 See Edition 2.1 of the Guide (now repealed) for the criteria, methods and application provisions relevant to the assessment or reassessment of the degree of permanent impairment or non-economic loss of an employee relating to claims and requests under sections 39, 40 and 41 of the Seafarers Act that were received by the employer prior to the commencement date. Edition 2.1 of the Guide can be accessed via the Federal Register of Legislation here: <https://www.legislation.gov.au/Details/F2012C00534>.

## WHOLE PERSON IMPAIRMENT

- 8 Prior to 1993, the *Seamen's Compensation Act 1911* (repealed by the *Seafarers Rehabilitation and Compensation (Transitional Provisions and Consequential Amendments) Act 1992*) provided for the payment of lump sum compensation where a seaman suffered the loss of, or loss of efficient use of, a part of the body or faculty, as specified in a table of maims. The range of conditions compensated was exclusive and did not reflect the broad range of work-related conditions.
- 9 This Guide, like the previous editions, is, for the purposes of expressing the degree of impairment as a percentage, based on the concept of 'whole person impairment'. Subsection 39(5) of the Seafarers Act provides for the determination of the degree of permanent impairment **of the employee** resulting from an injury, that is, the employee as a whole person. The whole person impairment concept, therefore, provides for compensation for the permanent impairment of any body part, system or function to the extent to which it permanently impairs the employee as a whole person.
- 10 Paragraph 42(1)(a) of the Seafarers Act provides that the Guide may set out criteria by reference to which the degree of the permanent impairment of an employee resulting from an injury shall be determined. Paragraph 42(1)(c) of the Act relevantly provides that methods by which the degree of permanent impairment, as determined under those criteria, shall be expressed as a percentage. Subsection 42(5) of the Act relevantly provides that the percentage of permanent impairment suffered by an employee as a result of an injury ascertained under the methods referred to in paragraph 42(1)(c) may be 0%.

- 11 Whole person impairment is the methodology used in this Guide in accordance with section 42 of the Seafarers Act and is therefore the methodology by which the degree of permanent impairment of an employee resulting from an injury is expressed as a percentage. While the employee's impairment resulting from a particular injury is to be assessed against criteria in this Guide by reference to the functional capacities of a normal healthy person, the degree of permanent impairment of that employee resulting from that particular injury may be assessed as:
- a) 0% if there is no increase in the employee's whole person impairment when assessed in accordance with this Guide; or
  - b) less than the threshold for compensation under section 39 of the Act even if there is an increase in the employee's whole person impairment when assessed in accordance with this Guide.
- 12 Whole person impairment is assessed under [Division 1](#) of this Guide.

## ENTITLEMENTS UNDER THE SEAFARERS ACT

- 13 Where the degree of permanent impairment of the employee is determined by the employer under subsection 39(5) of the Seafarers Act to be less than 10%, subsection 39(7) of the Seafarers Act provides that compensation is not payable to the employee under section 39 of that Act.
- 14 Subsection 39(8) of the Seafarers Act excludes the operation of subsection 39(7) in relation to impairment constituted by the loss, or the loss of the use, of a finger or toe, or the loss of the sense of taste or smell. The threshold for compensation under section 39 of the Act for an injury resulting in a permanent impairment constituted by such a loss is 1% to 5% WPI under this Guide depending on the nature of the impairment.

## NON-ECONOMIC LOSS

- 15 Subsection 41(1) of the Seafarers Act provides that where there is liability to pay compensation in respect of a permanent impairment, additional compensation for non-economic loss is payable in accordance with section 41.
- 16 Non-economic loss is assessed under [Division 2](#) of this Guide.

## COMPENSATION PAYABLE

- 17 The maximum level of payment is prescribed in the legislation and indexed annually on 1 July in accordance with the Consumer Price Index. Compensation is calculated at the rate applicable at the time of the assessment. See [Division 3](#) of this Guide for calculation of total entitlement to compensation for permanent impairment and non-economic loss.

## INTERIM AND FINAL ASSESSMENTS

- 18 On the written request of the employee under subsection 40(1) of the Seafarers Act, an interim determination must be made by the employer of the degree of permanent impairment suffered and an assessment made of an amount of compensation payable to the employee, where:
- a) a determination has been made that an employee has suffered a permanent impairment as a result of an injury;
  - b) the degree of that impairment is equal to or more than 10%; and
  - c) a final determination of the degree of permanent impairment has not been made.
- 19 When a final determination of the degree of permanent impairment is made by the employer, there is payable to the employee, under subsection 40(3) of the Seafarers Act, an amount equal to the difference, if any, between the final determination and the interim assessment.



## INCREASE IN DEGREE OF WHOLE PERSON IMPAIRMENT

- 20 Where a final assessment of the degree of permanent impairment has been made by the employer and the level of whole person permanent impairment subsequently increases by 10% or more in respect of the same injury, the employee may request, pursuant to subsection 40(4) of the Seafarers Act, another assessment for compensation for permanent impairment and non-economic loss. Additional compensation is payable for the increased level of whole person impairment only.
- 21 See [Application of this Guide](#) above as to assessments of the degree of permanent impairment made under the previous editions of the Guide.

## SURVIVAL OF CLAIMS

- 22 The Seafarers Act provides for the survival of certain claims for compensation. If an employee suffers an injury resulting in permanent impairment, and the employee dies:
  - a) before a claim for permanent impairment compensation has been made—the employee’s legal personal representative may make such a claim (see subsection 64(1) and the definition of ‘claimant’ in subsection 3(1)); or
  - b) after a claim for permanent impairment compensation has been made—the employee’s personal representative may continue with the claim (see subsection 64(2) and the definition of ‘claimant’ in subsection 3(1)).
- 23 In either case, if an amount of compensation is determined by the employer to be payable under section 39 of the Seafarers Act in respect of the claim, subject to section 134, the amount is payable to the deceased employee’s estate (subsections 64(3) and 134(1)). No compensation under section 41 would be payable to the deceased employee’s estate for any non-economic loss (subsections 64(4)).

# PRINCIPLES OF ASSESSMENT

## IMPAIRMENT AND NON-ECONOMIC LOSS

- 24 In the Seafarers Act, 'impairment' means 'the loss, the loss of the use, or the damage or malfunction, of any part of the body or of the whole or part of any bodily system or function' (subsection 3(1)). The term relates to the health status of an individual and includes anatomical loss, anatomical abnormality, physiological abnormality, and psychological abnormality. The degree of impairment is assessed by reference to the impact of that loss, damage or malfunction by reference to the functional capacities of a normal healthy person.
- 25 In the Seafarers Act, 'non-economic loss', in relation to an employee who has suffered an injury resulting in a permanent impairment, means 'loss or damage of a non-economic kind suffered by the employee (including pain and suffering, a loss of expectation of life or a loss of the amenities or enjoyment of life) as a result of that injury or impairment and of which the employee is aware' (subsection 3(1)). The term deals with the effects of the impairment on the employee's life.
- 26 Non-economic loss may be characterised as the 'lifestyle effects' of an injury or impairment. Lifestyle effects are a measure of an individual's mobility and enjoyment of, and participation in, social relationships, and recreation and leisure activities. The employee must be aware of the losses suffered. While employees may have equal ratings of whole person impairment it would not be unusual for them to receive different ratings for non-economic loss because of their different lifestyles.

## EMPLOYABILITY AND INCAPACITY

- 27 The concepts of 'employability' and 'incapacity for work' are not the tests for the assessment of impairment and non-economic loss. Incapacity for work is influenced by factors other than the degree of impairment and is compensated by weekly payments which are separate and independent to permanent impairment entitlements.

## PERMANENT IMPAIRMENT

- 28 Compensation is only payable for an impairment resulting from an injury which is permanent. In the Seafarers Act, 'permanent' means 'likely to continue indefinitely' (subsection 3(1)).
- 29 For the purpose of determining whether an impairment is permanent under the Seafarers Act, the assessor must have regard to all of the matters in subsection 39(2), namely:
- a) the duration of the impairment;
  - b) the likelihood of improvement in the employee's condition;
  - c) whether the employee has undertaken all reasonable rehabilitative treatment for the impairment; and
  - d) any other relevant matters.
- 30 The assessor should also have regard to the nature and effect of the impairment, and the extent, if any, to which it may reasonably be capable of being reduced or removed (including by surgery, medication or rehabilitative treatment).
- 31 In the case of a deceased employee, the assessor must still have regard to all of the matters specified in subsection 39(2) of the Seafarers Act. Consequently, assessing the degree of permanent impairment of the employee immediately prior to death will not necessarily be appropriate. For example:
- a) if there was a likelihood of improvement in the employee's condition or the employee had not undertaken all reasonable rehabilitative treatment for the impairment - the degree of impairment of the employee immediately prior to death will not be appropriate if the degree of permanent impairment resulting from the injury was likely to be less after the improvement or treatment; or

- b) if the injury resulted in systemic failure of vital organs leading to the employee's death - the degree of impairment of the employee immediately prior to death will be appropriate if the degree of permanent impairment resulting from the injury was not likely to have improved or responded to treatment.
- 32 Whatever the cause of death, the assessor must only assess the permanent impairment resulting from the injury. The assessor should, where possible, assess the degree of permanent impairment resulting from the injury by reference to the available evidence (for example, clinical records, investigations, reported histories) and/or by using clinical judgment. For the purposes of the Seafarers Act and this Guide, death is not an impairment that is compensable under section 39 of the Act. Compensation for an injury resulting in death is dealt with separately in sections 29 and 30 of the Act.

## **PRE-EXISTING CONDITIONS AND AGGRAVATION**

- 33 Where a pre-existing condition (including an underlying condition or pre-existing injury) is aggravated by employment, such that the aggravation is an injury, only the permanent impairment resulting from the injury is to be included in the assessment of the degree of permanent impairment of the employee. However, an assessment should not be made unless the aggravation is permanent.
- 34 Where the employee's impairment is entirely attributable to the pre-existing condition, or to the natural progression of the pre-existing condition, the degree of permanent impairment of the employee resulting from the injury is 0%.
- 35 Where the pre-existing condition was previously asymptomatic, all the permanent impairment resulting from the injury is to be included in the assessment of the degree of permanent impairment of the employee.
- 36 Where the pre-existing condition was previously symptomatic, the following method must be applied:
- a) The assessor should, where possible, assess the degree of permanent impairment resulting from the pre-existing condition by reference to the available evidence (for example, clinical records, investigations, reported histories) and/or by using clinical judgment.
  - b) Where it is possible to assess the degree of permanent impairment resulting from the pre-existing condition, the assessor should, where possible, isolate the permanent impairment resulting from the injury (for example, by comparing the degree of permanent impairment resulting from the pre-existing condition with the degree of permanent impairment resulting from the injury to assess whether there has been an increase in the employee's whole person impairment). Only the permanent impairment resulting from the injury is to be included in the assessment of the degree of permanent impairment of the employee.
  - c) Where it is not possible to assess the degree of permanent impairment resulting from the pre-existing condition, or it is not possible to isolate the permanent impairment resulting from the injury, the assessment of the degree of permanent impairment of the employee resulting from the injury is to be made by reference to the totality of effects of the pre-existing condition and the injury.
  - d) The percentage of permanent impairment suffered by an employee as a result of a particular injury ascertained by applying this method may be 0%.

## **PRE-EXISTING CONDITIONS AND INJURY OTHER THAN AGGRAVATION, TO SAME BODY PART, SYSTEM OR FUNCTION**

- 37 Where a pre-existing condition (including an underlying condition but excluding a pre-existing injury) results in permanent impairment, and the employee subsequently suffers an injury which results in permanent impairment to the same body part, system or function (but the injury is not an aggravation of the pre-existing condition), only the permanent impairment resulting from the injury is to be included in the assessment of the degree of permanent impairment of the employee.

- 38 In these circumstances, the following method must be applied:
- a) The assessor should, where possible, assess the degree of permanent impairment resulting from the pre-existing condition by reference to the available evidence (for example, clinical records, investigations, reported histories) and/or by using clinical judgment.
  - b) Where it is possible to assess the degree of permanent impairment resulting from the pre-existing condition, the assessor should, where possible, isolate the permanent impairment resulting from the injury (for example, by comparing the degree of permanent impairment resulting from the pre-existing condition with the degree of permanent impairment resulting from the injury to assess whether there has been an increase in the employee's whole person impairment). Only the permanent impairment resulting from the injury is to be included in the assessment of the degree of permanent impairment of the employee.
  - c) Where it is not possible to assess the degree of permanent impairment resulting from the pre-existing condition, or it is not possible to isolate the permanent impairment resulting from the injury, the assessment of the degree of permanent impairment of the employee resulting from the injury is to be made by reference to the totality of effects of the pre-existing condition and the injury.
  - d) The percentage of permanent impairment suffered by an employee as a result of a particular injury ascertained by applying this method may be 0%.
- 39 Where a pre-existing injury results in permanent impairment, and the employee subsequently suffers an injury which results in permanent impairment to the same body part, system or function (but the subsequent injury is not an aggravation of the pre-existing injury), the permanent impairment resulting from the pre-existing injury must be disregarded when assessing the degree of permanent impairment of the employee resulting from the subsequent injury. The subsequent injury should be assessed by reference to the functional capacities of a normal healthy person. The WPI rating for the pre-existing injury and the WPI rating for the subsequent injury may be added.

## THE IMPAIRMENT TABLES

- 40 [Division 1](#) of this Guide is based on the concept of whole person impairment which is drawn from the AMA5.
- 41 [Division 1](#) assembles into groups, according to body system, detailed descriptions of impairments. The extent of each impairment is expressed as a percentage value of the whole, normal, healthy person. Thus, a percentage value can be assigned to an impairment by reference to the relevant description in this Guide.
- 42 It may be necessary in some cases to have regard to a number of chapters within this Guide when assessing the degree of whole person impairment which results from an injury.
- 43 Where a table specifies a degree of impairment because of a surgical procedure, the same degree of impairment applies if the same loss of function has occurred due to a different medical procedure or treatment.

## MALIGNANCIES AND CONDITIONS RESULTING IN MAJOR SYSTEMIC FAILURE

- 44 Conditions such as cancer, HIV infection, diabetes, asbestosis, mesothelioma and others, often with terminal consequences, may result in failure or impairment of multiple body parts or systems.
- 45 Assessments should be made of the impairment suffered in each of the affected body parts and systems and combined using the combined values chart in [Appendix 1](#) to this Guide.

## PERCENTAGES OF IMPAIRMENT

- 46 Most tables in [Division 1](#) of this Guide provide impairment values expressed as fixed percentages. Where such a table is applicable in respect of a particular impairment, there is no discretion to choose an impairment value not specified in that table. For example, where 10% and 20% are the specified values, there is no discretion to determine the degree of impairment as 15%.
- 47 Where a table provides for impairment values within a range, consideration will need to be given to all criteria applicable to the condition, which includes performing activities of daily living and an estimate of the degree to which the medical impairment interferes with these activities. In some cases, additional information may be required to determine where to place an individual within the range. The assessor must provide written reason why they consider the selected point within the range as clinically justifiable.

## COMPARING ASSESSMENTS UNDER ALTERNATIVE TABLES

- 48 Unless there are instructions in this Guide to the contrary, where two or more tables (or combinations of tables) are equally applicable to an impairment, the relevant authority will determine the degree of permanent impairment under the table or tables which yields or yield the most favourable result to the employee. The assessor (if not the relevant authority) should therefore provide assessments under all applicable tables to allow the relevant authority to make this determination.

## COMBINED VALUES

- 49 Impairment is system or function based. A single injury may give rise to multiple losses of function and, therefore, multiple impairments. When more than one table applies in respect of that injury, separate scores should be allocated to each functional impairment. To obtain the whole person impairment in respect of that injury, those scores are then **combined** using the combined values chart in [Appendix 1](#) to this Guide unless the notes in the instructions in this Guide specifically stipulate that the scores are to be added. (For instance, see [Section 9.8.1 \(Abnormal motion of digits\)](#).)
- 50 It is important to note that whenever the notes in the relevant section in [Division 1](#) refer to combined ratings, the combined values chart in [Appendix 1](#) to this Guide must be used, even if no reference is made to the use of that chart.

## CALCULATING THE ASSESSMENT

- 51 Where relevant, a statement is included in the chapters of [Division 1](#) which indicates:
- the manner in which tables within that chapter may (or may not) be combined; and
  - whether an assessment made in that chapter can be combined with an assessment made in another chapter in assessing the degree of whole person impairment.
- 52 There are some special circumstances where **addition** of scores rather than **combination** is required. These circumstances are specified in the relevant chapters in this Guide.

## ORDERING OF ADDITIONAL INVESTIGATIONS

- 53 As a general principle, the assessor should not order additional radiographic or other investigations solely for impairment evaluation purposes, unless the investigations are specifically required in the relevant chapter of this Guide.

## EXCEPTIONS TO USE OF THIS GUIDE

- 54 In the event that an impairment is of a kind that cannot be assessed in accordance with the provisions of this Guide, the assessment is to be made under the AMA5.
- 55 An assessment is not to be made using the AMA5 for:
- a) mental and behavioural impairments (psychiatric conditions) – see [Chapter 5 – Psychiatric conditions](#);
  - b) impairments of the visual system – see [Chapter 6 – The visual system](#);
  - c) hearing impairment – see [Chapter 7 – Ear, nose and throat disorders](#); or
  - d) chronic pain conditions, except in the case of migraine or tension headaches – see [Section 9.13.3 \(Chronic pain conditions\)](#).
- 56 In the event that an impairment is of a kind that cannot be assessed in accordance with either the provisions of this Guide or the AMA5 (that is, where an assessment of 0% or more is not possible), the assessor should use their use clinical judgment, comparing measurable permanent impairment resulting from the injury to measurable permanent impairment resulting from similar conditions with similar impairment of body part, system or function.
- 57 For further information relating to the application of this Guide, please contact the Seacare Authority Secretariat on 02 6275 0070 or email [seacare@comcare.gov.au](mailto:seacare@comcare.gov.au).

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# GLOSSARY

In this Guide:

**Activities of daily living** means those activities that an employee needs to perform to function in a non-specific environment (that is, to live). Performance of activities of daily living is measured by reference to primary biological and psychosocial function.

**Aggravation** includes acceleration or recurrence (Seafarers Act, subsection 3(1)). See also the [Principles of Assessment](#).

**Ailment** means any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development) (Seafarers Act, subsection 3(1)).

**AMA4** means the Fourth Edition of the American Medical Association's *Guides to the Evaluation of Permanent Impairment* (1995) and any errata published prior to the commencement date.

**AMA5** means the Fifth Edition of the American Medical Association's *Guides to the Evaluation of Permanent Impairment* (2001) and any errata published prior to the commencement date.

**Assessor** in relation to an employee means:

- a) a legally qualified medical practitioner or audiologist, other than the employee, who is registered to practise a health profession with the Australian Health Practitioner Regulation Agency;
- b) the employer in relation to the employee;
- c) a member within the meaning of section 3 of the *Administrative Appeals Tribunal Act 1975*.

**Binaural hearing loss** means hearing loss affecting both ears. For the purposes of this Guide, binaural hearing loss does not include tinnitus.

**Commencement date** has the meaning given in section 2 of the instrument titled *Seafarers Rehabilitation and Compensation Act 1992 – Guide to the Assessment of the Degree of Permanent Impairment Edition 3.0*.

**Disease** has its ordinary meaning in [Division 1](#) of this Guide.

**Impairment** means the loss, the loss of the use, or the damage or malfunction, of any part of the body or of any bodily system or function or part of such system or function (Seafarers Act, subsection 3(1)). See also the [Principles of Assessment](#).

**Injury** in relation to an employee means an injury suffered by the employee in respect of which compensation is payable under the Seafarers Act (Seafarers Act, subsection 3(1) and sections 6 and 7; *Seafarers Rehabilitation and Compensation (Transitional Provisions and Consequential Amendments) Act 1992*, sections 6 and 7).

**Loss of amenities** in relation to an employee means the effects on the employee's mobility, social relationships and recreation and leisure activities. See also the [Principles of Assessment](#).

**Medical treatment** has its ordinary meaning in [Division 1](#) of this Guide.

**Non-economic loss (NEL)** in relation to an employee who has suffered an injury resulting in a **permanent impairment**, means loss or damage of a non-economic kind suffered by the employee (including **pain** and **suffering**, a loss of expectation of life or a loss of the amenities or enjoyment of life) as a result of that **injury** or **impairment** and of which the employee is aware (Seafarers Act, subsection 3(1)). See also the [Principles of Assessment](#).

**Pain** means physical pain.

**Permanent** means 'likely to continue indefinitely' (Seafarers Act, subsection 3(1)). See also the [Principles of Assessment](#).

**Seafarers Act** means the *Seafarers Rehabilitation and Compensation Act 1992*.

**Suffering** means the mental distress resulting from the **injury** or **impairment**.

**Whole person impairment (WPI)** is the methodology used for expressing the degree of **impairment** of an employee, resulting from an **injury**, as a percentage. WPI is based on the AMA5. WPI is a medical quantification of the nature and extent of the effect of an **injury** on the employee's functional capacity including **activities of daily living**. This Guide presents descriptions of **impairments** in chapters and tables according to body system. The extent of each **impairment** is expressed as a percentage value of the functional capacity of a normal healthy person. See also the [Principles of Assessment](#).



# DIVISION 1 – ASSESSMENT OF THE DEGREE OF THE PERMANENT IMPAIRMENT OF AN EMPLOYEE RESULTING FROM AN INJURY

## CHAPTER 1 – THE CARDIOVASCULAR SYSTEM

### 1.0 Introduction

- 69 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 70 WPI ratings derived from tables in this chapter may be **combined** with WPI ratings from other tables where there is co-existent disease (for example, cardiomyopathy, ischaemic heart disease, congenital heart disease, valvular heart disease).
- 71 For the purposes of [Chapter 1 – The cardiovascular system](#), activities of daily living are those in [Figure 1-A](#).

**Figure 1-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

- 72 [Chapter 1 – The cardiovascular system](#) does not cover impairments arising from cardiomyopathy, congenital heart disease, valvular heart disease, and pericardial heart disease. Where relevant, the degree of impairment arising from these conditions should be assessed in accordance with the appropriate table from the AMA5.
- 73 For post-thrombotic syndrome, assessments under [Table 1.4: Peripheral vascular disease of the lower extremities](#) and [Table 1.5: Peripheral vascular disease of the upper extremities](#) are an alternative to [Table 13.4: Thrombotic disorders](#) (see [Chapter 13 – The haematopoietic system](#)). WPI ratings from Table 1.4 and Table 1.5 **may not be combined** with a WPI rating from Table 13.4. Table 1.4 and Table 1.5 should be used as the primary guide for assessing peripheral complications of thrombosis.
- 74 Employees who have permanent cardiac limitation secondary to massive pulmonary embolism should be assessed under [Chapter 1 – The cardiovascular system](#). A WPI rating assessed in these circumstances **may not be combined** with a rating from [Table 13.4: Thrombotic disorders](#).

## 1.1 Coronary artery disease

75 Steps for assessment are as follows.

<b>Step 1</b>	Using <a href="#">Figure 1-B: Symptomatic level of activity in METS according to age and gender</a> , assess the symptomatic level of activity in METS according to age and gender. Figure 1-B may be used to assess conditions affecting left ventricular function (LVF) (including ischaemic heart disease, rheumatic heart disease, and hypertension).
<b>Step 2</b>	Using <a href="#">Table 1.1: Coronary artery disease</a> , refer to any one of pathology (column 3), drug therapy (column 4), or intervention (column 5), to identify the degree of impairment within the range of impairments for that symptomatic level of activity.

76 [Figure 1-B: Symptomatic level of activity in METS according to age and gender](#) may be used for the assessment of symptomatic impairment caused by ischaemic heart disease, hypertension, cardiomyopathy, or rheumatic heart disease.

**Figure 1-B: Symptomatic level of activity in METS according to age and gender**

Age and gender	Symptomatic level of activity in METS									
	1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	10+
18-30 M	D	D	D	C	C	B	B	B	A	A
18-30 F	D	D	C	C	B	B	A	A	A	
31-40 M	D	D	D	C	C	B	B	A	A	
31-40 F	D	D	C	B	B	B	A			
41-50 M	D	D	C	C	B	B	A	A		
41-50 F	D	D	C	B	B	A	A			
51-60 M	D	D	C	B	B	A	A	A		
51-60 F	D	D	C	B	B	A	A			
61-70 M	D	D	C	B	B	A	A			
61-70 F	D	D	B	B	A	A				
70+ M	D	C	B	B	A					
70+ F	D	C	B	A	A					

**Table 1.1: Coronary artery disease**

See notes to Table 1.1 for further details regarding abbreviations and symbols used in columns 3, 4 and 5.

Column 1 %WPI	Column 2 Level of activity in METS for age and gender	Column 3 Pathology	Column 4 Drug therapy	Column 5 Intervention
5	A	Not applicable	Not applicable	Not applicable
10	A	+	+	Not applicable
15	A	++	++	PTCA
20	A	+++	+++	CABG/Tx
25	B	+	+	Not applicable
30	B	++	++	PTCA
40	B	+++	+++	CABG/Tx
50	C	+	+	Not applicable

Column 1 %WPI	Column 2 Level of activity in METS for age and gender	Column 3 Pathology	Column 4 Drug therapy	Column 5 Intervention
60	C	++	++	PTCA
65	C	+++	+++	CABG/Tx
75	D	+	+	Not applicable
85	D	++	++	PTCA
95	D	+++	+++	CABG/Tx

#### Notes to Table 1.1

- In Table 1.1, 'not applicable' means the criterion is not applicable to the specified level of impairment.
- Pathology – column 3.
  - Coronary artery disease:
    - + either <50% stenosis in one or more coronary arteries, or single vessel disease >50% stenosis (except proximal left anterior descending (LAD) and left main coronary artery (LMCA)
    - ++ either >50% stenosis in two vessels, or >50% stenosis in proximal LAD, or <50% stenosis in LMCA
    - +++ either >50% stenosis in 3 vessels, or LMCA >50% stenosis, or severe diffuse end organ disease.
  - Ischaemic left ventricular dysfunction:
    - + left ventricular ejection fraction (LVEF) 40-50%
    - ++ LVEF 30-40%
    - +++ either LVEF <30%, or LV aneurysm.
  - Myocardial infarction (MI):
    - + no previous MI
    - ++ previous possible MI (equivocal changes in ECG/cardiac enzymes)
    - +++ previous definite MI (unequivocal changes in ECG/cardiac enzymes: typical evolution of ST/T segments, or development of significant Q waves, or enzyme rise >3 times upper limit of normal).
  - Arrhythmias:
    - Assessed under [Table 1.3: Arrhythmias](#).
- Drug therapy (continuous) – column 4:
  - + one or two drugs
  - ++ three or four drugs
  - +++ five or more drugs.
- Intervention – column 5:
  - 'PTCA' means percutaneous transluminal coronary angioplasty and/or stenting.
  - 'CABG' means coronary artery bypass grafting.
  - 'Tx' means heart transplant.

## 1.2 Hypertension

77 Either diastolic hypertension (see [Section 1.2.1](#)) or systolic hypertension (see [Section 1.2.2](#)) may be assessed, whichever provides the higher WPI rating.

### 1.2.1 Diastolic hypertension

78 Hypertensive cardiomyopathy can be assessed using the AMA5.

79 Functional class (assessed in accordance with [Figure 1-B: Symptomatic level of activity in METS according to age and gender](#)) is the primary criterion for assessment. Level of diastolic blood pressure (DBP) and therapy (see [Table 1.2.1: Diastolic hypertension](#)) are secondary criteria for assessment.

80 For assessment use either usual DBP, or therapy, for a given functional class, whichever provides the greater WPI rating. If DBP is consistently >120 on optimal therapy, one higher functional class may be assigned.

**Table 1.2.1: Diastolic hypertension**

See note to Table 1.2.1 for explanation of symbols used in the final column (drug therapy).

%WPI	Level of activity in METS for age and gender	Usual DBP	Drug therapy
5	A	>90	+
10	A	>100	++
15	A	>110	+++
20	B	>90	+
25	B	>100	++
30	B	>110	+++
35	C	>90	+
40	C	>100	++
45	C	>110	+++
50	D	>90	+
55	D	>100	++
60	D	>110	+++

#### Note to Table 1.2.1

5. Drug therapy (continuous) – final column of Table 1.2.1:

+ one drug

++ two drugs

+++ three or more drugs.

### 1.2.2 Systolic hypertension

81 Hypertensive cardiomyopathy can be assessed using the AMA5.

82 Functional class (assessed in accordance with [Figure 1-B: Symptomatic level of activity in METS according to age and gender](#)) is the primary criterion for assessment. Level of systolic blood pressure (SBP) and therapy (see [Table 1.2.2: Systolic hypertension](#)) are secondary criteria for assessment.

**Table 1.2.2: Systolic hypertension**

See note to Table 1.2.2 for explanation of symbols used in the final column (drug therapy).

%WPI	Symptomatic level of activity in METS for age and gender	Usual SBP	Drug therapy
5	A	>160	+
10	A	>160	++
15	A	>160	+++
20	B	>170	+
25	B	>170	++
30	B	>170	+++
35	C	>180	+
40	C	>180	++
45	C	>180	+++
50	D	>190	+
55	D	>190	++
60	D	>190	+++

**Note to Table 1.2.2**

1. Drug therapy (continuous) – final column of Table 1.2.2:

+ one drug

++ two drugs

+++ three or more drugs.

## 1.3 Arrhythmias

83 Underlying cardiac disease can be assessed using other tables in [Chapter 1 – The cardiovascular system](#).

84 Functional class (assessed under [Figure 1-C: Definitions of functional class](#)), and therapy (see [Table 1.3: Arrhythmias](#)), are used to assess the WPI rating.

**Figure 1-C: Definitions of functional class**

Functional class	Symptoms (all required)
I	No limitation of physical activity.
II	Slight limitation of physical activity. Comfortable at rest and with ordinary, light activities of daily living. Greater activity causes symptoms.
III	Marked limitation of physical activity. Comfortable at rest. Ordinary activity causes symptoms.
IV	Inability to carry out any physical activity without discomfort.

**Table 1.3: Arrhythmias**

See note to Table 1.3 for explanation of symbols used in the final column (therapy).

%WPI	Functional class	Therapy
5	I	Nil
10	I	Drug(s)
15	I	Surgery/cath/PPM/Device
20	II	Nil
30	II	Drug(s)
40	II	Surgery/cath/PPM/Device
45	III	Nil
50	III	Drug(s)
55	III	Surgery/cath/PPM/Device
60	IV	Not applicable

**Note to Table 1.3**

1. Therapy – final column of Table 1.3:

‘cath’ means either catheter ablation or catheter-associated therapy for arrhythmia.

‘PPM’ means permanent pacemaker.

‘Device’ means implanted defibrillator.

## 1.4 Peripheral vascular disease of the lower extremities

- 85 Amputees should not be assessed under [Table 1.4: Peripheral vascular disease of the lower extremities](#). They should be assessed under [Table 9.5: Lower extremity amputations](#) (see [Chapter 9 – The musculoskeletal system](#)).
- 86 A WPI rating from [Table 1.4: Peripheral vascular disease of the lower extremities](#) **may not be combined** with a WPI rating from [Table 13.4: Thrombotic disorders](#) (see [Chapter 13 – The haematopoietic system](#)).

**Table 1.4: Peripheral vascular disease of the lower extremities**

%WPI	Signs and symptoms
0	The employee experiences neither intermittent claudication nor ischaemic pain at rest.
5	The employee has no difficulty with distances but experiences ischaemic pain on climbing either steps or gradients.
10	The employee experiences claudication on walking 200m or more at an average pace on level ground.
20	The employee experiences claudication on walking more than 100m but less than 200m at average pace on level ground.
30	The employee experiences claudication on walking more than 75m but less than 100m at average pace on level ground.
40	The employee experiences claudication on walking more than 50m but less than 75m at average pace on level ground.
50	The employee experiences claudication on walking more than 25m but less than 50m at average pace on level ground.
60	The employee experiences claudication on walking less than 25m at average pace on level ground.
70	The employee experiences ischaemic pain at rest.

## 1.5 Peripheral vascular disease of the upper extremities

- 87 Amputees should not be assessed under [Table 1.5: Peripheral vascular disease of the upper extremities](#). They should be assessed under [Table 9.12.1: Upper extremity amputations](#) or [Table 9.12.2: Amputation of digits](#) (see [Chapter 9 – The musculoskeletal system](#)).
- 88 A WPI rating from [Table 1.5: Peripheral vascular disease of the upper extremities](#) **may not be combined** with a WPI rating from [Table 13.4: Thrombotic disorders](#) (see [Chapter 13 – The haematopoietic system](#)).

**Table 1.5: Peripheral vascular disease of the upper extremities**

%WPI	Symptoms	Signs
5	Either no claudication or transient oedema.	Calcification of arteries on X-ray.
10	Either no claudication or persistent oedema controlled by support.	Dilatation of either arteries or veins.
15	As above.	Either loss of pulse or healed ulcer or surgery.
20	Either claudication on strenuous exercise or persistent oedema uncontrolled by support.	Either calcification of arteries on X-ray or dilatation of either arteries or veins.
30	As above.	Superficial ulcer.
40	As above.	Either deep or widespread ulcer or surgery.
45	Claudication on mild-moderate exertion.	Either calcification of arteries on X-ray or dilatation of either arteries or veins.
50	As above.	Superficial ulcer.
55	As above.	Either deep or widespread ulcer or surgery.
60	Rest pain or unable to exercise.	Not applicable

## 1.6 Raynaud’s disease

- 89 Functional class (assessed in accordance with [Figure 1-C: Definitions of functional class](#)) is the primary criterion for assessment. Signs of vasospastic disease and therapy (see [Table 1.6: Raynaud’s disease](#)) are secondary criteria for assessment.

**Figure 1-C: Definitions of functional class**

See note to Figure 1-C for further information.

Functional class	Symptoms (all required)
I	No limitation of physical activity.
II	Slight limitation of physical activity. Comfortable at rest and with ordinary, light activities of daily living. Greater activity causes symptoms.
III	Marked limitation of physical activity. Comfortable at rest. Ordinary activity causes symptoms.
IV	Inability to carry out any physical activity without discomfort.

### Note to Figure 1-C

- Figure 1-C also appears in [Section 1.3 \(Arrhythmias\)](#). It is repeated here for ease of reference

**Table 1.6: Raynaud’s disease**

See note to Table 1.6 for further information.

%WPI	Functional class	Signs	Therapy
5	I	Nil.	Nil.
10	I	Nil.	Drug(s).
15	I	Nil.	Surgery.
20	II	Neither ulceration nor trophic changes.	Drug(s).
25	II	Either ulceration or trophic changes.	Drug(s).
30	II	Not applicable	Surgery.
35	III	Neither ulceration nor trophic changes.	Drug(s).
40	III	Either ulceration or trophic changes.	Drug(s).
45	III	Not applicable	Surgery.
50	IV	Not applicable	Not applicable

**Note to Table 1.6**

1. Therapy – final column of Table 1.6:

‘Surgery’ includes sympathectomy and local debridement.

‘Drug(s)’ means continuous therapy with one or more drugs.



# CHAPTER 2 – THE RESPIRATORY SYSTEM

## 2.0 Introduction

- 90 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 91 The measure of impairment is the reduction in physiological function below that found in health.
- 92 Respiratory impairment is quantified by the degree to which measurements of respiratory function are changed by the compensable injury or injuries, relative to values obtained in a healthy reference population of similar individuals.
- 93 Conditions such as chronic obstructive airways disease and chronic bronchitis are to be assessed according to the methods used to measure loss of respiratory function.
- 94 Employees who have permanent respiratory limitation secondary to massive pulmonary embolism should be assessed under [Chapter 2 – The respiratory system](#). Any WPI rating awarded in these circumstances **may not be combined** with a WPI rating from [Table 13.4: Thrombotic disorders](#) (see [Chapter 13 – The haematopoietic system](#)).

## 2.1 Assessing impairment of respiratory function

### 2.1.1 Measurements

- 95 The most commonly recommended measurements for determining respiratory impairment are:
- a) spirometry with measurement of the forced expiratory volume at 1 second (FEV<sub>1</sub>) and forced vital capacity (FVC); and
  - b) the transfer factor, or diffusing capacity of the lung, for carbon monoxide (TICO), measured by the single breath method.
- 96 However, the measurements used must be derived from either:
- a) the tests prescribed below where relevant (for example, in assessing asthma); or
  - b) where a test is not prescribed, from tests appropriate to assessing the impairments caused by the particular compensable condition or conditions.
- 97 Other measurements commonly used to assess impairment include:
- a) the lung volumes;
  - b) total lung capacity (TLC) and residual volume (RV); and
  - c) the response to a maximum exercise test including measurement of the oxygen consumption at the maximum workload able to be achieved (VO<sub>2</sub> max), and the degree of arterial oxygen desaturation during exercise.
- 98 On occasion, other measurements may be needed to define impairment accurately. For example:
- a) the elastic and flow resistive properties of the lungs;
  - b) respiratory muscle strength;
  - c) arterial blood gases;
  - d) polysomnography (sleep studies);
  - e) echocardiography with estimation of pulmonary artery pressure; and
  - f) quantitative ventilation-perfusion scans of the lung.

- 99 Measurement of the partial pressures of oxygen and carbon dioxide in arterial blood (PaO<sub>2</sub> and PaCO<sub>2</sub> respectively) are not usually required to assign impairment ratings accurately. However, individual variation may result in severe impairment in gas exchange when other measures of function indicate only moderate impairment. Arterial PaO<sub>2</sub> of <55mm Hg and/or PaCO<sub>2</sub> >50mm Hg, despite optimal treatment, is evidence of severe impairment and attracts a WPI rating of 70%.
- 100 Measurements of arterial blood gases should be performed on two occasions, with the employee seated.

### 2.1.2 Methods of measurement

- 101 Measurements must be performed in a manner consistent with the methods used by a respiratory function laboratory accredited by one or more of the following bodies:
- the Thoracic Society of Australia and New Zealand;
  - the Australasian Sleep Association; or
  - the Australian Council on Healthcare Standards.
- 102 Methods of measurement should conform to internationally recognised standards in relation to the equipment used, the procedure, and analysis of the data. Reference values ('predicted' normal values) should be representative of the healthy population and be appropriate for ethnicity where possible. Laboratories providing measurements used to assess impairment should state the method(s) of measurement used, and the source of the reference values used.

### 2.1.3 Impairment rating

- 103 Several professional groups have published criteria for rating the severity of impairment based on spirometry, gas transfer and VO<sub>2</sub> max. These professional groups include the Thoracic Society of Australia and New Zealand (Abramson, 1996), the American Thoracic Society (American Thoracic Society Ad Hoc Committee on Impairment/Disability Criteria, 1986), and the American Medical Association (2001). In general, measurements are expressed as a percentage of the predicted value (%P) and, where several measurements are performed, the most abnormal result is used to classify the degree of impairment.
- 104 Severity of impairment is rated as shown in [Table 2.1: Conversion of respiratory function values to impairment](#). This generic table can be used to assign WPI ratings using any valid measurement for which there are predicted normal data.

**Table 2.1: Conversion of respiratory function values to impairment**

See note to Table 2.1 for further information.

%WPI	Respiratory function %P
0	>85
10	85 to 76
20	75 to 66
30	65 to 56
40	55 to 51
50	50 to 44
60	45 to 41
70	40 to 36
80	≤35

**Note to Table 2.1**

- %P = percentage of mean value for healthy individuals of the same age, height and sex.

## 2.2 Asthma and other hyper-reactive airways diseases

- 105 Assessment of impairment due to asthma can be confounded by the natural history of occupational asthma, by variably severe airflow obstruction, and therefore variable FEV<sub>1</sub>, and by response to treatment.
- 106 For hyper-reactivity of airways due to occupational exposures, assessment of impairment is made after:
- the diagnosis and cause are established;
  - exposure to the provoking factors is eliminated; and
  - appropriate treatment of asthma is implemented.
- 107 Appropriate treatment follows the guidelines in the *Asthma Management Handbook 2002* (National Asthma Council, 2002, 5th edition, Melbourne: National Asthma Council of Australia), a later edition of those guidelines, or later guidelines widely accepted by the medical profession as representing best practice.
- 108 Permanent impairment should not be assessed until 2 years after cessation of exposure to provoking factors as severity may decrease during this period.
- 109 An impairment rating scale is set out in [Figure 2-A: Calculating asthma impairment score](#) and [Table 2.2: WPI derived from asthma impairment score](#). The scale used in Figure 2-A and Table 2.2 is modified to account for frequency of increased impairment from asthma despite optimal treatment.
- 110 A score reflecting impairment from asthma is calculated by:
- adding** the points scored for reduction in FEV<sub>1</sub> %P;  
**and either**
    - change in FEV<sub>1</sub> with bronchodilator (reversibility);  
**or**
    - degree of bronchial hyperreactivity defined by the cumulative dose of metacholine, or histamine, required to decrease baseline FEV<sub>1</sub> by at least 20%;**and**
  - measurement of FEV<sub>1</sub>, or peak flow (PF) rate, measured by the employee morning and evening, before and after aerosol bronchodilator, for at least 30 days.
- 111 The number of days on which any valid measurement of FEV<sub>1</sub> or PF is less than 0.85 x the mean of the six highest values of FEV<sub>1</sub> or PF during the monitoring period is to be expressed as a percentage of total days in the monitoring period.
- 112 The **maximum** impairment score from [Figure 2-A: Calculating asthma impairment score](#) is 11. One additional point is given, yielding a score of 12, if asthma cannot be controlled adequately with maximal treatment. The score from Figure 2-A is converted to a WPI rating using [Table 2.2: WPI derived from asthma impairment score](#).

### Figure 2-A: Calculating asthma impairment score

See notes to Figure 2-A for further information.

Score	FEV <sub>1</sub> % P after bronchodilator	ΔFEV <sub>1</sub> % change in FEV <sub>1</sub> with bronchodilator	PD <sub>20</sub> or μmol	% of days lowest FEV <sub>1</sub> * is ≤0.85 highest FEV <sub>1</sub>
0	>85	<10	>4.0	<6
1	76 to 85	10 to 19	0.26 to 4.0	6 to 24
2	66 to 75	20 to 29	0.063 to 0.25	25 to 34
3	56 to 65	≥30	≤ 0.062	35 to 44

4	≤55		≥45
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#### Notes to Figure 2-A

1. Figure 2-A is based on scales proposed by: the American Thoracic Society (1993), as adapted in Tables 5-9 and 5-10 of the AMA5; and the Thoracic Society of Australia and New Zealand (Abramson, 1996).
2. %P = percent predicted normal value.
3. PD<sub>20</sub> = cumulative dose of inhaled metacholine aerosol causing a 20% decrease in FEV<sub>1</sub>.
4. \* monitored twice daily before and after aerosol bronchodilator for at least 30 days during adequate treatment.
5. % of days = proportion of days any value of FEV<sub>1</sub> (or of peak flow rate) is less than highest repeatable FEV<sub>1</sub> (or peak flow rate) x 0.85.

**Table 2.2: WPI derived from asthma impairment score**

%WPI	Asthma impairment score
0	0
10	1
20	2
30	3
40	4
45	5
50	6
55	7
60	8
65	9
70	10
75	11
80	12

## 2.3 Lung cancer and mesothelioma

- 113 Employees with lung cancers (other than mesothelioma) are considered severely impaired at the time of diagnosis and are given a WPI rating of 70%.
- 114 If there is evidence of tumour, or if tumour recurs one year after diagnosis is established, then the employee remains severely impaired and the WPI rating is increased to 80%.
- 115 Employees with mesothelioma are considered severely impaired and a WPI rating of 85% is awarded upon diagnosis.

## 2.4 Breathing disorders associated with sleep

- 116 Some disorders such as obstructive sleep apnoea, central sleep apnoea, and hypoventilation during sleep, can cause impairment which is not quantifiable by standard measurements of respiratory function such as spirometry, diffusing capacity, or response to exercise.
- 117 Obstructive sleep apnoea should be assessed using [Table 2.4: WPI derived from obstructive sleep apnoea score](#). Central sleep apnoea should be assessed using [Table 12.1.3: Sleep and arousal disorders](#) (see [Chapter 12 –The neurological system](#)).
- 118 An overnight sleep study is used to define the severity of sleep-related disorders of breathing and can be used to define impairment after appropriate treatment has been implemented. During the overnight sleep study there is continuous

monitoring of breathing pattern, respiratory effort, arterial oxygen saturation, electrocardiogram, and sleep state. Results of sleep studies cannot readily be expressed in terms of a percentage of predicted values. Consequently, impairment is rated by assigning scores to the degree of abnormality at sleep study ([Figure 2-B: Calculating obstructive sleep apnoea score](#) and [Table 2.4: WPI derived from obstructive sleep apnoea score](#)). These ratings are based on frequency of disordered breathing, frequency of sleep disturbance, degree of hypoxaemia and, as appropriate, hypercapnoea during sleep. In addition, degree of daytime sleepiness is assessed using the Epworth sleepiness scale (Johns, 1991).

- 119 Where vascular morbidity is present (for example, high blood pressure or myocardial infarction) and is attributable to sleep apnoea, impairment should be assessed using the relevant table in [Chapter 1 – The cardiovascular system](#).
- 120 The total score derived from [Figure 2-B: Calculating obstructive sleep apnoea score](#) is the sum of the scores from each column: the **maximum** score is 12. This score is converted to a WPI rating using [Table 2.4: WPI derived from obstructive sleep apnoea score](#).

**Figure 2-B: Calculating obstructive sleep apnoea score**

See notes Figure 2-B for further information.

Score	Epworth sleepiness score	Apnoeas + hypopnoeas/hr of sleep	Respiratory arousals* /hr of sleep	Cumulative sleep time, mins, with SaO <sub>2</sub> <90% #
0	<5	<5	<5	0
1	5 to 10	5 to 15	5 to 15	<15
2	11 to 17	16 to 30	16 to 30	15 to 45
3	>17	>30	>30	>45

**Notes to Figure 2-B**

- \* An arousal within 3 seconds of a sequence of breaths which meet the criteria for an apnoea, an hypopnoea, or a respiratory effort related arousal, as defined by the American Academy of Sleep Medicine (1999).
- # SaO<sub>2</sub> = arterial oxygen saturation measured with a pulse oximeter.

**Table 2.4: WPI derived from obstructive sleep apnoea score**

%WPI	Sleep apnoea score
0	0
10	1
20	2
30	3
40	4
45	5
50	6
55	7
60	8
65	9
70	10
75	11
80	12

# CHAPTER 3 – THE ENDOCRINE SYSTEM

## 3.0 Introduction

- 121 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 122 The impairment resulting from an endocrine system condition (such as peripheral neuropathy, or peripheral vascular disease) must also be assessed under the relevant tables in other chapters, including tables in [Chapter 10 – The urinary system](#).
- 123 In this circumstance, using the combined values chart (see [Appendix 1](#)), WPI ratings derived from the relevant tables in other chapters are **combined** with WPI ratings from tables in [Chapter 3 – The endocrine system](#).

## 3.1 Thyroid and parathyroid glands

- 124 Hyperthyroidism is not considered to cause permanent impairment because the condition is usually amenable to treatment. Where visual and/or cosmetic effects resulting from exophthalmos persist following correction of the hyperthyroidism, a WPI rating may be derived from:
  - a) [Chapter 4 – Disfigurement and skin disorders](#); and
  - b) [Chapter 6 – The visual system](#) (see [Section 6.5 \(Other conditions causing permanent deformities causing up to 10% of the whole person\)](#)).
- 125 Hyperparathyroidism is usually amenable to correction by surgery. If surgery fails, or the employee cannot undergo surgery for sound medical reasons, long-term therapy may be needed. If so, permanent impairment can be assessed after stabilisation of the condition with medication, in accordance with the criteria in [Table 3.1: Thyroid and parathyroid glands](#).
- 126 Where an employee has more than one of the conditions in [Table 3.1: Thyroid and parathyroid glands](#), **combine** the WPI ratings using the combined values chart (see [Appendix 1](#)).
- 127 Permanent secondary impairment resulting from persistent hyperparathyroidism (such as renal calculi or renal failure) should be assessed under the relevant system (for example, [Chapter 10 – The urinary system](#)).

**Table 3.1: Thyroid and parathyroid glands**

See note to Table 3.1 for further information.

%WPI	Criteria
<b>0</b>	Hyperparathyroidism – symptoms and signs readily controlled by medication or other treatment such as surgery. <b>or</b> Hypoparathyroidism – symptoms and signs readily controlled by medication. <b>or</b> Hypothyroidism adequately controlled by replacement therapy.
<b>10–15</b>	Hypothyroidism where the presence of a disease in another body system prevents adequate replacement therapy. <b>or</b> Hyperparathyroidism – persisting mild hypercalcaemia, despite medication. <b>or</b> Hypoparathyroidism – symptoms and signs such as intermittent hyper or hypocalcaemia not readily controlled by medication.

%WPI	Criteria
30	Hyperparathyroidism – persisting severe hypercalcaemia with serum calcium above 3.0mmol/l, despite medication.

**Note to Table 3.1**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 3.2 Adrenal cortex and medulla

- 128 Where Cushing’s syndrome is present, [Table 3.2: Adrenal cortex and medulla](#) should be used to evaluate impairment from the general effects of hypersecretion of adrenal steroids (for example, myopathy, easy bruising, and obesity).
- 129 Using the combined values chart (see [Appendix 1](#)), WPI ratings derived from [Table 3.2: Adrenal cortex and medulla](#) may be **combined** with WPI ratings for specific associated secondary impairments (for example, fractures or diabetes mellitus).

**Table 3.2: Adrenal cortex and medulla**

%WPI	Criteria
0	Cushing’s syndrome – surgically corrected by removal of adrenal adenoma or removal of the source of ectopic ACTH secretion. <b>or</b> Pheochromocytoma – benign tumour, surgically removed or removable where hypertension has not led to the development of permanent cardiovascular disease.
5	Hypoadrenalism – symptoms and signs readily controlled with replacement therapy. <b>or</b> Cushing’s syndrome due to moderate doses of glucocorticoids (for example, less than equivalent of 15mg of prednisolone per day) where glucocorticoids will be required long-term.
10	Cushing’s syndrome – surgically corrected by removal of pituitary adenoma or adrenal carcinoma.
15	Cushing’s syndrome – due to: <ul style="list-style-type: none"> <li>• bilateral adrenal hyperplasia treated by adrenalectomy; <b>or</b></li> <li>• large doses of glucocorticoids (for example, equivalent of at least 15mg of prednisolone per day) where glucocorticoids will be required long-term; <b>or</b></li> <li>• inadequate removal of source of ectopic ACTH secretion.</li> </ul> <b>or</b> Pheochromocytoma – malignant tumour where signs and symptoms of catecholamine excess can be controlled by blocking agents. <b>or</b> Hypoadrenalism – recurrent episodes of adrenal crisis during acute illness or in response to significant stress.
70	Pheochromocytoma – metastatic malignant tumour where signs and symptoms of catecholamine excess cannot be controlled by blocking agents or other treatment.

## 3.3 Pancreas (diabetes mellitus)

- 130 Where diabetic retinopathy has led to visual impairment, the visual impairment should be assessed using [Chapter 6 – The visual system](#).
- 131 Where diabetes has led to secondary impairment of renal function, that impairment should be assessed using [Chapter 10 – The urinary system](#).

- 132 Using the combined values chart (see [Appendix 1](#)), WPI ratings derived under [Table 3.1: Thyroid and parathyroid glands](#) and [Table 3.2: Adrenal cortex and medulla](#) may be **combined** with WPI ratings from [Table 3.3: Pancreas \(diabetes mellitus\)](#).
- 133 Microangiopathy may be manifest as retinopathy (background, proliferative, or maculopathy) and/or albuminuria measured with a timed specimen of urine. Where there is an overnight collection, the upper limit of normal is 20µg/minute. Where a 24 hour specimen is collected, the upper limit of normal is 30mg/day. Albuminuria must be documented in at least two out of three consecutive urine specimens collected.

**Table 3.3: Pancreas (diabetes mellitus)**

See notes to Table 3.3 for further information.

%WPI	Type	Therapy	Microvascular complications
5	Type 2	Dietary restrictions with or without oral hypoglycaemic agents give satisfactory control.	Microangiopathy is not present.
10	Type 2	Dietary restrictions with or without oral hypoglycaemic agents give satisfactory control.	Microangiopathy and/or significant neuropathy are present.
15	Type 1	Dietary restrictions and insulin give satisfactory control.	Microangiopathy is not present.
20	Type 1 Type 2	Dietary restrictions and insulin give satisfactory control. Type 2 where dietary restrictions and insulin and/or oral hypoglycaemic agents give satisfactory control.	Microangiopathy and/or significant neuropathy are present.
25	Type 1	Dietary restrictions and insulin do not give satisfactory control and frequent episodes of severe hypoglycaemia requiring the assistance of another person have been documented.	Microangiopathy is not present.
30	Type 1	Dietary restrictions and insulin do not give satisfactory control and frequent episodes of severe hypoglycaemia requiring the assistance of another person have been documented.	Microangiopathy is present.
40	Type 1	Dietary restrictions and insulin do not give satisfactory control and frequent episodes of severe hypoglycaemia requiring the assistance of another person have been documented.	Microangiopathy is present as well as significant neuropathy.
50		Symptomatic hypoglycaemia due to metastatic tumour (usually insulinoma), uncontrolled by medication (such as diazoxide).	

**Notes to Table 3.3**

- For the purposes of Table 3.3, the degree of control is defined by reference to the glycated haemoglobin measurement (HbA1c) where:
  - 4%-6% is the non-diabetic range; and
  - <8% is indicative of satisfactory control for the purposes of this table.
- ‘Significant neuropathy’ means persistent symptoms of peripheral or autonomic neuropathy which interfere with quality of life to a considerable degree.
- ‘Type 2’ means non-insulin dependent diabetes mellitus.
- ‘Type 1’ means insulin dependent diabetes mellitus and other forms of diabetes requiring insulin, such as Cystic Fibrosis related diabetes and Type 3c diabetes.



### 3.4 Gonads and mammary glands

- 134 Impairments resulting from inability to reproduce, and other impairments associated with gonadal dysfunction, are assessed under [Chapter 11 – The reproductive system](#).
- 135 Loss of one or both breasts in females should also be assessed using [Table 4.3: Bodily disfigurement](#) (see [Chapter 4 – Disfigurement and skin disorders](#)). Using the combined values chart (see [Appendix 1](#)), a WPI rating derived from Table 4.3 may be **combined** with a WPI rating derived from [Table 3.4: Gonads and mammary glands](#).

**Table 3.4: Gonads and mammary glands**

%WPI	Criteria
0	Diminished or absent level of gonadal hormones in either sex. <b>or</b> Abnormally high level of gonadal hormones in either sex.
5	Loss of one or both breasts in male. <b>or</b> Loss of whole or part of one breast in female. <b>or</b> Gynaecomastia in male where pain interferes with everyday activities – not controlled by medication.
10	Loss of whole or part of both breasts in female.

# CHAPTER 4 – DISFIGUREMENT AND SKIN DISORDERS

## 4.0 Introduction

- 136 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 137 Impairments assessed under [Chapter 4 – Disfigurement and skin disorders](#) include those resulting from an endocrine system condition. A WPI rating from a table in [Chapter 3 – The endocrine system](#) may be **combined** with WPI ratings assessed under Chapter 4.
- 138 Loss of one or both breasts in females should be assessed under **both**:
- [Table 3.4: Gonads and mammary glands](#) (see [Chapter 3 – The endocrine system](#)); **and**
  - [Table 4.3: Bodily disfigurement](#);
- and the resulting WPI ratings **combined**.
- 139 In cases where two or three of [Table 4.1: Skin disorders](#), [Table 4.2: Facial disfigurement](#) and [Table 4.3: Bodily disfigurement](#) apply to the injury resulting in impairment, WPI ratings from each table may be **combined** using the combined values chart (see [Appendix 1](#)).
- 140 WPI ratings awarded under [Table 4.2: Facial disfigurement](#) **may not be combined** with WPI ratings arising under [Section 6.4 \(Other ocular abnormalities\)](#) or [Section 6.5 \(Other conditions causing permanent deformities causing up to 10% impairment of the whole person\)](#) (see [Chapter 6 – The visual system](#))

## 4.1 Skin disorders

- 141 For the purposes of [Table 4.1: Skin disorders](#):
- ‘intermittent treatment’ means a course of treatment leading to a break, treatment alternately ceasing and beginning again;
  - ‘constant treatment’ means treatment that continues on a regular basis without interruption; and
  - ‘complex treatment’ means treatment that requires regular and close supervision, usually by a dermatologist. Such supervision could involve regular blood tests and relevant regular physical examinations, such as blood pressure measurement. Complex treatments would be expected to have potential adverse side effects. Categories of drugs forming a part of, or the whole of, complex treatment would include high doses of systemic corticosteroids, or immunosuppressive medications such as azathioprine, methotrexate and cyclosporin. Phototherapy, photochemotherapy, or photophoresis, would also be considered complex treatments.
- 142 Column 4 in [Table 4.1: Skin disorders](#) is referenced to [Figure 4-A: Activities of daily living](#).

**Table 4.1: Skin disorders**

%WPI	Signs and symptoms	Requirement for treatment	Column 4 Activities of daily living affected
0	Absent	None, intermittent	up to 2
5	Absent	Constant	up to 2
5	Intermittent	Intermittent or constant	up to 2
10	Present on a daily basis for periods aggregating 3 or more months per year, but less than 6 months per year.	Intermittent or constant	1 or more

%WPI	Signs and symptoms	Requirement for treatment	Column 4 Activities of daily living affected
15	Present on a daily basis for period aggregating 6 or more months per year, but less than 9 months per year.	Intermittent or constant	1 or more
20	Present on a daily basis for periods aggregating 9 months per year or more.	Intermittent or constant	1 or more
25	Present on a daily basis for periods aggregating 9 months per year or more.	Constant	4 or more
30	Present on a daily basis for period aggregating 9 months per year or more.	Constant and complex	6 or more

**Figure 4-A: Activities of daily living**

See Column 4 in Table 4.1.

%WPI	Activities	Examples
1	Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
2	Communication	Hearing, speaking, reading, writing, using keyboard.
3	Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
4	Sensory function	Tactile feeling.
5	Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
6	Travel	Driving or travelling as a passenger.
7	Sexual function	Participating in desired sexual activity.
8	Sleep	Having a restful sleep pattern.
9	Social and recreational	Participating in individual or group activities, sports activities, hobbies.

## 4.2 Facial disfigurement

**Table 4.2: Facial disfigurement**

%WPI	Criteria
0	No structural changes. Normal facial appearance. Hyperpigmentation, depigmentation, redness or telangiectasis occupying less than 10% of facial area (excluding actinic damage). Scarring that does not significantly alter the appearance of the face.
5	Hyperpigmentation, depigmentation, redness or telangiectasis occupying 10% or more of the facial area (excluding actinic damage). <b>or</b> Scars and/or skin grafts occupying less than 5% of facial area that significantly alter the appearance of the face. <b>or</b> Depressed cheek, nasal or frontal bones. <b>or</b> Total or partial loss of one external ear.

<b>%WPI</b>	<b>Criteria</b>
<b>10</b>	Scars and/or skin grafts occupying 5-15% of facial area that significantly alter the appearance of the face. <b>or</b> Total or partial loss of both external ears. <b>or</b> Loss of less than 50% of the nose.
<b>15</b>	Scars and/or skin grafts occupying 15-25% of facial area that significantly alter the appearance of the face. <b>or</b> Loss of 50-75% of the nose.
<b>20</b>	Scars and/or skin grafts occupying more than 25% of facial area that significantly alter the appearance of the face. <b>or</b> Loss of more than 75% of the nose.

### 4.3 Bodily disfigurement

**Table 4.3: Bodily disfigurement**

<b>%WPI</b>	<b>Criteria</b>
<b>0</b>	Normal body appearance. Scars and/or skin grafts occupying less than 10% of body area.
<b>5</b>	Scars and/or skin grafts occupying 11% to 20% of body surface.
<b>10</b>	Scars and/or skin grafts occupying 21% to 40% of body area. <b>or</b> Tissue loss causing noticeable unilateral alteration of body silhouette.
<b>15</b>	Scars and/or skin grafts occupying 41% to 60% of body area.
<b>20</b>	Scars and/or skin grafts occupying 61% to 80% of body area. <b>or</b> Tissue loss causing noticeable bilateral alteration of body silhouette.
<b>25</b>	Scars and/or skin grafts occupying more than 80% of body surface area.

# CHAPTER 5 – PSYCHIATRIC CONDITIONS

## 5.0 Introduction

- 143 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 144 For the purposes of [Chapter 5 – Psychiatric conditions](#), activities of daily living are those in [Figure 5-A](#). The examples provided below are not exhaustive and should not be seen as a substitute for assessor discretion when making decisions about impairment ratings.

**Figure 5-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

## 5.1 Psychiatric conditions

**Table 5.1: Psychiatric conditions**

See notes to Table 5.1 for further information.

%WPI	Description of level of impairment
0	Reactions to stresses of daily living <b>without</b> loss of personal or social efficiency. <b>and</b> Capable of performing activities of daily living without supervision or assistance.
5	Despite the presence of <b>one</b> of the following employee is capable of performing activities of daily living without supervision or assistance: <ul style="list-style-type: none"> <li>• reactions to stresses of daily living with minor loss of personal or social efficiency</li> <li>• lack of conscience directed behaviour without harm to community or self</li> <li>• minor distortions of thinking.</li> </ul>
10	Despite the presence of <b>more than one</b> of the following employee is capable of performing activities of daily living without supervision or assistance: <ul style="list-style-type: none"> <li>• reactions to stresses of daily living with minor loss of personal or social efficiency</li> <li>• lack of conscience directed behaviour without harm to community or self</li> <li>• minor distortions of thinking.</li> </ul>

%WPI	Description of level of impairment
15	<p><b>Any one</b> of the following accompanied by a need for some supervision and direction in activities of daily living:</p> <ul style="list-style-type: none"> <li>• reactions to stresses of daily living which cause modification to daily living patterns</li> <li>• marked disturbances in thinking</li> <li>• definite disturbance in behaviour.</li> </ul>
20	<p><b>Any two</b> of the following accompanied by a need for some supervision and direction in activities of daily living:</p> <ul style="list-style-type: none"> <li>• reactions to stresses of daily living which cause modification of daily living patterns</li> <li>• marked disturbance in thinking</li> <li>• definite disturbance in behaviour.</li> </ul>
25	<p><b>All</b> of the following accompanied by a need for some supervision and direction in activities of daily living:</p> <ul style="list-style-type: none"> <li>• reactions to stresses of daily living which cause modification of daily living patterns</li> <li>• marked disturbances in thinking</li> <li>• definite disturbances in behaviour.</li> </ul>
30	<p><b>Any one</b> of the following accompanied by a need for supervision and direction in activities of daily living:</p> <ul style="list-style-type: none"> <li>• hospital discharges who require daily medication or regular therapy to avoid readmission</li> <li>• loss of self-control and/or inability to learn from experience resulting in potential for considerable damage to self or community.</li> </ul>
40	<p><b>More than one</b> of the following accompanied by a need for supervision and direction in activities of daily living:</p> <ul style="list-style-type: none"> <li>• hospital discharges who require daily medication or regular therapy to avoid readmission</li> <li>• loss of self-control and/or inability to learn from experience resulting in potential for considerable damage to self or community.</li> </ul>
50	<p><b>One</b> of the following:</p> <ul style="list-style-type: none"> <li>• severe disturbances of thinking and/or behaviour entailing potential or actual harm to self and/or others</li> <li>• need for supervision and direction in a confined environment.</li> </ul>
60	<p><b>Both</b> of the following:</p> <ul style="list-style-type: none"> <li>• severe disturbances of thinking and/or behaviour which entail potential or actual harm to self and/or others</li> <li>• need for supervision and direction in a confined environment.</li> </ul>
90	<p>Very severe disturbance in all aspects of thinking and behaviour requiring constant supervision and care in a confined environment, and assistance with all activities of daily living</p>

#### Notes to Table 5.1

1. Table 5.1 includes psychoses, neuroses, personality disorders and other diagnosable conditions. The assessment should be made on optimum medication at a stage where the condition is reasonably stable.
2. 'Supervision' means the immediate presence of a suitable person, responsible in whole or in part for the care of the employee.
3. 'Assistance' means the provision of assistance to the employee in performing the activities of daily living by a suitable person, responsible in whole or in part for the care of the employee.
4. 'Direction' means the provision of direction to the employee by a suitably qualified person, responsible in whole or in part for the care of the employee.
5. 'Suitable person' means a person capable of responsibly caring for the employee in an appropriate way.
6. 'Suitably qualified person' means a person with the necessary qualifications, experience and skills to provide appropriate direction to the employee. Such persons include medical practitioners, nursing staff and clinical psychologists.

# CHAPTER 6 – THE VISUAL SYSTEM

## 6.0 Introduction

- 145 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 146 [Chapter 6 – The visual system](#) is based on the AMA4 and provides a standard method for examining the visual system, and for calculating the extent of any visual impairment. Impairment is any loss or abnormality in the anatomy or function of the visual system. The visual system includes the eyes, the ocular adnexa, and the visual pathways.
- 147 All visual tests are standardised and impairment assessment follows a strict protocol in order to ensure that different ophthalmologists can closely reproduce results. Wherever possible, impairment assessment should be performed by an ophthalmologist.
- 148 Visual impairment exists when there is deviation from any of the normal functions of the eye.
- 149 Among the types of visual impairment listed below, the first three (Sections 6.1 to 6.3) contribute the most to the overall impairment:
- a) [Section 6.1 \(Central visual acuity\)](#);
  - b) [Section 6.2 \(Determining loss of monocular visual field\)](#);
  - c) [Section 6.3 \(Abnormal ocular motility and binocular diplopia\)](#);
  - d) [Section 6.4 \(Other ocular abnormalities\)](#);
  - e) [Section 6.5 \(Other conditions causing permanent deformities causing up to 10% impairment of the whole person\)](#).
- 150 Impairments assessed under [Chapter 6 – The visual system](#) include those resulting from an endocrine system condition. An impairment assessed under [Chapter 3 – The endocrine system](#) may be **combined** with those assessed under Chapter 6.
- 151 WPI ratings from [Table 4.2: Facial disfigurement](#) (see [Chapter 4 – Disfigurement and skin disorders](#)), **may not be combined** with WPI ratings arising from either:
- a) [Section 6.4 \(Other ocular abnormalities\)](#); or
  - b) [Section 6.5 \(Other conditions causing permanent deformities causing up to 10% impairment of the whole person\)](#).
- 152 Facial nerve injury complicated by visual changes, such as occurs with corneal desiccation and scarring, rates as a significant impairment. Such an impairment is assessed under [Chapter 6 – The visual system](#) and a resulting WPI rating may be **combined** with a WPI rating from [Table 12.5.4: The facial nerve \(VII\)](#) (see [Chapter 12 – The neurological system](#)).

### Steps in determining whole person impairment

- 153 See [Figure 6-A](#) for steps in deriving a visual system impairment rating. Use [Table 6.1: Conversion of the visual system to WPI rating](#) to convert a visual system impairment rating to a WPI rating.

**Figure 6-A: Steps for calculating impairment of the visual system**

<b>Step 1</b>	Assess and record the percentage loss of central vision for each eye separately, combining the losses of near and distance vision. Refer to <a href="#">Figure 6-C: Percentage loss of central vision in one eye</a> .
<b>Step 2</b>	Assess and record the percentage loss of visual fields for each eye separately (monocular) or for both eyes together (binocular).
<b>Step 3</b>	Using the combined values chart (see <a href="#">Appendix 1</a> ), <b>combine</b> the results from Step 1 and Step 2 for each eye if any central vision and visual field impairment is present.

<b>Step 4</b>	Assess and record the percentage loss of ocular motility.
<b>Step 5</b>	Using the combined values chart (see <a href="#">Appendix 1</a> ), <b>combine</b> the result of Step 3 with Step 4 if there is any ocular motility impairment.
<b>Step 6</b>	Assess and record the percentage loss if other ocular impairments are present.
<b>Step 7</b>	Using the combined values chart (see <a href="#">Appendix 1</a> ), <b>combine</b> the result of Step 5 with Step 6 if any other ocular impairment is present.
<b>Step 8</b>	Assess the visual impairment for both eyes. The visual impairment for both eyes is calculated by the formula: $\frac{(3 \times (\text{impairment of better eye}) + (\text{impairment of worse eye}))}{4} = \text{visual system impairment}$ Alternatively use <a href="#">Figure 6-F: Calculation of visual system impairment for both eyes</a> .
<b>Step 9</b>	Convert the visual impairment for both eyes to a WPI rating using <a href="#">Table 6.1: Conversion of the visual system to WPI rating</a> .
<b>Step 10</b>	Using the combined values chart (see <a href="#">Appendix 1</a> ), <b>combine</b> the result of Step 9 with any impairment (up to 10% <b>maximum</b> ) arising from other conditions causing permanent deformities (see <a href="#">Section 6.5 (Other conditions causing permanent deformities causing up to 10% impairment of the whole person)</a> ).

**Table 6.1: Conversion of the visual system to WPI rating**

Source: AMA4 (Table 6, Chapter 8, page 218).

Visual system	%WPI	Visual system	%WPI	Visual system	%WPI	Visual system	%WPI
0	0						
1	1	26	25	51	48	76	72
2	2	27	25	52	49	77	73
3	3	28	26	53	50	78	74
4	4	29	27	54	51	79	75
5	5	30	28	55	52	80	76
6	6	31	29	56	53	81	76
7	7	32	30	57	54	82	77
8	8	33	31	58	55	83	78
9	8	34	32	59	56	84	79
10	9	35	33	60	57	85	80
11	10	36	34	61	58	86	81
12	11	37	35	62	59	87	82
13	12	38	36	63	59	88	83
14	13	39	37	64	60	89	84
15	14	40	38	65	61	90	85
16	15	41	39	66	62	91	85
17	16	42	40	67	63	92	85
18	17	43	41	68	64	93	85
19	18	44	42	69	65	94	85
20	19	45	42	70	66	95	85
21	20	46	43	71	67	96	85
22	21	47	44	72	68	97	85
23	22	48	45	73	69	98	85
24	23	49	46	74	70	99	85
25	24	50	47	75	71	100	85



## 6.1 Central visual acuity

- 154 A Snellen test chart is used to measure the distance of visual acuity. The test distance is six metres.
- 155 The near vision is measured using a LogMar reading card. If Near Snellen, Jaeger, Sloan or Roman reading cards are used the results need to be converted to LogMar (see [Figure 6-B: Revised LogMar equivalent for different reading cards](#)). The distance in the near reading test is not fixed: the reading distance should be recorded by the ophthalmologist.
- 156 Central vision should be tested and recorded for distant and near objects. The employee should be refracted and tested with loose lenses, phoropter, or with their own glasses, provided their correction is accurate.
- 157 If an employee wears contact lenses each day and wishes to wear them for the test, this is acceptable for measuring acuity. In certain ocular conditions (particularly in the presence of corneal abnormalities) contact lens-corrected vision may be better than that obtained with spectacle correction. However, if an employee does not already wear contact lenses, they should not be fitted for an impairment assessment.

**Figure 6-B: Revised LogMar equivalent for different reading cards**

LogMar	Near Snellen	Equivalent to Snellen	N.	Points Roman	Revised Jaeger standard
0.3	14/14	6/6	N5	3	1
0.4	14/18	6/7.5	N6	4	2
0.5	14/21	6/9	N7	5	3
0.6	14/24	6/12	N8	6	4
0.65	14/28	6/15	N9	7	5
0.7	14/35	6/18	N10	8	6
0.725	14/40	6/24	N12	9	7
0.75	14/45	6/30	N15	10	8
0.8	14/60	6/36	N17	11	9
0.9	14/70	6/48	N18	12	10
1.0	14/80	6/60	N20	13	11
1.1	14/88	6/90	N24	14	12
1.3	14/112	6/120	N40	21	13
1.6	14/140	6/240	N80	23	14

### 6.1.1 Determining the loss of central vision in one eye

- 158 The following steps are taken to assess loss of central vision in one eye.

<b>Step 1</b>	Measure the central acuity for distance and near, correcting for any refractive errors and presbyopia, and record the result.
<b>Step 2</b>	Consult <a href="#">Figure 6-C: Percentage loss of central vision in one eye</a> to derive the overall loss, combining the values for corrected near and distance acuities.
<b>Step 3</b>	If monocular aphakia or pseudoaphakia is present then add 50% to the percentage loss of central vision obtained from <a href="#">Figure 6-C: Percentage loss of central vision in one eye</a> .

Figure 6-C: Percentage loss of central vision in one eye

Distance vision (metric 6)	Revised LogMar standard for near vision													
	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.3	1.6
6/5	0	0	3	4	5	25	27	30	40	43	44	45	48	49
6/6	0	0	3	4	5	25	27	30	40	43	44	46	48	49
6/7.5	3	3	5	6	8	28	30	33	43	45	46	48	50	52
6/10	5	5	8	9	10	30	32	35	45	48	49	50	53	54
6/12	8	8	10	11	13	33	35	38	48	50	5	53	55	57
6/15	13	13	15	16	18	38	40	43	53	55	56	58	60	62
6/20	16	16	18	20	22	41	44	46	56	59	60	61	64	65
6/22	18	18	21	22	23	43	46	48	58	61	62	63	66	67
6/24	20	20	23	24	25	45	47	50	60	63	64	65	68	69
6/30	25	25	28	29	30	50	52	55	58	68	69	70	73	74
6/38	30	30	33	34	35	55	57	60	70	73	74	75	78	79
6/50	34	34	37	38	39	59	61	64	74	77	78	79	82	83
6/60	40	40	43	44	45	65	67	70	80	83	84	85	88	89
6/90	43	43	45	46	48	68	70	73	83	85	86	88	90	92
6/120	45	45	48	49	50	70	72	75	85	88	89	90	93	94
6/240	48	48	50	51	53	73	75	78	88	90	91	93	95	97

## 6.2 Determining loss of monocular visual fields

- 159 There are many ways of measuring the visual field. The most common are the manual Goldman Field and the Humphrey, Octopus and Medmont computerised field analysers. If using a computerised field it is necessary to test at least a 30-2 threshold.
- 160 An Esterman Binocular Field is suitable for the majority of visual field impairment assessments. The field is tested with the employee wearing spectacles and both eyes open. The binocular field result is assessed by using the Esterman 120-unit binocular grid, and the dot count is multiplied by 5/6 to obtain the percentage of retained or lost field. Note that binocular field-testing is not recommended when diplopia is present.
- 161 If the automated 30-2 Threshold Field is normal, and the ocular history and examination do not suggest lesions that would affect the outer part of the field, it is acceptable to conclude that the entire field is normal. Whatever technique is used to measure the visual field, the test should be performed by an ophthalmologist.
- 162 The normal visual field meridians in each of eight principal meridians are given in [Figure 6-D: Normal extent of the visual field](#). The total, summed over 8 meridians is 500.

Figure 6-D: Normal extent of the visual field

Direction of vision	Degrees of field
Temporally	85
Down temporally	85
Direct down	65
Down nasally	50
Nasally	60

Direction of vision	Degrees of field
Up nasally	55
Direct up	45
Up temporally	55
<b>Total</b>	<b>500</b>

163 The percentage of retained vision is calculated using the following steps.

<b>Step 1</b>	Add the extent of the visual field along each of the 8 meridians (while considering the maximum normal values for the meridians given in <a href="#">Figure 6-D: Normal extent of the visual field</a> ).
<b>Step 2</b>	Divide by 5 to assess the percentage of visual field perception that remains.
<b>Step 3</b>	To obtain the percentage of visual field loss, subtract the percentage of visual field remaining from 100%.

164 These steps are based upon the following formulae:

$$\frac{\text{Total visual field}}{5} = \% \text{ of remaining visual field}$$

$$100 - (\% \text{ of remaining visual field}) = \% \text{ of visual field lost}$$

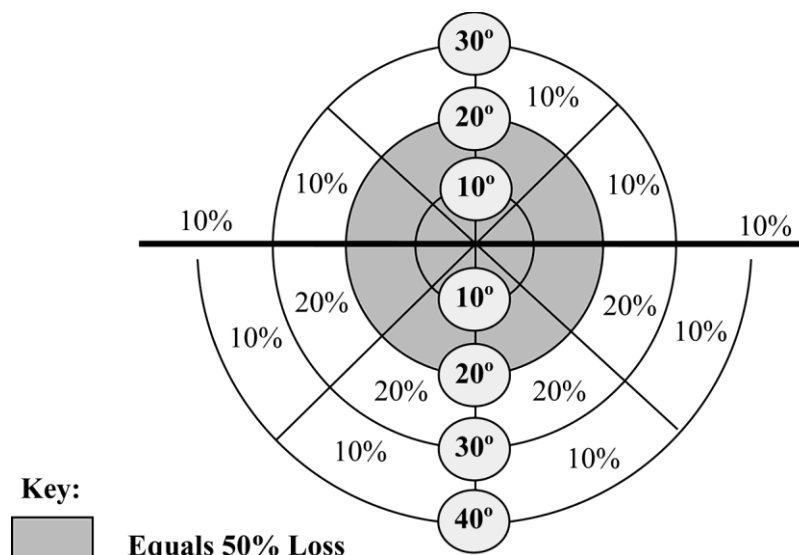
### 6.3 Abnormal ocular motility and binocular diplopia

165 Diplopia within the central 30° is measured by an ophthalmologist with a tangent screen. Unless there is diplopia within 30° of the centre of fixation, the diplopia does not cause significant visual impairment. The exception is when looking downwards. Double vision within the central 20° signifies the maximum loss of ocular motility (that is, a 50% loss of ocular motility in one eye).

166 If the diplopia is not within the central 20°, the presence of diplopia is then plotted along the 8 meridians (see [Figure 6-E: Percentage loss of ocular motility of one eye in diplopia fields](#)). The largest percentage on any of the meridians in which there is double vision is the impairment percentage for loss of ocular motility.

**Figure 6-E: Percentage loss of ocular motility of one eye in diplopia fields**

Adapted from AMA4 (Chapter 8, page 217).



### 6.4 Other ocular abnormalities

167 If an ocular adnexal disturbance or deformity interferes with visual function and is not reflected in diminished visual acuity, decreased visual fields, or ocular motility abnormalities with diplopia, then the significance of the disturbance or deformity should be evaluated by an examining ophthalmologist. In that situation, using the combined values chart (see

Appendix 1), an ophthalmologist may **combine** up to an additional 10% impairment for each affected eye.

- 168 Problems in the visual system should also be taken into account where they result in symptoms such as epiphora, photophobia, metamorphopsia, and convergence insufficiency.

## 6.5 Other conditions causing permanent deformities causing up to 10% impairment of the whole person

- 169 Using the combined values chart (see Appendix 1), an additional WPI of up to 10% may be **combined** with WPI ratings for conditions such as permanent deformities of the orbit, scars, and other cosmetic deformities that do not otherwise alter ocular function.

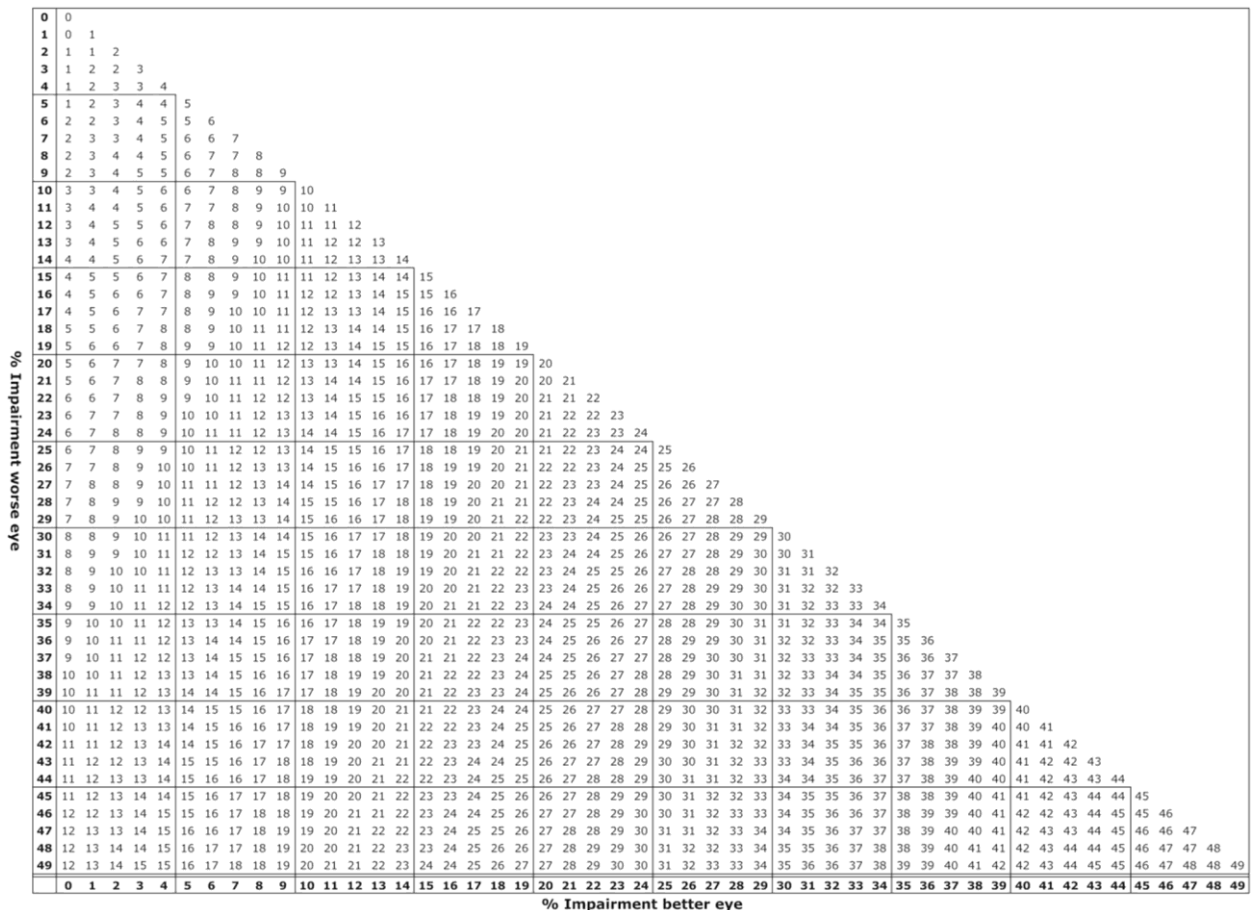
## 6.6 Calculation of visual system impairment for both eyes

- 170 Figure 6-F: Calculation of visual system impairment for both eyes (from the AMA4) was established using the equation:

$$\frac{(3 \times (\text{impairment of better eye}) + (\text{impairment of worse eye}))}{4} = \text{visual system impairment}$$

- 171 Percentages for the worse eye are read from the side of the table.
- 172 Percentages for the better eye are read from the bottom of the table.
- 173 The impairment of the visual system is at the intersection of the column for the worse eye and the row for the better eye.
- 174 For example, for a 40% impairment of one eye and 10% impairment of the other eye, read down the table until you come to the large value (40%). Follow across the row until it is intersected with the column designated by 10% at the bottom of the page (18%). Thus, the impairment to the visual system is 18%.

**Figure 6-F: Calculation of visual system impairment for both eyes**





# CHAPTER 7 – EAR, NOSE AND THROAT DISORDERS

## 7.0 Introduction

- 175 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 176 [Table 12.5.5: The auditory nerve \(VIII\)](#) (see [Chapter 12 – The neurological system](#)) should be used to assess both Menière’s disease, and true vertigo consequent upon a disturbance of vestibular function.
- 177 Unless they cause interference with balance, speech, respiration or hearing, the following conditions attract a WPI rating of 0%:
- a) rhinitis;
  - b) sinusitis;
  - c) laryngitis;
  - d) pharyngitis;
  - e) otitis media or externa (whether permanent or intermittent).
- 178 If interference with balance, speech, respiration or hearing is present, these conditions attract WPI ratings based on the degree of interference with balance, speech, respiration or hearing as described in the tables in [Chapter 7 – Ear, nose and throat disorders](#).

## 7.1 Hearing loss

- 179 Hearing loss is to be assessed in accordance with the current procedures from Australian Hearing Services (Hearing Australia).
- 180 Once the percentage of binaural hearing loss has been calculated, it is then converted to a WPI rating.
- 181 The calculation for converting the percentage of binaural hearing loss to a WPI rating is:

$$\frac{(\text{Percentage of binaural hearing loss})}{2}$$

## 7.2 Tinnitus

- 182 [Table 7.2: Tinnitus](#) is used to assess impairment arising as a result of tinnitus in the presence of unilateral or bilateral hearing loss.

**Table 7.2: Tinnitus**

%WPI	Criteria
0	Continuous tinnitus which has nuisance value but can be forgotten or ignored with background noise or a low level noise generator.
5	Severe continuous tinnitus which causes extreme distress, interferes with concentration and is not assisted by a low level noise generator.

## 7.3 Olfaction and taste

- 183 Only complete loss of olfaction or taste attracts a WPI rating. If the employee is able to detect any odour or taste, even if unable to identify it, the degree of permanent impairment of the employee resulting from the injury is 0%.
- 184 WPI ratings from this table **may not be combined** with WPI ratings for the same condition from either [Table 12.5.1: The olfactory nerve \(I\)](#) (see [Chapter 12 – The neurological system](#)) or [Table 12.5.4: Facial nerve \(VIII\)](#) (see [Chapter 12 – The neurological system](#)).

**Table 7.3: Olfaction and taste**

%WPI	Criteria
5	Complete loss of olfaction. or Complete loss of taste.
10	Complete loss of olfaction. and Complete loss of taste.

## 7.4 Speech

- 185 [Table 7.4: Speech](#) is used to assess impairment resulting from interference with speech from local lesions of the organs of speech.
- 186 For the purposes of [Table 7.4: Speech](#), ‘speech’ means the capacity to produce vocal signals that can be heard, understood, and sustained over a useful period of time.
- 187 [Table 7.4: Speech](#) must not be used to assess speech impairment resulting from a lesion of the central nervous system. In such cases, assessment should be made under [Table 12.3: Criteria for rating impairment due to aphasia or dysphasia](#) (see [Chapter 12 – The neurological system](#)).
- 188 WPI ratings from [Table 7.4: Speech](#) **may not be combined** with WPI ratings from [Table 12.3: Criteria for rating impairment due to aphasia or dysphasia](#) (see [Chapter 12 – The neurological system](#)).
- 189 If there are two separate conditions (one local, and the other a central nervous system condition) interfering with speech production, speech production should be assessed under both [Table 7.4: Speech](#) and [Table 12.3: Criteria for rating impairment due to aphasia or dysphasia](#). The greater value is the WPI rating due to speech impairment from all causes.
- 190 WPI ratings from within [Table 7.4: Speech](#) **may not be combined** with each other.
- 191 If the major problem is one of audibility, intelligibility, or functional efficiency of speech, the criteria appropriate to the area should be used to assess impairment.
- 192 If there are problems in more than one area, each area (audibility, intelligibility, and functional efficiency) should be assessed, and the highest value selected as the WPI rating.

**Table 7.4: Speech**

%WPI	Criteria		
	Audibility	Intelligibility	Functional efficiency
0	Audible in most situations, although may require effort.	Generally intelligible, although some sounds are difficult and some repetition may be needed.	Speech can be sustained except for slowness and some hesitancy.
10	Audible in quiet situations but problems with audibility in noisy environments.	Intelligible although inaccuracies may be frequent and there are obvious difficulties with articulation.	Speech can be sustained but is often discontinuous, interrupted, hesitant and/or slow.
15	Voice tires rapidly, tends to become inaudible after a few seconds. Volume generally low.	Intelligible to family and close friends but strangers find speech generally unintelligible even with repetition.	Difficulty sustaining speech for more than brief periods even when speaking very slowly.

%WPI	Criteria		
	Audibility	Intelligibility	Functional efficiency
20	Volume very low. Can whisper or produce volume that can be heard only with difficulty by close listener or by telephone.	Mostly unintelligible, except for a few words.	Laboured speech. Rate of sustained speech impractically slow.
30	Inaudible.	Unintelligible.	No sustained speech.

## 7.5 Air passage defects

- 193 [Table 7.5: Air passage defects](#) assesses permanent impairment relating to defects of the air passages. Impairments of the lower airways and lung parenchyma are dealt with in [Chapter 2 – The respiratory system](#).
- 194 Permanent tracheostomy, or other respiratory stoma, attracts a permanent WPI rating of 25% which may be **combined** with other values derived from [Table 7.5: Air passage defects](#).
- 195 An employee is placed in an impairment category based on the criteria in [Table 7.5: Air passage defects](#).
- 196 [Table 7.5: Air passage defects](#) applies only to permanent partial obstruction of one or more of the following structures:
- oropharynx;
  - laryngopharynx;
  - larynx;
  - trachea.
- 197 [Table 7.5: Air passage defects](#) does not apply to nasal obstruction. Nasal obstruction is assessed under [Table 7.6: Nasal passage defects](#).
- 198 Prophylactic restriction of activity, such as sporting activity, does not attract the same WPI rating as dyspnoea on participation in the activity.

**Table 7.5: Air passage defects**

See note to Table 7.5 for further information.

Criteria	%WPI						
	0	10	30	40	50	70	90
Ventilation required	No	No	No	No	No	No	Yes
Dyspnoea at rest	No	No	No	No	Yes	Yes (severe)	NA
Dyspnoea with dressing or grooming	No	No	No	Yes	Yes (severe)	NA	NA
Dyspnoea with walking 200m or climbing eight steps	No	No	Yes	NA	NA	NA	NA
Dyspnoea with hurrying, hill climbing or sporting activity	No	Yes	NA	NA	NA	NA	NA

### Note to Table 7.5

- 'NA' means not applicable.



## 7.6 Nasal passage defects

199 [Table 7.6: Nasal passage defects](#) applies only to nasal obstruction.

**Table 7.6: Nasal passage defects**

%WPI	Criterion
3	Continuous nasal obstruction of sufficient severity to cause mouth breathing at rest.

## 7.7 Chewing and swallowing

200 [Table 7.7: Chewing and swallowing](#) is used to assess impairment resulting from facial muscle damage or loss, dental and oral problems, and temporomandibular joint dysfunction.

201 WPI ratings derived from [Table 7.7: Chewing and swallowing](#) may be **combined** with WPI ratings derived from [Table 8.4: Surgically created stomas](#) (see [Chapter 8 – The digestive system](#)).

202 For the same condition, WPI ratings derived from [Table 7.7: Chewing and swallowing](#) **may not be combined** with WPI ratings from [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#) (see [Chapter 12 – The neurological system](#)).

**Table 7.7: Chewing and swallowing**

%WPI	Criteria
0	No interference. Food of any desired type may be eaten without difficulty.
2	Very tough or hard food has to be avoided but diet is otherwise as desired.
5	Diet is limited to soft foods.
10	Diet is limited to pureed foods.
20	Diet is limited to liquid foods.
40	No oral ingestion of food or fluid is possible. Food can only be ingested by means of a nasogastric, gastrostomy, oesophagostomy or other tube.

# CHAPTER 8 – THE DIGESTIVE SYSTEM

## 8.0 Introduction

- 203 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 204 For the purposes of [Chapter 8 – The digestive system](#), activities of daily living are those in [Figure 8-A](#).

**Figure 8-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

- 205 [Table 8.1: Upper digestive tract – oesophagus, stomach, duodenum, small intestine and pancreas](#), [Table 8.2: Lower gastrointestinal tract – colon and rectum](#) and [Table 8.3: Lower gastrointestinal tract – anus](#) refer to primary and secondary criteria. **All** criteria from **both** categories (except where otherwise stipulated) must be met before a WPI rating can be assigned.
- 206 Where the condition being assessed interferes with chewing and/or swallowing, assessment is made under whichever of the following tables describes the impairment more specifically:
- [Table 7.7: Chewing and swallowing](#) (see [Chapter 7 – Ear, nose and throat disorders](#));
  - [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#) (see [Chapter 12 – The neurological system](#)).
- 207 For the same condition, WPI ratings derived from [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#) **may not be combined** with WPI ratings derived from [Table 7.7: Chewing and swallowing](#).
- 208 Other complications of bleeding disorders assessed under [Table 13.3: Haemorrhagic disorders and platelet disorders](#) (see [Chapter 13 – The haematopoietic system](#)) may also be assessed under tables in [Chapter 8 – The digestive system](#), according to the site of the blood loss. The WPI rating so obtained may be **combined** with the WPI rating obtained from [Table 13.3](#).
- 209 Where applicable, Body Mass Index (BMI) values are used as the objective assessment for weight. See [Figure 8-B: Body Mass Index criteria](#) for calculation of BMI values.

### 8.0.1 Calculation of Body Mass Index (BMI)

- 210 Body Mass Index (BMI) is calculated as follows:

$$\frac{\text{Weight (kg)}}{\text{Height}^2 \text{ (m)}}$$

211 The value obtained should be rounded to the nearest whole number.

**Figure 8-B: Body Mass Index criteria**

BMI	Category	Health risk
<18	Very underweight.	Long-term hazard to health.
18-20	Underweight.	Low risk to health.
20-25	Acceptable.	Least risk for morbidity and minimal mortality.
25-30	Overweight.	Low risk to health.
30-40	Morbid obesity.	High degree of risk to health.

## 8.1 Upper digestive tract – oesophagus, stomach, duodenum, small intestine and pancreas

**Table 8.1: Upper digestive tract – oesophagus, stomach, duodenum, small intestine and pancreas**

See notes to Table 8.1 for further information.

%WPI	Primary criteria	Secondary criteria
<b>0</b>	Symptoms of upper digestive tract disease with or without anatomical loss or pathological alteration present.	Continuous drug treatment not required to control symptoms.
<b>10</b>	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p><b>One</b> of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment required to control symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications required to control symptoms or signs.</li> </ul>
<b>20</b>	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p><b>Both</b> of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment required to control symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications required to control symptoms or signs.</li> </ul>
<b>30</b>	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p><b>Any one</b> of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment does not completely control symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications do not completely control symptoms, signs or nutritional deficiency</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>
<b>40</b>	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p><b>Any two</b> of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment does not completely control symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications do not completely control symptoms, signs or nutritional deficiency</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>

%WPI	Primary criteria	Secondary criteria
50	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p>All of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment does not completely control symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications do not completely control symptoms, signs or nutritional deficiency</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>
60	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p>All of the following:</p> <ul style="list-style-type: none"> <li>• Continuous drug treatment has little effect on symptoms, signs or nutritional deficiency</li> <li>• Appropriate dietary modifications have little effect on symptoms, signs or nutritional deficiency</li> <li>• Assistance required with most or all activities of daily living</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>
70	Symptoms of upper digestive tract disease, with anatomical loss or pathological alteration present.	<p>All of the following:</p> <ul style="list-style-type: none"> <li>• Severe impairment of nutritional status uncontrolled by any treatment or dietary modifications</li> <li>• Assistance required with all activities of daily living</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>

#### Notes to Table 8.1

1. Continuous drug treatment includes H2 receptor antagonists, proton pump inhibitors, corticosteroids, and pancreatic enzyme supplementation.
2. Continuous drug treatment does not include antacids, or mixed antacid and alginic acid preparations.
3. Modified diet does not include the avoidance of a few, or selected, food items. It refers to special diets devised to manage symptoms of the disease and maximise nutrition (for example, lactose-free diet, gluten-free diet).

## 8.2 Lower gastrointestinal tract – colon and rectum

**Table 8.2: Lower gastrointestinal tract – colon and rectum**

See notes to Table 8.2 for further information.

%WPI	Primary criteria	Secondary criteria
0	Signs and/or symptoms of colonic or rectal disease occur infrequently, and/or are of brief duration.	<p>No requirement for any of the following as short term treatment:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>No systemic manifestations.</p> <p><b>and</b></p> <p>Weight and nutrition can be maintained at desirable levels.</p>

%WPI	Primary criteria	Secondary criteria
10	Signs and/or symptoms of colonic or rectal disease occur more frequently, and/or are of longer duration.	<p>Generally no requirement for any of the following as long-term treatment to control disease although may be needed short term:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>No systemic manifestations.</p> <p><b>and</b></p> <p>Weight and nutrition can be maintained at desirable levels.</p>
20	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>Requirement for <b>at least one</b> of the following as long-term treatment to control disease:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>No systemic manifestations.</p> <p><b>and</b></p> <p>Weight and nutrition can be maintained at desirable levels.</p>
30	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>Requirement for <b>all</b> of the following as long-term treatment to control disease:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>No systemic manifestations.</p> <p><b>and</b></p> <p>Weight and nutrition can be maintained at desirable levels.</p>
40	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>Requirement for <b>all</b> of the following as long-term treatment to control disease:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>Presence of <b>one</b> of the following:</p> <ul style="list-style-type: none"> <li>• Systemic manifestations (for example, fever, anaemia)</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>
50	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>Requirement for <b>all</b> of the following as long-term treatment to control disease:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>Presence of <b>both</b> of the following:</p> <ul style="list-style-type: none"> <li>• Systemic manifestations (for example, fever, anaemia)</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>

%WPI	Primary criteria	Secondary criteria
60	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>None of the following long-term treatments control the disease:</p> <ul style="list-style-type: none"> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>Presence of <b>at least one</b> of the following:</p> <ul style="list-style-type: none"> <li>• Limitation of activities of daily living</li> <li>• Systemic manifestations (for example, fever, anaemia)</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>
70	Objective evidence of colonic or rectal disease, with anatomical loss or alteration.	<p>None of the following long-term treatments control the disease:</p> <ul style="list-style-type: none"> <li>• Modified diet</li> <li>• Medication.</li> </ul> <p><b>and</b></p> <p>Presence of <b>all</b> of the following:</p> <ul style="list-style-type: none"> <li>• Systemic manifestations (for example, fever, anaemia)</li> <li>• Assistance required with activities of daily living</li> <li>• Weight loss with a BMI&lt;20.</li> </ul>

#### Notes to Table 8.2

1. Medication does not include fibre supplements, vitamins or other nutritional supplements (unless there is a demonstrated vitamin deficiency), or over the counter preparations.
2. Modified diet does not include the avoidance of a few, or selected food items. It refers to special diets devised to manage the symptoms of the disease and maximise nutrition (for example, lactose free diet, gluten free diet).

### 8.3 Lower gastrointestinal tract – anus

212 Where the anal disorder is part of a colo-rectal disorder (for example, Crohn’s Disease), WPI ratings from [Table 8.2: Lower gastrointestinal tract – colon and rectum](#) and [Table 8.3: Lower gastrointestinal tract – anus](#) may be **combined** using the combined values chart (see [Appendix 1](#)).

**Table 8.3: Lower gastrointestinal tract – anus**

%WPI	Primary criteria	Secondary criteria
0	Signs of organic anal disease are absent. <b>or</b> There is no anatomical loss or alteration.	Incontinence of flatus, or other mild or intermittent anal symptoms which can be controlled by treatment.
10	Signs of organic anal disease are present. <b>or</b> There is anatomical loss or alteration.	<p>Mild incontinence of flatus.</p> <p><b>and/or</b></p> <p>Mild incontinence of liquid stool.</p> <p><b>and</b></p> <p>Mild or intermittent anal symptoms controlled by treatment.</p>
20	Signs of organic anal disease are present. <b>or</b> There is anatomical loss or alteration.	<p>Moderate daily faecal incontinence requiring continual treatment.</p> <p><b>or</b></p> <p>Continual anal symptoms incompletely controlled by treatment.</p>

%WPI	Primary criteria	Secondary criteria
30	Signs of organic anal disease are present. or There is anatomical loss or alteration.	Moderate daily faecal incontinence requiring continual treatment. and Continual anal symptoms incompletely controlled by treatment.
40	Signs of organic anal disease are present. and There is anatomical loss or alteration.	Total faecal incontinence despite treatment. or Signs of organic anal disease with severe symptoms unresponsive or not amenable to treatment.

## 8.4 Surgically created stomas

213 Using the combined values chart (see [Appendix 1](#)), WPI ratings obtained from [Table 8.4: Surgically created stomas](#) may be **combined** with WPI ratings from other digestive system tables in [Chapter 8 – The digestive system](#), and with WPI ratings from [Table 7.7: Chewing and swallowing](#) (see [Chapter 7 – Ear, nose and throat disorders](#)).

**Table 8.4: Surgically created stomas**

See note to Table 8.4 for further information.

%WPI	Criteria
10	Colostomy.
15	Ileostomy. or Ileal pouch-anal anastomosis.
20	Jejunostomy. or Gastrostomy. or Oesophagostomy.

### Note to Table 8.4

1. Assessment for surgically created stomas is only allowed when the stoma is permanent and not a defunctioning or temporary stoma.

## 8.5 Liver – chronic hepatitis and parenchymal liver disease

**Table 8.5: Chronic hepatitis and parenchymal liver disease**

See notes to Table 8.5 for further information.

%WPI	Primary criteria (all criteria must be present)	Secondary criteria (all criteria must be present)
0	Evidence of persistent or intermittent liver disease. Histological severity – very mild.	Liver function tests may be normal or mildly abnormal. No history of jaundice, ascites or bleeding oesophageal varices in the last three years. Adequate nutritional state.
10–15	Evidence of persistent liver disease. Histological severity – mild.	Biochemistry abnormal. No history of jaundice, ascites, or bleeding oesophageal varices in the last three years. Adequate nutritional state.

%WPI	Primary criteria (all criteria must be present)	Secondary criteria (all criteria must be present)
30	Evidence of chronic liver disease. Histological severity – moderate.	Biochemistry abnormal. History of jaundice, ascites or bleeding oesophageal varices in the last 12 months. Adequate nutritional state
40	Evidence of progressive, chronic liver disease. Histological severity – severe.	Biochemistry abnormal. History of jaundice ascites, or bleeding oesophageal varices in the last 12 months. Adequate nutritional state. Easily fatigued.
50	Evidence of progressive, chronic liver disease. Histological severity – chronic hepatitis with cirrhosis.	Biochemistry abnormal. History of jaundice ascites, and/or bleeding oesophageal varices in the last 12 months. Nutritional state adversely affected. Fatigue and physical weakness.
65	Evidence of progressive, chronic liver disease. Histological severity – chronic hepatitis with cirrhosis. Persistent signs of hepatic insufficiency.	Biochemistry abnormal. History of jaundice, ascites and/or bleeding oesophageal varices in the last 12 months. Nutritional state adversely affected. Profound fatigue and physical weakness.
75	Evidence of advanced, irreparable chronic liver disease. Histological severity – chronic hepatitis with cirrhosis. Persistent signs of advanced hepatic insufficiency.	Biochemistry abnormal. History of jaundice, ascites and/or bleeding oesophageal varices in the last 12 months. Nutritional state adversely affected. Profound fatigue and physical weakness. Assistance required with activities of daily living.

#### Notes to Table 8.5

1. Signs of liver disease include: the stigmata of liver disease (spider angiomata, palmar erythema, and gynaecomastia); jaundice; palpably enlarged liver; evidence of abnormal liver size on ultrasound; evidence of intrahepatic lesions on ultrasound or positive antibodies to any of the viruses known to have the potential to cause chronic liver disease.
2. Jaundice does not include a mild elevation of plasma bilirubin with normal liver enzymes.
3. Liver function tests include estimates of total bilirubin, albumin, alkaline phosphatase (ALP), aspartate transaminase (AST), alanine transaminase (ALT), and gamma glutamyl transferase (GGT).
4. All the criteria, both primary and secondary, must be present before a particular WPI rating can be allocated. However, liver biopsy is not mandatory and should not be undertaken solely for the purpose of permanent impairment assessment.
5. **Where liver biopsy has not been undertaken the histological criteria may be disregarded.**
6. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.



## 8.6 Biliary tract

**Table 8.6: Biliary tract**

See note to Table 8.6 for further information.

%WPI	Criteria
0	Cholecystectomy with no biliary tract sequelae.
10	History of biliary type pain without identifiable biliary disease. <b>or</b> Documented history of one to three episodes of biliary colic per year with identifiable biliary disease.
20	Documented history of four to six episodes of biliary colic per year with identifiable biliary disease.
30	Documented history of more than six episodes of biliary colic per year with identifiable biliary disease.
40	Permanent irreparable obstruction of the hepatic or common bile duct with recurrent cholangitis or permanent stent.
50	Permanent common bile duct obstruction with progressive liver disease manifest as persistent jaundice with intermittent hepatic insufficiency.
65	Permanent common bile duct obstruction with progressive liver disease manifest as persistent jaundice and hepatic insufficiency.
75	Permanent and irreparable common bile duct obstruction with advanced liver disease manifest as persistent jaundice and hepatic insufficiency.

**Note to Table 8.6**

1. Biliary tract dysfunction should only be assessed after cholecystectomy or other appropriate biliary tract surgery, except where there are sound medical reasons for not undertaking surgery.

## 8.7 Hernias of the abdominal wall

**Table 8.7: Hernias of the abdominal wall**

See note to Table 8.7 for further information.

%WPI	Criteria
5	Abdominal wall defect with slight protrusion of abdominal contents palpable with increased abdominal pressure, readily reducible.
10	Palpable abdominal wall defect with frequent or persistent protrusion of abdominal contents with increased abdominal pressure, manually reducible.
25	Palpable abdominal wall defect with persistent, irreducible or irreparable protrusion of abdominal contents at the site of defect, causing limitation of activities of daily living.

**Note to Table 8.7**

1. Hernias should be assessed only after surgical repair, except where there are sound medical reasons for repair not being undertaken.

# CHAPTER 9 – THE MUSCULOSKELETAL SYSTEM

## 9.0 Introduction

- 214 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 215 [Chapter 9 – The musculoskeletal system](#) is divided into three parts:
- [Part I – The lower extremities](#);
  - [Part II – Upper extremities](#); and
  - [Part III – The spine](#).
- 216 The range of motion to be measured is the range of **active** motion. The assessor should be satisfied that the claimant is making an appropriate effort to demonstrate the maximal range and that the measurements are consistent (that is, several repetitions). The normal ranges of motion of individual joints in the musculoskeletal system are set out on the next page.
- 217 Peripheral vascular disease affecting lower and upper extremities is assessed under [Table 1.4: Peripheral vascular disease of the lower extremities](#) and [Table 1.5: Peripheral vascular disease of the upper extremities](#) (see [Chapter 1 – The cardiovascular system](#)).
- 218 For the purposes of [Chapter 9 – The musculoskeletal system](#), activities of daily living are those in [Figure 9-A](#).

**Figure 9-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

**Figure 9-B: Tables of normal ranges of motion of joints**

Table	Joint	Plane	ROM from	ROM through	ROM to
9.1	Hindfoot/Ankle (subtalar)	Frontal	Eversion 20°	0°	Inversion 30°
9.2	Ankle (talocrural)	Sagittal	Extension 20°	0°	Flexion 40°
9.3	Knee	Sagittal	Extension 0°		Flexion 150°
9.4	Hip	Rotation	External Rotation 50°	0°	Internal Rotation 40°
9.4	Hip	Frontal	Abduction 40°	0°	Adduction 20°
9.4	Hip	Sagittal	Extension 30°	0°	Flexion 100°
9.8.1.a	Thumb – IP joint		Extension 30°	0°	Flexion 80°

Table	Joint	Plane	ROM from	ROM through	ROM to
9.8.1.a	Thumb – MP joint		Extension 40°	0°	Flexion 60°
9.8.1.b	Thumb – radial abduction/ adduction		15° (full radial adduction)		50° (full radial abduction)
9.8.1.b	Thumb adduction		0cm		8cm
9.8.1.b	Thumb opposition		0cm		8cm
9.8.1.c	Index and middle fingers – DIP joint		Extension 30°	0°	Flexion 70°
9.8.1.c	Index and middle fingers – PIP joint		Extension 30°	0°	Flexion 100°
9.8.1.c	Index and middle fingers – MP joint		Extension 20°	0°	Flexion 90°
9.8.1.d	Ring and little fingers – DIP joint		Extension 30°	0°	Flexion 70°
9.8.1.d	Ring and little fingers – PIP joint		Extension 30°	0°	Flexion 100°
9.8.1.d	Ring and little fingers – MP joint		Extension 20°	0°	Flexion 90°
9.9.1.a	Wrist	Sagittal	Extension 60°	0°	Flexion 60°
9.9.1.b	Wrist	Frontal	Radial Deviation 20°	0°	Ulnar deviation 30°
9.10.1.a	Elbow	Sagittal	Extension 0°	0°	Flexion 140°
9.10.1.b	Elbow (forearm)	Rotation	Supination 80°	0°	Pronation 80°
9.11.1.a	Shoulder	Sagittal	Extension 40°	0°	Flexion 180°
9.11.1.b	Shoulder	Rotation	External rotation 90°	0°	Internal Rotation 90°
9.11.1.c	Shoulder	Frontal	Abduction 180°	0°	Adduction 50°

# PART I – THE LOWER EXTREMITIES – FEET AND TOES, ANKLES, KNEES AND HIPS

## PART I – INTRODUCTION

- 219 The impairments assessed for each region in the lower extremity are **combined** to obtain the overall impairment of the lower extremity for the individual extremity, subject to the notes accompanying the applicable tables, or any indication that combination is not permitted.
- 220 Where a hip or knee arthroplasty procedure has been undertaken, assess the lower extremity impairment rating for arthroplasty in accordance with the AMA5, then convert that rating into a WPI rating using Table 17-33 of the AMA5.
- 221 A WPI rating for one lower extremity may be **combined** with a WPI rating for the other lower extremity, except in the case of WPI ratings under [Table 9.7: Lower extremity function](#), where the notes accompanying Table 9.7 are followed.
- 222 WPI ratings from [Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) or [Table 9.4: Hips](#) **may not be combined** with a WPI rating under [Table 9.7: Lower extremity function](#) if they assess the same condition in the same lower extremity.
- 223 Where a condition cannot be assessed under [Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) or [Table 9.4: Hips](#), an assessment may be made under the provisions of the AMA5.
- 224 If the assessor considers that the impairment is not adequately assessed using [Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) or [Table 9.4: Hips](#), and the condition does not cause a reduction in the range of motion of a joint but there is significant interference with gait, the assessor should consider the effect of the injury on gait and assess the WPI rating using [Table 9.7: Lower extremity function](#). Table 9.7 cannot be used if the condition causes a reduction in the range of motion of a joint and an assessment can be made under any one or more of Table 9.1, Table 9.2, Table 9.3 or Table 9.4.
- 225 If permanent, conditions such as sesamoiditis, plantar fasciitis, plantar tendonitis, and pes planus, should be assessed under [Table 9.7: Lower extremity function](#).
- 226 All ankylosis assessments from [Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) and [Table 9.4: Hips](#) are alternative assessments to those for abnormal motion of the individual joints.
- 227 The **maximum** WPI rating for a single lower extremity in [Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) and [Table 9.4: Hips](#) is 40%, including **combined** WPI ratings.
- 228 A chronic pain condition affecting the lower extremities should be assessed using the same methodology as for the upper extremity in accordance with [Section 9.13.3 \(Chronic pain conditions\)](#).

### Steps in calculating lower extremity impairment

<b>Step 1</b>	<b>Add</b> abnormal motion/ankylosis impairment values within an individual joint.
<b>Step 2</b>	<b>Combine</b> abnormal motion/ankylosis impairment values for different joints in the toes.
<b>Step 3</b>	<b>Add</b> impairment values obtained for each individual toe and combine this value with the impairment values for other joints in the foot to obtain the total abnormal motion/ankylosis impairment assessment for a foot.
<b>Step 4</b>	<b>Combine</b> with abnormal motion/ankylosis impairment assessments for different <b>regions</b> in the lower extremity (that is, knee and hip).
<b>Step 5</b>	<b>Combine</b> with impairment values for peripheral nerve injuries.
<b>Step 6</b>	<b>Combine</b> with impairment values for amputation.

## 9.1 Feet and toes

- 229 [Table 9.1: Feet and toes](#) assesses impairments to range of motion of the feet and toes, including ankylosis of one or more joints.
- 230 In relation to impairment constituted by the loss, or the loss of the use, of a toe, the threshold for compensation for an injury resulting in a permanent impairment constituted by such a loss is 1% WPI under this Guide.
- 231 The **maximum** WPI rating under [Table 9.1: Feet and toes](#) is 2% for an injury resulting in impairment of two or more of the 2nd, 3rd, 4th and 5th toes of one foot.
- 232 In the case of toes, the ankylosis referred to in [Table 9.1: Feet and toes](#) is that of the metatarso-phalangeal joint.
- 233 Ankylosis of the interphalangeal joints of the 2nd, 3rd, 4th or 5th toe attracts a WPI rating of 0%. The position of function is the neutral position.

**Table 9.1: Feet and toes**

%WPI	Criteria (one required – different conditions may be assessed separately)
0	Ankylosis of any one of the 2nd, 3rd, 4th or 5th toes in position of function.
1	<p>Interphalangeal flexion of the 1st toe restricted to less than 20°.</p> <p>Metatarso-phalangeal extension of the 1st toe restricted to a range of 15°-30°.</p> <p>Metatarso-phalangeal extension of any one of the 2nd, 3rd, 4th and 5th toes restricted to less than 10°.</p> <p>Subtalar inversion restricted to a range of 10°-20°.</p> <p>Subtalar eversion restricted to less than 10°.</p> <p>Ankylosis of:</p> <ul style="list-style-type: none"> <li>any <b>one</b> of the 2nd, 3rd, 4th or 5th toes in full extension or full flexion</li> <li>any <b>two</b> of the 2nd, 3rd, 4th or 5th toes in position of function</li> <li>the 2nd, 3rd <b>and</b> 4th toes in position of function.</li> </ul>
2	<p>Metatarso-phalangeal extension of the 1st toe restricted to less than 15°.</p> <p>Metatarso-phalangeal extension of any two of the 2nd, 3rd, 4th or 5th toes restricted to less than 10°.</p> <p>Subtalar inversion restricted to less than 10°.</p> <p>Ankylosis of:</p> <ul style="list-style-type: none"> <li>any <b>two</b> of the 2nd, 3rd or 4th toes, <b>plus</b> the 5th toe, in position of function</li> <li>any <b>two</b> of the 2nd, 3rd, 4th or 5th toes in full extension or full flexion</li> <li>all <b>four</b> of the 2nd, 3rd, 4th and 5th toes in position of function</li> <li>the 2nd toe with any <b>two</b> of the 3rd, 4th or 5th toes in full extension</li> <li>the 3rd, 4th <b>and</b> 5th toes in full extension or full flexion</li> <li>the 2nd <b>and</b> 3rd toes with <b>either</b> of the 4th or 5th toes in full flexion.</li> </ul>
3	<p>Ankylosis of:</p> <ul style="list-style-type: none"> <li>all <b>four</b> of the 2nd, 3rd, 4th and 5th toes in full flexion or full extension</li> <li>the 2nd toe with the 4th <b>and</b> 5th toes in full flexion.</li> </ul>
4	<p>Ankylosis of:</p> <ul style="list-style-type: none"> <li>the 1st toe in position of function or full extension</li> <li>the 1st toe with any <b>one</b> of the 2nd, 3rd, 4th or 5th toes in position of function.</li> </ul>
5	<p>Ankylosis of:</p> <ul style="list-style-type: none"> <li>the 1st toe in full flexion</li> <li>the 1st toe with any <b>one</b> of the 2nd, 3rd, 4th or 5th toes in full extension</li> <li>the 1st toe with any <b>two</b> or <b>three</b> of the 2nd, 3rd, 4th or 5th toes in position of function.</li> </ul>

%WPI	Criteria (one required – different conditions may be assessed separately)
6	Ankylosis of: <ul style="list-style-type: none"> <li>the 1st toe with any <b>two</b> or <b>three</b> of the 2nd, 3rd, 4th or 5th toes in full extension</li> <li>the 1st toe with all <b>four</b> of the 2nd, 3rd, 4th and 5th toes in position of function</li> <li>the 1st toe with any <b>one</b> of the 2nd, 3rd, 4th or 5th toes in full flexion.</li> </ul>
7	Ankylosis of: <ul style="list-style-type: none"> <li>the 1st toe with any <b>two</b> of the 2nd, 3rd, 4th or 5th toes in full flexion</li> <li>the 1st toe with all <b>four</b> of the 2nd, 3rd, 4th and 5th toes in full extension.</li> </ul>
8	Ankylosis of the 1st toe with any <b>three</b> or all <b>four</b> of the 2nd, 3rd, 4th and 5th toes in full flexion.
10	Ankylosis of hindfoot with tibia-os calcis angle of 100° to 110°.
15	Ankylosis of hindfoot with tibia-os calcis angle of 90° to 95°.
20	Ankylosis of hindfoot with tibia-os calcis angle of less than 90°.

## 9.2 Ankles

- 234 [Table 9.2: Ankles](#) assesses impairments to range of motion and deformity of the ankle, as well as ankylosis. Ankle deformity with movement is assessed separately from ankylosis.
- 235 Ankylosis in the optimal position is equivalent to a WPI of 4%. The optimal position is the neutral position without flexion, extension, varus or valgus. This is the base level of ankylosis impairment in the ankle.
- 236 When ankylosis is not in the optimal position, **add** the relevant WPI ratings from [Table 9.2: Ankles](#) for ankylosis in each direction. Then **add** the base figure of 4% WPI for ankylosis in the optimal position.
- 237 The **maximum** WPI rating for multiple impairments of the ankle and hindfoot is 25% WPI. If the total WPI rating obtained by **adding** different WPI ratings is higher than 25% WPI, then the final WPI rating for the ankle is 25%.

**Table 9.2: Ankles**

%WPI	Criteria (one required – different conditions may be assessed separately – but see notes on ankylosis above)
3	Plantar flexion capability restricted to 15°-20°. Dorsiflexion restricted to less than 10°.
4	Ankylosis in optimal position only (see paragraph 235 above).
5	Deformity with: <ul style="list-style-type: none"> <li>varus angulation of 10°</li> <li>valgus angulation of 10°-20°.</li> </ul> Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>in less than 10° of internal malrotation</li> <li>in 15° of external malrotation.</li> </ul>
6	Plantar flexion capability restricted to 10° or less. Plantar flexion contracture of 10°-15°.
7	Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>in 10° to 15° of dorsiflexion or plantar flexion.</li> </ul>

%WPI	Criteria (one required – different conditions may be assessed separately – but see notes on ankylosis above)
10	Deformity with varus angulation of 15°-20°. Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in varus angulation of 5°</li> <li>• in valgus angulation of 10° to 15°</li> <li>• in 10° to 15° of internal malrotation</li> <li>• in 20° to 25° of external malrotation</li> </ul>
12	Plantar flexion contracture of at least 20°.
15	Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in 20° to 25° of plantar flexion</li> <li>• in at least 20° of dorsiflexion</li> <li>• in varus angulation of 10° to 15°</li> <li>• in valgus angulation of 20° to 25°</li> <li>• in 20° to 25° of internal malrotation</li> <li>• in 30° to 35° of external malrotation.</li> </ul>
17	Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in varus angulation of 20° to 25°.</li> </ul>
20	Deformity with varus angulation of 25° or greater.
21	Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in varus angulation of at least 30°</li> <li>• in at least 30° of plantar flexion</li> <li>• in valgus angulation of at least 30°</li> <li>• in at least 30° of internal malrotation</li> <li>• in at least 40° of external malrotation.</li> </ul>

### 9.3 Knees

- 238 [Table 9.3: Knees](#) assesses impairments to range of motion and deformity of the knee, as well as ankylosis. Knee deformity with movement is assessed separately from ankylosis. ‘Deformity’ is measured by the femoral-tibial angle: 3°-10° valgus is considered normal.
- 239 Ankylosis in the optimal position is equivalent to 27% WPI. The optimal position is 10°-15° of flexion with good alignment. This is the base level of ankylosis impairment in the knee. When ankylosis is not in the optimal position, **add** the relevant WPI ratings from [Table 9.3: Knees](#) for ankylosis in each direction. Then **add** the base figure of 27% WPI for ankylosis in the optimal position.
- 240 The **maximum** WPI rating for multiple impairments of the knee is 40% WPI. If the total WPI rating obtained by **adding** different WPI ratings is over 40%, then the final WPI rating for the knee is 40%.

**Table 9.3: Knees**

%WPI	Criteria (one required – different conditions may be assessed separately)
5	Flexion of 80°-105°. Flexion contracture of 5°. Deformity with: <ul style="list-style-type: none"> <li>• varus angulation of 2° valgus-0° (neutral)</li> <li>• valgus angulation of 10°-12°.</li> </ul> Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in 10° to 15° of internal malrotation</li> <li>• in 10° to 15° of external malrotation</li> <li>• in less than 10° of varus</li> <li>• in 10° to 15° of valgus</li> <li>• in 20° to 25° of flexion.</li> </ul>
10	Flexion of 60°-75°. Flexion contracture of 10°-15°. Deformity with: <ul style="list-style-type: none"> <li>• varus angulation of 1°-7°</li> <li>• valgus angulation of 13°-15°.</li> </ul> Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in 20° to 25° of internal malrotation</li> <li>• in 20° to 25° of external malrotation</li> <li>• in 10° to 15° of varus</li> <li>• in 20° to 25° of valgus</li> <li>• in 30° to 35° of flexion.</li> </ul>
13	Ankylosis <b>not</b> in optimal position: <ul style="list-style-type: none"> <li>• in at least 30° of internal malrotation</li> <li>• in at least 30° of external malrotation</li> <li>• in at least 20° of varus</li> <li>• in at least 30° of valgus</li> <li>• in at least 40° of flexion.</li> </ul>
14	Flexion of 30°-55°. Flexion contracture of 20° or greater. Deformity with: <ul style="list-style-type: none"> <li>• varus angulation of 8°-12°</li> <li>• valgus angulation of 16°-20°.</li> </ul>
20	Flexion of less than 30°. Deformity with: <ul style="list-style-type: none"> <li>• varus angulation of more than 12°</li> <li>• valgus angulation of more than 20°.</li> </ul>
27	Ankylosis in optimal position only (see paragraph 239 above).



## 9.4 Hips

- 241 [Table 9.4: Hips](#) assesses impairments of range of motion and deformity of the hip, as well as ankylosis. Hip deformity with movement is assessed separately from ankylosis.
- 242 Ankylosis in the optimal position is 20% WPI. The optimal position is 25°-40° of flexion with neutral rotation, abduction and adduction. This is the base level of ankylosis impairment in the hip. When ankylosis is not in the optimal position, **add** the relevant WPI ratings from Table 9.4 for ankylosis in each direction. Then **add** the base figure of 20% WPI for ankylosis in the optimal position.
- 243 The **maximum** WPI rating for multiple impairments of the hip is 40%. If the total WPI rating obtained by **adding** different WPI ratings is over 40%, then the final WPI rating for the hip is 40%.

**Table 9.4: Hips**

%WPI	Criteria (one required – different conditions may be assessed separately)
2	Flexion restricted to 80°-100°. Flexion contracture of 10°-15°. Internal rotation restricted to 10°-15°. External rotation restricted to 20°-30°. Abduction restricted to 15°-25°. Adduction restricted to 15° or less. Abduction contracture of 5° or less.
5	Flexion restricted to 50°-70°. Flexion contracture of 20°-25°. Internal rotation restricted to less than 10°. External rotation restricted to less than 20°. Abduction restricted to 5°-10°. Abduction contracture of 6°-10°. Ankylosis not in optimal position: <ul style="list-style-type: none"> <li>• in 20° to 40° of flexion</li> <li>• in at least 5° of internal rotation</li> <li>• in 10°-15° of external rotation.</li> </ul>
10	Flexion restricted to less than 50°. Flexion contracture of 30° or more. Abduction restricted to less than 5°. Abduction contracture of 11°-20°. Ankylosis not in optimal position: <ul style="list-style-type: none"> <li>• in 10° to 50° of flexion</li> <li>• in at least 10° of internal rotation</li> <li>• in at least 20° of external rotation</li> <li>• in 5°-10° of abduction</li> <li>• in at least 5° of adduction.</li> </ul>

%WPI	Criteria (one required – different conditions may be assessed separately)
15	Abduction contracture of more than 20°. Ankylosis not in optimal position: <ul style="list-style-type: none"> <li>• in 0° to 60° of flexion</li> <li>• in at least 20° of internal rotation</li> <li>• in at least 30° of external rotation</li> <li>• in 15°-20° of abduction</li> <li>• in at least 10° of adduction.</li> </ul>
20	Ankylosis in optimal position (see paragraph 242 above). Ankylosis not in optimal position: <ul style="list-style-type: none"> <li>• in at least 70° of flexion</li> <li>• in at least 30° of internal rotation</li> <li>• in at least 40° of external rotation</li> <li>• in at least 25° of abduction</li> <li>• in at least 15° of adduction.</li> </ul>

## 9.5 Lower extremity amputations

- 244 [Table 9.5: Lower extremity amputations](#) is the only table used to assess impairment arising from amputations in the lower extremity.
- 245 [Table 9.7: Lower extremity function](#) must not be used in cases involving amputations.
- 246 A WPI rating from [Table 9.5: Lower extremity amputations](#) may be **combined** with other WPI ratings for lower extremity conditions above the amputation site.

**Table 9.5: Lower extremity amputations**

%WPI	Criteria (one required – different conditions may be assessed separately)
0	Amputation through: <ul style="list-style-type: none"> <li>• interphalangeal joint (distal or proximal) of any one of 2nd, 3rd, 4th or 5th toes</li> <li>• any phalanx of any one of the 2nd, 3rd, 4th or 5th toes.</li> </ul> Amputation of any portion of soft tissue of any toe.
1	Amputation of any <b>one</b> of the 2nd, 3rd, 4th or 5th toes at the metatarso-phalangeal joint.
2	Amputation of: <ul style="list-style-type: none"> <li>• the first toe at the interphalangeal joint</li> <li>• any toe except the first toe through the metatarsal</li> <li>• any two of the 2nd, 3rd, 4th or 5th toes at the metatarso-phalangeal joint.</li> </ul>
3	Amputation of any <b>three</b> of the 2nd, 3rd, 4th and 5th toes at the metatarso-phalangeal joint.
4	Amputation of <b>all four</b> of the 2nd, 3rd, 4th and 5th toes at the metatarso-phalangeal joint.
5	Amputation of the first toe at the metatarso-phalangeal joint.
8	Amputation of the first metatarsal (first toe).
10	Amputation of all toes of one foot at the metatarso-phalangeal joints.
16	Transmetatarsal amputation.
18	Midfoot amputation.
25	Syme amputation of hindfoot.
28	Amputation of lower leg more than 7.5cm below knee.

%WPI	Criteria (one required – different conditions may be assessed separately)
32	Amputation of lower leg 7.5cm or less below knee. Knee disarticulation. Amputation above knee distal to mid thigh.
36	Amputation above knee through mid thigh.
40	Amputation above knee proximal to mid thigh. Hip disarticulation.
50	Hemipelvectomy.

## 9.6 Spinal nerve root impairments and peripheral nerve injuries affecting the lower extremities

247 The grading system set out in [Figure 9-C](#) is to be used with [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#), [Table 9.6.2a: Sensory impairment due to peripheral nerve injuries affecting the lower extremities](#) and [Table 9.6.2b: Motor impairment due to peripheral nerve injuries affecting the lower extremities](#).

**Figure 9-C: Grading system**

Grading	Sensory deficits or pain Criteria	Motor function Criteria
0	No sensation. <b>or</b> Severe pain that prevents all activity.	No contraction.
1	No protective sensibility with abnormal sensations. <b>or</b> Severe pain that prevents most activity.	A flicker.
2	Decreased protective sensibility with abnormal sensations. <b>or</b> Severe pain that prevents some activity.	Active movement with gravity eliminated.
3	Diminished light touch <b>and</b> two-point discrimination with some abnormal sensations. <b>or</b> Slight pain that interferes with some activity.	Active movement against gravity.
4	Diminished light touch with or without minimal abnormal sensations. <b>or</b> Pain that is forgotten during activity.	Active movement against gravity and resistance.
5	Normal sensation. <b>or</b> No pain.	Normal power.

### 9.6.1 Spinal nerve root impairment affecting the lower extremity

248 [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#) is to be used where there is involvement of a single spinal nerve. Where there are multiple nerves involved, the respective WPI ratings for each involved nerve may be **combined**.

249 Values obtained for pain, discomfort and/or sensory loss may be **combined** with values obtained for loss of strength, using the combined values chart (see [Appendix 1](#)).

250 Where the same nerve root is assessed, [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#) must not be used in conjunction with [Table 9.17: Lumbar spine](#).

**Table 9.6.1: Spinal nerve root impairment affecting the lower extremity**

Nerve root	Impairment causing pain, discomfort and/or sensory loss Grading						Nerve root
	5	4	3	2	1	0	
	%WPI						
L3	0	1	1	2	3	3	L3
L4	0	1	1	2	3	3	L4
L5	0	1	1	2	3	3	L5
S1	0	1	1	2	3	3	S1

### 9.6.2 Peripheral nerve injuries affecting the lower extremities

251 WPI ratings obtained for sensory impairment may be **combined** with WPI ratings for dysaesthesia, and the total combined with WPI ratings for motor impairment, using the combined values chart (see [Appendix 1](#)).

252 Where the same nerve is assessed, [Table 9.6.2a: Sensory impairment due to peripheral nerve injuries affecting the lower extremities](#) and [Table 9.6.2b: Motor impairment due to peripheral nerve injuries affecting the lower extremities](#) must not be used in conjunction with [Table 9.17: Lumbar spine](#).

253 Use the grading system shown in [Figure 9-C](#).

**Table 9.6.2a: Sensory impairment due to peripheral nerve injuries affecting the lower extremities**

Nerve	Sensory grading						Nerve
	5	4	3	2	1	0	
	%WPI						
Femoral	0	0	0	1	1	1	Femoral
Lateral femoral cutaneous	0	0	0	1	1	1	Lateral femoral cutaneous
Sciatic	0	1	3	5	6	7	Sciatic
Common peroneal	0	0	1	1	2	2	Common peroneal
Tibial	0	1	2	4	4	5	Tibial
Superficial peroneal	0	0	1	1	2	2	Superficial peroneal
Sural	0	0	0	1	1	1	Sural
Medial plantar	0	0	1	1	2	2	Medial plantar
Lateral plantar	0	0	1	1	2	2	Lateral plantar

**Table 9.6.2b: Motor impairment due to peripheral nerve injuries affecting the lower extremities**

	Motor grading					
	5	4	3	2	1	0
Nerve	%WPI					
Femoral	0	3	6	9	13	15
Obturator	0	1	1	2	3	3
Superior gluteal	0	5	10	15	21	25
Inferior gluteal	0	3	6	9	13	15
Sciatic	0	6	12	18	26	30
Common peroneal	0	3	6	9	13	15
Tibial	0	3	6	9	13	15
Medial plantar	0	0	1	1	2	2
Lateral plantar	0	0	1	1	2	2

## 9.7 Lower extremity function

- 254 [Table 9.7: Lower extremity function](#) should only be used to assess impairment from objectively identified orthopaedic or neurological conditions arising in and affecting the lower extremities. It may not be used to assess impairment from conditions manifesting principally as pain with no clinically demonstrable lower extremity pathology.
- 255 A secondary dysfunction (that is, impairment) consequent to disuse is only assessable under [Table 9.7: Lower extremity function](#) if this dysfunction is permanent and there are objective clinical findings that can be validly assessed using other tables in [Part I – The lower extremities – feet and toes, ankles, knees and hips](#) (see [Chapter 9 – The musculoskeletal system](#)). The impairments resulting from an injury assessed in this way are to be **combined** using the combined values table (see [Appendix 1](#)).
- 256 If permanent, conditions such as sesamoiditis, plantar fasciitis, plantar tendonitis, and pes planus, should be assessed under [Table 9.7: Lower extremity function](#).
- 257 [Table 9.7: Lower extremity function](#) must not be used in cases involving amputations.
- 258 A single assessment only may be made under [Table 9.7: Lower extremity function](#), regardless of whether one or two extremities are affected by the injury. The impairment assessed under Table 9.7 is of overall lower extremity function, rather than that of individual extremities. However, where a pre-existing injury results in permanent impairment to the same lower extremity function the subsequent injury should be assessed by reference to the functional capacities of a normal healthy person (see [Principles of Assessment](#), paragraph 39 above).
- 259 Before using [Table 9.7: Lower extremity function](#) the assessor should check the instructions (see [Part I – Introduction](#)) preceding the specific joint impairment tables ([Table 9.1: Feet and toes](#), [Table 9.2: Ankles](#), [Table 9.3: Knees](#) and [Table 9.4: Hips](#)) and use Table 9.7 strictly in accordance with those instructions. In particular, Table 9.7 cannot be used where the condition causes a reduction in the range of motion of a joint and an assessment can be made under any one or more of Table 9.1, Table 9.2, Table 9.3 or Table 9.4.
- 260 Where only one limb is affected, regardless of the number of impairments found in that limb, the limb should be assessed using the relevant tables other than [Table 9.7: Lower extremity function](#) and all impairments **combined** using the combined values table (see [Appendix 1](#)). The combined impairment rating should then be compared with the rating taken from the relevant row in Table 9.7 and the higher rating obtained from the two methods chosen.
- 261 Where both limbs are affected, each limb should be assessed using the relevant tables other than [Table 9.7: Lower extremity function](#) and all impairments in both limbs **combined** using the combined values table (see [Appendix 1](#)). The combined impairment rating should then be compared with the rating taken from the relevant row in Table 9.7 and the

higher rating obtained from the two methods chosen.

262 **Table 9.7: Lower extremity function may be used** to assess lower extremity impairment arising as a result of spinal cord damage. Observe the special procedure set out in the introduction to Part III of this Chapter (see [Part III – Introduction](#)). However, Table 9.7 **may not be used** to assess lower extremity impairment arising as a result of nerve root compression, or other neurological sequelae of other spinal conditions. These should be assessed under:

- a) tables dealing with spinal nerve root impairments and peripheral nerve injuries affecting the lower extremities:
  - i) [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#); or
  - ii) [Table 9.6.2a: Sensory impairment due to peripheral nerve injuries affecting the lower extremities](#); or
  - iii) [Table 9.6.2b: Motor impairment due to peripheral nerve injuries affecting the lower extremities](#); or
- b) [Table 9.15: Cervical spine – diagnosis-related estimates](#); or
- c) [Table 9.16: Thoracic spine – diagnosis-related estimates](#); or
- d) [Table 9.17: Lumbar spine – diagnosis-related estimates](#).

263 To fulfil the requirements of a WPI rating in [Table 9.7: Lower extremity function](#), there must be one major criterion and at least two minor criteria present (where minor criteria are listed).

264 ‘Manifest difficulty’ is difficulty (such as stumbling, or an altered gait) evident to the assessor. The difficulty must be tested clinically: history alone cannot be relied upon in the assessment.

**Table 9.7: Lower extremity function**

%WPI	Major criteria (at least one required)	Minor criteria (at least two required where listed)
0	Walks at a normal pace in comparison with peers on level ground or uneven ground and can avoid obstacles. <b>or</b> Distance walked is not restricted by the condition being assessed (although other factors such as the level of fitness may cause restriction).	
5	Walks at a normal pace in comparison with peers on level ground but has manifest difficulty negotiating uneven ground and avoiding obstacles. <b>or</b> Walking is restricted to 1000m or less (may be able to walk further after resting).	Legs give way or lock occasionally without causing falls. <b>and</b> Can negotiate three or more stairs or a ramp (up and down) without the use of a walking aid or hand rails.
10	Walks at a normal pace in comparison with peers on level ground but is unable to negotiate uneven ground without use of a walking aid or personal assistant. <b>or</b> Walking is restricted to 500m or less (may be able to walk further after resting).	Legs give way or lock occasionally without causing falls. <b>and</b> Is unable to negotiate three or more stairs or a ramp (up and down) without the use of a walking aid or hand rails.

%WPI	Major criteria (at least one required)	Minor criteria (at least two required where listed)
20	<p>Walks at a moderately reduced pace in comparison with peers on level ground.</p> <p><b>or</b></p> <p>Walking is restricted to 250m or less (may be able to walk further after resting).</p>	<p><b>At least two</b> of the following:</p> <ul style="list-style-type: none"> <li>• Legs give way occasionally, causing falls.</li> <li>• Is unable to negotiate three or more stairs or a ramp (up and down) without use of a walking aid or hand rails.</li> <li>• Is unable to rise from sitting to standing position without use of one hand but can stand without support.</li> </ul>
30	<p>Walks at a significantly reduced pace in comparison with peers on level ground.</p> <p><b>or</b></p> <p>Walking is restricted to 100m or less (may be able to walk further after resting).</p>	<p><b>At least two</b> of the following:</p> <ul style="list-style-type: none"> <li>• Legs give way frequently, causing falls.</li> <li>• Demonstrated medical need for a brace or walking aid (walking stick or crutches) on level ground.</li> <li>• Is unable to negotiate three or more stairs or a ramp (up and down) without assistance from another person.</li> <li>• Is unable to rise from sitting to standing position without use of both hands but can stand without support.</li> </ul>
40	<p>Walks at a greatly reduced pace in comparison with peers on level ground.</p> <p><b>or</b></p> <p>Walking is restricted to 50m or less (may be able to walk further after resting).</p>	<p><b>At least two</b> of the following:</p> <ul style="list-style-type: none"> <li>• Is restricted to walking around house and yard.</li> <li>• Demonstrated medical need for a walking aid (walking stick or crutches) when walking on level ground.</li> <li>• Is unable to negotiate three or more stairs or a ramp (up and down) under any circumstances.</li> <li>• Is unable to rise from sitting to standing position without personal assistance and is unable to stand without support.</li> </ul>
50	<p>Walks at a very slow pace in comparison with peers on level ground.</p> <p><b>or</b></p> <p>Walking is restricted to 25m or less (may be able to walk further after resting).</p>	<p><b>At least two</b> of the following:</p> <ul style="list-style-type: none"> <li>• Is restricted to walking around house.</li> <li>• Demonstrated medical need for a quad stick or walking frame as support when standing and walking.</li> <li>• Is unable to negotiate any steps or ramps.</li> <li>• Is unable to rise from sitting to standing position without personal assistance and is unable to stand without support.</li> </ul>
60	<p>Can stand with support of personal assistant but is unable to walk.</p>	
65	<p>Unable to stand or walk.</p>	

## PART II – THE UPPER EXTREMITIES – HANDS AND FINGERS, WRISTS, ELBOWS AND SHOULDERS

### PART II – INTRODUCTION

- 265 The impairments assessed for each region in each upper extremity are **combined** (that is, hand, wrist, elbow, shoulder).
- 266 The WPI rating for one upper extremity may be **combined** with a WPI rating for the other upper extremity, except in the case of assessments under [Table 9.14: Upper extremity function](#), where the notes appearing prior to Table 9.14 are to be followed.
- 267 WPI ratings from the following tables **may not be combined** with a WPI rating under [Table 9.14: Upper extremity function](#) if they assess the same condition in the same upper extremity:
- a) tables dealing with abnormal motion of digits:
    - i) [Table 9.8.1a: Abnormal motion/ankylosis of the thumb – IP and MP joints](#);
    - ii) [Table 9.8.1b: Radial abduction/adduction/opposition of the thumb – abnormal motion/ankylosis](#);
    - iii) [Table 9.8.1c: Abnormal motion/ankylosis of the fingers – index and middle fingers](#);
    - iv) [Table 9.8.1d: Abnormal motion/ankylosis of the fingers – ring and little fingers](#);
  - b) tables dealing with sensory losses in thumb and fingers:
    - i) [Table 9.8.2a: Sensory losses in the thumb](#);
    - ii) [Table 9.8.2b: Sensory losses in the index and middle fingers](#);
    - iii) [Table 9.8.2c: Sensory losses in the little finger](#);
    - iv) [Table 9.8.2d: Sensory losses in the ring finger](#);
  - c) tables dealing with wrists:
    - i) [Table 9.9.1a: Wrist flexion/extension](#);
    - ii) [Table 9.9.1b: Radial and ulnar deviation of wrist joint](#);
  - d) tables dealing with elbows:
    - i) [Table 9.10.1a: Elbow – flexion/extension](#);
    - ii) [Table 9.10.1b: Pronation and supination of forearm](#);
  - e) tables dealing with shoulders:
    - i) [Table 9.11.1a: Shoulder – flexion/extension](#);
    - ii) [Table 9.11.1b: Shoulder – internal/external rotation](#);
    - iii) [Table 9.11.1c: Shoulder – abduction/adduction](#).
- 268 If the assessor considers that the impairment is not adequately assessed using one of the tables in [Section 9.9 \(Wrists\)](#), [Section 9.10 \(Elbows\)](#) or [Section 9.11 \(Shoulders\)](#), and the condition involves objectively demonstrated joint instability, objectively demonstrated arthritis or where the employee has had an arthroplasty, the assessor may consider the effect of the injury on upper extremity function instead and assess the WPI rating using [Table 9.14: Upper extremity function](#). Table 9.14 cannot be used unless the condition involves objectively demonstrated joint instability or arthritis or the employee has had an arthroplasty.



- 269 Where a condition cannot be assessed under a specific table in the upper extremities group, an assessment may be made under the provisions of the AMA5.
- 270 All ankylosis assessments from tables in the upper extremities group are alternative assessments to those for abnormal motion of the individual joints.
- 271 The **maximum** WPI rating for a single upper extremity is 60%, including **combined** WPI ratings.

### Steps in calculating upper extremity impairment

- 272 Note that sensory loss in the digit is assessed either as a digit impairment or as a peripheral nerve impairment as appropriate, but not both.

<b>Step 1</b>	<b>Add</b> abnormal motion/ankylosis impairment values <b>within</b> an individual joint.
<b>Step 2</b>	<b>Add</b> abnormal motion/ankylosis impairment values for <b>different</b> joints in the <b>thumb</b> .
<b>Step 3</b>	<b>Combine</b> impairment values for <b>different</b> joints in the <b>other</b> four digits.
<b>Step 4</b>	<b>Combine</b> impairment values for each digit for sensory loss due to digital nerve injury and/or amputation.
<b>Step 5</b>	<b>Add</b> impairment values for <b>each</b> digit to obtain the <b>total</b> hand assessment.
<b>Step 6</b>	<b>Combine</b> with impairment values for different <b>regions</b> in the upper extremity.

## 9.8 Hands and fingers

- 273 Add the WPI ratings for each individual digit to obtain the total WPI rating for the hand.
- 274 WPI ratings for abnormal motion or ankylosis of digits are **combined** with those for sensory losses in the same digits.

### 9.8.1 Abnormal motion of digits

- 275 The following tables assess impairments to range of motion of the digits of the hand, including ankylosis of one or more joints:
- [Table 9.8.1a: Abnormal motion/ankylosis of the thumb – IP and MP joints;](#)
  - [Table 9.8.1b: Radial abduction/adduction/opposition of the thumb – abnormal motion/ankylosis;](#)
  - [Table 9.8.1c: Abnormal motion/ankylosis of the fingers – index and middle fingers; and](#)
  - [Table 9.8.1d: Abnormal motion/ankylosis of the fingers – ring and little fingers.](#)
- 276 Impairment values for flexion and extension losses in each individual joint are **added** to obtain the total WPI rating for loss of range of motion of that joint.
- 277 Where there is abnormal motion or ankylosis of more than one joint of the same finger, the WPI ratings for abnormal motion or ankylosis are **combined** to obtain the WPI rating for that finger.
- 278 Where there is abnormal motion or ankylosis of more than one joint of the thumb, the WPI ratings for abnormal motion or ankylosis are **added** to obtain the WPI rating for the thumb.

**Table 9.8.1a: Abnormal motion/ankylosis of the thumb – IP and MP joints**

See notes to Table 9.8.1a for further information.

Direction	IP joint			MP joint			Direction
Extension/ hyper- extension	Ankylosis	Loss of extension	Loss of flexion	Ankylosis	Loss of extension	Loss of flexion	Extension/ hyper- extension
	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	
				2	0	2	40°
30°	3	0	3	2	0	2	30°
20°	3	0	3	2	0	2	20°
10°	2	0	2	2	0	2	10°
0°	2	0	2	1	0	1	0°
10°	2	1	1	1	0	1	10°
20°	2	1	1	1	0	1	20°
30°	2	1	1	1	1	1	30°
40°	2	2	1	2	1	1	40°
50°	2	2	1	2	2	0	50°
60°	3	2	0	2	2	0	60°
70°	3	3	0				
80°	3	3	0				
Flexion							Flexion

**Table 9.8.1b: Radial abduction/adduction/opposition of the thumb – abnormal motion/ankylosis**

See notes to Table 9.8.1b for further information.

%WPI	Criteria (one required – different conditions may be assessed separately)
0	Loss of less than 10° of radial adduction. Loss of less than 35° of radial abduction. Lack of less than 3cm adduction. Thumb opposition of more than 6cm.
1	Loss of 10°-20° of radial adduction. Loss of 35°-40° of radial abduction. Lack of 3-5cm adduction. Thumb opposition of 5-6cm. Ankylosis in 30°-35° of radial abduction.
2	Loss of 25° or more of radial adduction. Loss of 45° or more of radial abduction. Lack of 6cm adduction. Ankylosis in 15°-25°, or 40°-50° of radial abduction. Ankylosis in 4cm of adduction. Thumb opposition of 4cm.
3	Lack of 7cm adduction. Thumb opposition of 3cm. Ankylosis in 3cm or 5cm of adduction.

%WPI	Criteria (one required – different conditions may be assessed separately)
4	Lack of 8cm adduction. Ankylosis in 0-2cm or 6-8cm of adduction.
5	Thumb opposition of 2cm. Ankylosis in thumb opposition of 5-6cm.
6	Ankylosis in thumb opposition of 4cm or 7cm.
7	Thumb opposition of 1cm. Ankylosis in thumb opposition of 3cm or 8cm.
8	Ankylosis in thumb opposition of 1 or 2cm.
10	Thumb opposition of 0cm. Ankylosis in thumb opposition of 0cm.

**Table 9.8.1c: Abnormal motion/ankylosis of the fingers – index and middle fingers**

See notes to Table 9.8.1c for further information.

Direction	Index and middle fingers									Direction
Extension/ hyper- extension	DIP joint			PIP joint			MP joint			Extension/ hyper- extension
	Ankylosis	Loss of extension	Loss of flexion	Ankylosis	Loss of extension	Loss of flexion	Ankylosis	Loss of extension	Loss of flexion	
	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	
30°	5	0	5	8	0	8				30°
20°	4	0	4	8	0	8	7	0	7	20°
10°	4	0	4	7	0	7	6	1	6	10°
0°	4	0	4	7	0	7	6	1	5	0°
10°	4	0	3	6	1	6	5	1	5	10°
20°	3	1	3	6	1	5	5	1	4	20°
30°	4	1	2	6	1	4	5	1	4	30°
40°	4	2	2	5	2	4	6	3	3	40°
50°	4	3	1	6	3	3	7	4	2	50°
60°	4	4	1	7	4	3	8	6	2	60°
70°	5	5	0	7	5	2	8	8	1	70°
80°				8	7	1	10	9	1	80°
90°				8	8	1	11	11	0	90°
100°				8	8	0				100°
Flexion										Flexion

**Table 9.8.1d: Abnormal motion/ankylosis of the fingers – ring and little fingers**

See notes to Table 9.8.1d for further information.

Direction	Ring and little fingers									Direction
Extension/ hyper- extension	DIP joint			PIP joint			MP joint			Extension/ hyper- extension
	Ankylosis	Loss of extension	Loss of flexion	Ankylosis	Loss of extension	Loss of flexion	Ankylosis	Loss of extension	Loss of flexion	
	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	%WPI	
30°	3	0	3	4	0	4				30°
20°	2	0	2	4	0	4	3	0	3	20°
10°	2	0	2	4	0	4	3	0	3	10°
0°	2	0	2	3	0	3	3	1	3	0°
10°	2	0	2	3	0	3	3	1	2	10°
20°	2	0	2	3	1	3	3	1	2	20°
30°	2	1	1	3	1	2	3	1	2	30°
40°	2	1	1	3	1	2	3	2	2	40°
50°	2	2	1	3	2	2	3	2	1	50°
60°	2	2	1	3	2	1	4	3	1	60°
70°	3	3	0	4	3	1	4	4	1	70°
80°				4	3	1	5	5	1	80°
90°				4	4	1	5	5	0	90°
100°				4	4	0				100°
Flexion										Flexion

**Notes to Tables 9.8.1a, 9.8.1b, 9.8.1c and 9.8.1d**

1. Abbreviations:

IP = interphalangeal.

MP = metacarpo-phalangeal.

CMC = carpometacarpal.

PIP = Proximal interphalangeal.

DIP = Distal interphalangeal.

- Thumb adduction is the smallest possible distance from the flexor crease of the IP joint of the thumb to the distal palmar crease over the level of the MP joint of the little finger. The normal range of adduction of the thumb is from 8cm to 0cm.
- Thumb radial abduction is the largest angle of separation actively formed between the first and second metacarpals in the coronal plane. The normal angle of radial abduction is 50°. The smallest angle of thumb radial adduction is 15°.
- Opposition of the thumb is measured as the largest achievable distance between the flexor crease of the IP joint of the thumb to the distal palmar crease directly over the third MP joint. The normal range of opposition of the thumb is from 0cm to 8cm. In the case of employees with small hands, compare the loss of opposition with the normal range of opposition in the unaffected hand.

5. Optimal positions of thumb and fingers:

Joint	Optimal position
Thumb IP	20° of flexion
Thumb MP	20° of flexion
Thumb CMC	30°-35° of radial abduction

Joint	Optimal position
Finger DIP	20° of flexion
Finger PIP	40° of flexion
Finger MP	30° of flexion

### 9.8.2 Sensory losses in the thumb and fingers

279 The following tables assess sensory losses in the thumb and fingers due to digital nerve lesions only:

- a) [Table 9.8.2a: Sensory losses in the thumb;](#)
- b) [Table 9.8.2b: Sensory losses in the index and middle fingers;](#)
- c) [Table 9.8.2c: Sensory losses in the little finger;](#) and
- d) [Table 9.8.2d: Sensory losses in the ring finger.](#)

280 Sensory losses due to peripheral nerve lesions are assessed under tables dealing with neurological impairments affecting the upper extremities:

- a) [Table 9.13.1: Cervical nerve root impairment;](#)
- b) [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment;](#) and
- c) [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment.](#)

281 The two-point discrimination test is used to assess sensory loss:

- a) Total sensory loss = two-point discrimination of greater than 15mm;
- b) Partial sensory loss = two-point discrimination of 7mm to 15mm.

282 Two-point discrimination of less than 7mm is not treated as an impairment.

283 Transverse sensory loss involves both digital nerves (ulnar **and** radial). Longitudinal sensory loss involves a single digital nerve (ulnar **or** radial).

284 Assess the percentage of digit length involved using the method in the AMA5 and consult [Table 9.8.2a: Sensory losses in the thumb](#), [Table 9.8.2b: Sensory losses in the index and middle fingers](#), [Table 9.8.2c: Sensory losses in the little finger](#) and [Table 9.8.2d: Sensory losses in the ring finger](#), using the corresponding WPI rating for the nerve or nerves involved.

285 WPI ratings for transverse sensory loss **may not be combined** with WPI ratings for longitudinal sensory loss in the same digit. The conditions of transverse sensory loss and longitudinal sensory loss in an individual digit are mutually exclusive.

286 WPI ratings for sensory losses in digits are **combined** with those for abnormal motion or ankylosis in the same digits.

287 For the thumb and little finger, losses involving the ulnar digital nerve are rated higher than those of the radial digital nerve. For the other fingers, losses involving the radial digital nerve are rated higher than those of the ulnar digital nerve.

288 If the little finger has been amputated, the ring finger is assessed as if it were the little finger.

Table 9.8.2a: Sensory losses in the thumb

Percentage of digit length	%WPI (thumb)					
	Transverse loss		Longitudinal loss			
	Both digital nerves		Ulnar digital nerve		Radial digital nerve	
	Total	Partial	Total	Partial	Total	Partial
10	1	1	1	1	1	0
20	2	1	1	1	1	1
30	3	2	2	1	1	1
40	4	2	3	1	2	1
50	5	3	3	2	2	1
60	7	3	4	2	3	1
70	8	4	4	2	3	2
80	8	4	5	3	3	2
90	10	5	6	3	4	2
100	11	5	7	3	4	2

Table 9.8.2b: Sensory losses in the index and middle fingers

Percentage of digit length	%WPI (index and middle fingers)					
	Transverse loss		Longitudinal loss			
	Both digital nerves		Ulnar digital nerve		Radial digital nerve	
	Total	Partial	Total	Partial	Total	Partial
10	1	1	0	0	1	0
20	1	1	1	0	1	1
30	2	1	1	1	1	1
40	2	1	1	1	1	1
50	3	2	1	1	2	1
60	3	2	1	1	2	1
70	4	2	2	1	2	1
80	4	2	2	1	3	1
90	5	3	2	1	3	2
100	5	3	2	1	3	2

Table 9.8.2c: Sensory losses in the little finger

Percentage of digit length	%WPI (little finger)					
	Transverse loss		Longitudinal loss			
	Both digital nerves		Ulnar digital nerve		Radial digital nerve	
	Total	Partial	Total	Partial	Total	Partial
10	1	0	0	0	0	0
20	1	1	1	0	0	0
30	1	1	1	1	1	0
40	1	1	1	1	1	0
50	2	1	1	1	1	1
60	2	1	1	1	1	1
70	2	1	1	1	1	1
80	2	1	1	1	1	1
90	3	1	2	1	1	1
100	3	2	2	1	1	1

Table 9.8.2d: Sensory losses in the ring finger

Percentage of digit length	%WPI (ring finger)					
	Transverse loss		Longitudinal loss			
	Both digital nerves		Ulnar digital nerve		Radial digital nerve	
	Total	Partial	Total	Partial	Total	Partial
10	1	0	0	0	0	0
20	1	1	0	0	1	0
30	1	1	1	0	1	1
40	1	1	1	0	1	1
50	2	1	1	1	1	1
60	2	1	1	1	1	1
70	2	1	1	1	1	1
80	2	1	1	1	1	1
90	3	1	1	1	2	1
100	3	2	1	1	2	1

## 9.9 Wrists

289 The following tables assess impairments to range of motion of the wrists, including ankylosis:

- a) [Table 9.9.1a: Wrist flexion/extension](#); and
- b) [Table 9.9.1b: Radial and ulnar deviation of wrist joint](#).

290 Loss of range of motion in each functional plane is measured from the neutral position. The range of motion is expressed as the two achievable limits of active motion in each direction through the normal range of motion. It is possible that the only motion that can be achieved is between two points on one side of the neutral position.

291 The WPI rating for restriction of motion in one direction is assessed according to the active motion than can be achieved in that direction. It is then **added** to the WPI rating for the active motion in the reverse direction.

292 **Add** the abnormal motion WPI ratings for each direction of motion for both wrist flexion/extension and radial/ulnar deviation. Where there is ankylosis, including after an arthrodesis procedure, the assessment should be made only under the ankylosis scale.

293 Where an arthroplasty procedure has been undertaken, refer to the AMA5. Assess the upper extremity impairment rating for abnormal motion and the upper extremity impairment rating for arthroplasty in accordance with the AMA5, then convert each of those ratings into WPI ratings using Table 16-3 of the AMA5. **Combine** those WPI ratings obtained from the AMA5 using the combined values chart (see [Appendix 1](#)).

294 For ankylosis, the optimal position for arthrodesis of the wrist is approximately 15°-20° of dorsiflexion with slight ulnar deviation.

295 The **maximum** possible wrist impairment is 35% WPI.

296 For the same condition, a WPI rating from [Table 9.9.1a: Wrist flexion/extension](#) or [Table 9.9.1b: Radial and ulnar deviation of wrist joint](#) **may not be combined** with a WPI rating from [Table 9.14: Upper extremity function](#).

**Table 9.9.1a: Wrist flexion/extension**

Direction	Ankylosis	Loss of extension	Loss of flexion	Direction
Extension	%WPI	%WPI	%WPI	Extension
60°	25	0	25	60°
50°	22	1	22	50°
40°	17	2	15	40°
30°	16	3	13	30°
20°	14	4	10	20°
10°	13	5	8	10°
0°	13	7	6	0°
10°	13	8	5	10°
20°	15	11	4	20°
30°	17	14	3	30°
40°	20	18	2	40°
50°	23	22	1	50°
60°	25	25	0	60°
<b>Flexion</b>				<b>Flexion</b>



**Table 9.9.1b: Radial and ulnar deviation of wrist joint**

Direction	Ankylosis	Loss of radial deviation	Loss of ulnar deviation	Direction
Radial deviation	%WPI	%WPI	%WPI	Radial deviation
20°	11	0	11	20°
15°	10	1	9	15°
10°	8	1	7	10°
5°	7	2	5	5°
0°	5	2	3	0°
5°	5	3	2	5°
10°	5	3	2	10°
15°	7	5	2	15°
20°	8	7	1	20°
25°	10	9	1	25°
30°	11	11	0	30°
Ulnar deviation				Ulnar deviation

## 9.10 Elbows

297 The following tables assess impairments to range of motion of the elbows, including ankylosis:

- a) [Table 9.10.1a: Elbow – flexion/extension](#); and
- b) [Table 9.10.1b: Pronation and supination of forearm](#).

298 Loss of range of motion in each functional plane is measured from the neutral position. The range of motion is expressed as the two achievable limits of active motion in each direction through the normal range of motion. It is possible that the only motion that can be achieved is between two points on one side of the neutral position.

299 The WPI rating for restriction of motion in one direction is assessed according to the active motion than can be achieved in that direction. It is then **added** to the WPI rating for the active motion in the reverse direction.

300 **Add** the abnormal motion WPI rating for each direction of motion for both elbow flexion/extension and pronation/supination. Where there is ankylosis, including after an arthrodesis procedure, the assessment should be made only under the ankylosis scale.

301 Where an arthroplasty procedure has been undertaken, refer to the AMA5. Assess the upper extremity impairment rating for abnormal motion and the upper extremity impairment rating for arthroplasty in accordance with AMA5, then convert each of those ratings into WPI ratings using Table 16-3 of the AMA5. **Combine** those WPI ratings obtained from the AMA5 using the combined values chart (see [Appendix 1](#)).

302 For ankylosis, the optimal or functional position is 80° of flexion and 20° of pronation.

303 The **maximum** possible elbow impairment is 40% WPI.

304 For the same condition, a WPI rating from [Table 9.10.1a: Elbow – flexion/extension](#) or [Table 9.10.1b: Pronation and supination of forearm](#) **may not be combined** with a WPI rating from [Table 9.14: Upper extremity function](#).

**Table 9.10.1a: Elbow – flexion/extension**

Direction	Ankylosis	Loss of extension	Loss of flexion	Direction
Flexion	%WPI	%WPI	%WPI	Flexion
140°	25	25	0	140°
130°	23	22	1	130°
120°	20	19	1	120°
110°	19	16	2	110°
100°	16	13	4	100°
90°	15	10	5	90°
80°	13	7	6	80°
70°	14	5	9	70°
60°	15	4	11	60°
50°	17	3	14	50°
40°	19	2	16	40°
30°	20	2	19	30°
20°	22	1	20	20°
10°	23	1	22	10°
0°	25	0	25	0°
Extension				Extension

**Table 9.10.1b: Pronation and supination of forearm**

Direction	Ankylosis	Loss of pronation	Loss of supination	Direction
Supination	%WPI	%WPI	%WPI	Supination
80°	17	17	0	80°
70°	16	16	0	70°
60°	16	15	1	60°
50°	15	14	1	50°
40°	14	13	1	40°
30°	14	13	1	30°
20°	13	11	2	20°
10°	11	9	2	10°
0°	9	7	2	0°
10°	7	5	2	10°
20°	5	2	2	20°
30°	5	2	4	30°
40°	7	2	5	40°
50°	9	1	8	50°
60°	11	1	11	60°
70°	14	1	13	70°
80°	17	0	17	80°
Pronation				Pronation

## 9.11 Shoulders

- 305 The following tables assess impairments to range of motion of the shoulders, including ankylosis:
- [Table 9.11.1a: Shoulder – flexion/extension;](#)
  - [Table 9.11.1b: Shoulder – internal/external rotation;](#) and
  - [Table 9.11.1c: Shoulder – abduction/adduction.](#)
- 306 Loss of range of motion in each functional plane is measured from the neutral position. The range of motion is expressed as the two achievable limits of active motion in each direction through the normal range of motion. It is possible that the only motion that can be achieved is between two points on one side of the neutral position.
- 307 The WPI rating for restriction of motion in one direction is assessed according to the active motion than can be achieved in that direction. It is then **added** to the WPI rating for the active motion in the reverse direction.
- 308 **Add** the abnormal motion WPI ratings for each direction of motion for shoulder flexion/extension, abduction/adduction and internal/external rotation. Where there is ankylosis, including after an arthrodesis procedure, the assessment should only be made under the ankylosis scale.
- 309 Where an arthroplasty procedure has been undertaken, refer to the AMA5. Assess the upper extremity impairment rating for abnormal motion and the upper extremity impairment rating for arthroplasty in accordance with the AMA5, then convert each of those ratings into WPI ratings using Table 16-3 of AMA5. **Combine** those WPI ratings obtained from the AMA5 using the combined values chart (see [Appendix 1](#)).
- 310 For ankylosis, the optimal or functional position is 20°-40° of flexion, 20°-50° of abduction and 30°-50° of internal rotation. Unless the shoulder has been arthrodesed, an assessment for ankylosis under this table would be rare.
- 311 The **maximum** possible shoulder impairment is 35% WPI.
- 312 For the same condition, a WPI rating from [Table 9.11.1a: Shoulder – flexion/extension](#), [Table 9.11.1b: Shoulder – internal/external rotation](#) or [Table 9.11.1c: Shoulder – abduction/adduction](#) **may not be combined** with a WPI rating from [Table 9.14: Upper extremity function](#).

**Table 9.11.1a: Shoulder – flexion/extension**

Direction	Ankylosis	Loss of extension	Loss of flexion	Direction
Flexion	%WPI	%WPI	%WPI	Flexion
180°	18	18	0	180°
170°	18	17	1	170°
160°	17	17	1	160°
150°	17	16	1	150°
140°	17	16	2	140°
130°	17	15	2	130°
120°	17	14	2	120°
110°	17	14	3	110°
100°	16	13	3	100°
90°	16	13	4	90°
80°	15	11	4	80°
70°	13	9	4	70°
60°	12	7	5	60°

Direction	Ankylosis	Loss of extension	Loss of flexion	Direction
Flexion	%WPI	%WPI	%WPI	Flexion
50°	10	5	5	50°
40°	9	3	6	40°
30°	9	3	6	30°
20°	9	2	7	20°
10°	11	2	10	10°
0°	14	2	13	0°
10°	15	1	14	10°
20°	16	1	14	20°
30°	16	1	16	30°
40°	17	1	17	40°
50°	18	0	18	50°
Extension				Extension

Table 9.11.1b: Shoulder – internal/external rotation

Direction	Ankylosis	Loss of external rotation	Loss of internal rotation	Direction
External rotation	%WPI	%WPI	%WPI	External rotation
90°	7	0	7	90°
80°	7	0	7	80°
70°	7	0	7	70°
60°	6	0	6	60°
50°	6	1	5	50°
40°	5	1	5	40°
30°	5	1	5	30°
20°	5	1	4	20°
10°	5	1	4	10°
0°	4	1	3	0°
10°	4	1	3	10°
20°	4	1	2	20°
30°	4	1	2	30°
40°	4	2	2	40°
50°	4	2	1	50°
60°	4	3	1	60°
70°	5	5	1	70°
80°	6	6	0	80°
90°	7	7	0	90°
Internal rotation				Internal rotation

Table 9.11.1c: Shoulder – abduction/adduction

Direction	Ankylosis	Loss of adduction	Loss of abduction	Direction
Abduction	%WPI	%WPI	%WPI	Abduction
180°	11	11	0	180°
170°	11	11	0	170°
160°	10	10	1	160°
150°	10	10	1	150°
140°	10	9	1	140°
130°	10	9	1	130°
120°	10	8	2	120°
110°	10	8	2	110°
100°	10	7	2	100°
90°	10	7	2	90°
80°	8	5	3	80°
70°	7	4	3	70°
60°	7	3	3	60°
50°	5	2	3	50°
40°	5	2	3	40°
30°	5	1	4	30°
20°	5	1	7	20°
10°	7	1	6	10°
0°	8	1	7	0°
10°	9	1	8	10°
20°	10	1	9	20°
30°	10	1	10	30°
40°	10	0	10	40°
50°	11	0	11	50°
<b>Adduction</b>				<b>Adduction</b>

## 9.12 Upper extremity amputations

313 Total loss of hand function is equivalent to amputation of the whole hand and attracts a WPI rating of 54%.

314 [Table 9.14: Upper extremity function](#) must not be used for amputations.

**Table 9.12.1: Upper extremity amputations**

%WPI	Criteria
54	Amputation of thumb and all fingers through metacarpals.
56	Amputation at wrist or between wrist and distal to bicipital insertion.
57	Amputation from distal to deltoid insertion to bicipital insertion.
60	Amputation of arm at deltoid insertion and proximally. or Amputation at shoulder.
70	Forequarter amputation.

**Table 9.12.2: Amputation of digits**

%WPI	Thumb	Fingers	%WPI	
			Index and middle	Ring and little
2	Tip of thumb excluding bone.	Tip of finger excluding bone.	1	1
7	Through distal phalanx.	Through distal phalanx.	3	2
11	Through IP joint.	Through distal IP joint.	5	3
17	Through proximal phalanx.	Through middle phalanx.	7	4
22	Through MP joint.	Through proximal IP joint.	8	
	Through distal third of 1 <sup>st</sup> metacarpal.	Through proximal phalanx.	10	5
23	At or near the CMC joint.	Through MP joint or metacarpal.	11	

## 9.13 Neurological impairments affecting the upper extremities

315 Sensory impairments due to digital nerve lesions alone are assessed under tables dealing with sensory losses in thumb and fingers:

- a) [Table 9.8.2a: Sensory losses in the thumb](#);
- b) [Table 9.8.2b: Sensory losses in the index and middle fingers](#);
- c) [Table 9.8.2c: Sensory losses in the little finger](#); and
- d) [Table 9.8.2d: Sensory losses in the ring finger](#).

316 Care must be taken to avoid duplicating impairment assessments for digital nerve sensory impairment with assessments for peripheral nerve sensory impairment. Assessments for digital nerve sensory impairment are assessed under [Table 9.8.2a](#), [Table 9.8.2b](#), [Table 9.8.2c](#) and [Table 9.8.2d](#). Assessments for peripheral nerve sensory impairment are assessed under [Table 9.13.1: Cervical nerve root impairment](#), [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment](#) and [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment](#).

317 For sensory impairment in the same digit, WPI ratings obtained from [Table 9.13.1](#), [Table 9.13.2a](#) and [Table 9.13.2b](#), **may not be combined** with WPI ratings from [Table 9.8.2a](#), [Table 9.8.2b](#), [Table 9.8.2c](#) and [Table 9.8.2d](#).

318 The grading system set out in [Figure 9-D](#) is to be used with [Table 9.13.1: Cervical nerve root impairment](#), [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment](#) and [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment](#).

**Figure 9-D: Grading system**

See note to [Figure 9-D](#) for further information.

Grading	Sensory deficits or pain Criteria	Motor function Criteria
0	No sensation. <b>or</b> Severe pain that prevents all activity.	No contraction.
1	No protective sensibility with abnormal sensations. <b>or</b> Severe pain that prevents most activity.	A flicker.
2	Decreased protective sensibility with abnormal sensations. <b>or</b> Severe pain that prevents some activity.	Active movement with gravity eliminated.
3	Diminished light touch <b>and</b> two-point discrimination with some abnormal sensations. <b>or</b> Slight pain that interferes with some activity.	Active movement against gravity.
4	Diminished light touch with or without minimal abnormal sensations. <b>or</b> Pain that is forgotten during activity.	Active movement against gravity and resistance.
5	Normal sensation. <b>or</b> No pain.	Normal power.

**Note to Figure 9-D**

- Figure 9-D also appears in [Section 9.6 – Spinal nerve root impairments and peripheral nerve injuries affecting the lower extremities](#) as [Figure 9-C: Grading system](#). It is repeated here for ease of reference.

**9.13.1 Cervical nerve root impairment**

319 Use the appropriate section of [Table 9.13.1: Cervical nerve root impairment](#), depending on whether there is involvement of a single spinal nerve, the brachial plexus, or combined nerve root impairment.

320 WPI ratings for sensory impairment may be **combined** with those for motor impairment, using the combined values chart (see [Appendix 1](#)). [Table 9.13.1: Cervical nerve root impairment](#) must not be used in conjunction with [Table 9.15: Cervical spine – diagnosis-related estimates](#) where the same nerve is assessed under that table.

321 The **maximum** WPI rating for one upper extremity is 60%. A WPI of 60% may be awarded **either**:

- for complete brachial plexus sensory loss; **or**
- brachial plexus motor loss;

**but these may not be combined** to give a WPI rating greater than 60% for the one upper extremity.

Table 9.13.1: Cervical nerve root impairment

Nerve root	Single nerve involvement						Nerve root
	Sensory impairment						
	Grading						
	5	5	4	3	2	1	
<b>C5</b>	0	0	2	<b>C5</b>	11	15	<b>C5</b>
<b>C6</b>	0	0	4	<b>C6</b>	13	18	<b>C6</b>
<b>C7</b>	0	0	4	<b>C7</b>	13	18	<b>C7</b>
<b>C8</b>	0	0	5	<b>C8</b>	16	23	<b>C8</b>
<b>T1</b>	0	0	2	<b>T1</b>	7	10	<b>T1</b>

Nerve root	Single nerve involvement						Nerve root
	Motor impairment						
	Grading						
	0	4	3	2	1	0	
<b>C5</b>	18	1	1	2	3	3	<b>C5</b>
<b>C6</b>	21	1	2	4	5	5	<b>C6</b>
<b>C7</b>	21	1	1	2	3	3	<b>C7</b>
<b>C8</b>	27	1	1	2	3	3	<b>C8</b>
<b>T1</b>	12	1	1	2	3	3	<b>T1</b>

Nerves or nerve roots	Brachial plexus involvement or combined nerve root impairment					
	Sensory impairment					
	Grading					
	5	4	3	2	1	0
	%WPI					
<b>Complete brachial plexus (C5 to T1 inclusive)</b>	0	12	24	42	54	60
<b>Upper trunk of brachial plexus (C5, C6, Erb-Duchenne)</b>	0	3	6	11	14	15
<b>Middle trunk of brachial plexus (C7)</b>	0	1	1	2	3	3
<b>Lower trunk of brachial plexus (C8, T1, Déjerine-Klumpke)</b>	0	2	5	8	11	12

Nerves or nerve roots	Brachial plexus involvement or combined nerve root impairment					
	Motor impairment					
	Grading					
	5	4	3	2	1	0
	%WPI					
<b>Complete brachial plexus (C5 to T1 inclusive)</b>	0	12	24	36	51	60
<b>Upper trunk of brachial plexus (C5, C6, Erb-Duchenne)</b>	0	9	18	27	38	45
<b>Middle trunk of brachial plexus (C7)</b>	0	4	8	13	18	21
<b>Lower trunk of brachial plexus (C8, T1, Déjerine-Klumpke)</b>	0	8	17	25	36	42



### 9.13.2 Specific nerve lesions affecting the upper extremities

- 322 Only employees with an objectively verifiable diagnosis qualify for a WPI rating under [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment](#) and [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment](#). The diagnosis is made not only on credible and clinically logical symptoms but, more importantly, on the presence of positive clinical findings and loss of function. The diagnosis should be documented by electromyography as well as sensory and motor nerve conduction studies. As noted under the [Principles of Assessment](#), the assessor should not order additional investigations solely for assessment purposes.
- 323 It is critical to understand that there is no correlation between the severity of conduction delay on nerve conduction velocity testing, and the severity of either symptoms or the WPI rating.
- 324 If available, surgical findings of evidence of nerve compression and reactive hyperaemia upon nerve release can be used to confirm the diagnosis.
- 325 Using the combined values chart (see [Appendix 1](#)), WPI ratings obtained for sensory impairment may be **combined** with WPI ratings for motor impairment.
- 326 A WPI rating under [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment](#) and [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment](#) may be **combined** (except where the same nerve is assessed) with WPI ratings from [Table 9.15: Cervical spine – diagnosis-related estimates](#).

**Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment**

Nerve	Grading					
	5	4	3	2	1	0
	%WPI					
Axillary	0	1	1	2	3	3
Medial antebrachial cutaneous	0	1	1	2	3	3
Medial brachial cutaneous	0	1	1	2	3	3
Median nerve (above mid forearm)	0	5	9	16	21	23
Median nerve (below mid forearm)	0	5	9	16	21	23
Radial palmar digital of thumb	0	1	2	3	4	4
Ulnar palmar digital of thumb	0	1	3	5	6	7
Radial palmar digital of index finger	0	1	1	2	3	3
Ulnar palmar digital of index finger	0	0	1	1	2	2
Radial palmar digital of middle finger	0	1	1	2	3	3
Ulnar palmar digital of middle finger	0	0	1	1	2	2
Radial palmar digital of ring finger	0	0	1	1	2	2
Musculocutaneous	0	1	1	2	3	3
Radial (including loss of triceps function)	0	1	1	2	3	3
Radial (at elbow with sparing of triceps)	0	1	1	2	3	3
Suprascapular	0	1	1	2	3	3
Ulnar (above mid forearm)	0	1	2	3	4	4
Ulnar (below mid forearm)	0	1	2	3	4	4
Ulnar palmar digital of ring finger	0	0	0	1	1	1
Radial palmar digital of little finger	0	0	0	1	1	1

	Grading					
	5	4	3	2	1	0
Nerve	%WPI					
Ulnar palmar digital of little finger	0	0	1	1	2	2

**Table 9.13.2b: Specific nerve lesions affecting the upper extremities – motor impairment**

	Grading					
	5	4	3	2	1	0
Nerve	%WPI					
Medial and lateral pectoral	0	1	1	2	3	3
Axillary	0	4	8	13	18	21
Dorsal scapular	0	1	1	2	3	3
Long thoracic	0	2	4	5	8	9
Median nerve (above mid forearm)	0	5	10	16	22	26
Median nerve (anterior interosseous branch)	0	2	4	5	8	9
Median nerve (below mid forearm)	0	1	2	4	5	6
Musculocutaneous	0	3	6	9	13	15
Radial (including loss of triceps function)	0	5	10	15	21	25
Radial (at elbow with sparing of triceps)	0	4	8	13	18	21
Subscapulars (upper and lower)	0	1	1	2	3	3
Suprascapular (upper and lower)	0	2	4	6	9	10
Thoracodorsal	0	1	2	4	5	6
Ulnar (above mid forearm)	0	6	11	17	24	28
Ulnar (below mid forearm)	0	4	8	13	18	21

### 9.13.3 Chronic pain conditions

- 327 This Section applies to the assessment of the degree of permanent impairment of an employee who suffers a chronic pain condition (however described) where no other diagnosis better explains the signs and symptoms of the condition and the condition is an injury.
- 328 A chronic pain condition affecting the upper extremities should be assessed using the methodology in this Section. A chronic pain condition affecting the lower extremities should be assessed using the same methodology as for the upper extremities substituting, where appropriate, the tables in [Section 9.1 \(Feet and toes\)](#), [Section 9.2 \(Ankles\)](#), [Section 9.3 \(Knees\)](#) and [Section 9.4 \(Hips\)](#).
- 329 If the chronic pain condition affects more than one extremity (whether upper or lower), only one WPI rating obtained under [Table 9.13.3: Chronic pain conditions](#) may be used to assess the degree of permanent impairment of the employee.
- 330 A chronic pain condition that does not affect the upper or lower extremities should be assessed in accordance with the applicable chapters in this Guide. If the condition cannot be assessed in accordance with any other chapters in this Guide (that is, where an assessment of 0% or more is not possible), the degree of permanent impairment of the employee resulting from that injury is 5%.
- 331 If the employee suffers an injury that results in chronic pain (other than migraine or tension headache) but is not a chronic pain condition, that injury should not be assessed using the methodology in this Section and should be assessed in accordance with the applicable chapters in this Guide.

332 If the employee suffers an injury that results in migraine or tension headache, the assessment of the degree of the permanent impairment of the employee resulting from that injury (to the extent the injury results in migraine or tension headache) is to be made in accordance with Chapter 18 of the AMA5.

### Steps in assessing a chronic pain condition

<b>Step 1</b>	Assess whether there is objective evidence of impairment and subjective experience of pain in the affected upper extremity.
<b>Step 2</b>	Assess the <b>sensory deficits and pain</b> in the affected upper extremity according to the grade that best describes the severity of interference with activities as described in <a href="#">Figure 9-D: Grading system</a> . Use clinical judgment to select the appropriate severity grade from Figure 9-D and explain the reasons for that selection. The maximum value is not automatically applied.
<b>Step 3</b>	Using the assessments obtained from Step 1 and Step 2, assess the WPI rating for the chronic pain condition using <a href="#">Table 9.13.3: Chronic pain conditions</a> . Use clinical judgment to select the appropriate WPI rating from Table 9.13.3 and explain the reasons for that selection.
<b>Step 4</b>	If the WPI rating obtained from Step 3 is greater than 5%, assess the WPI rating for the affected upper extremity resulting from loss of motion of each affected joint using the tables in <a href="#">Section 9.8.1 (Abnormal motion of digits)</a> , <a href="#">Section 9.9 (Wrists)</a> , <a href="#">Section 9.10 (Elbows)</a> and <a href="#">Section 9.11 (Shoulders)</a> as appropriate. (For lower extremity impairment, use the tables in <a href="#">Section 9.1 (Feet and toes)</a> , <a href="#">Section 9.2 (Ankles)</a> , <a href="#">Section 9.3 (Knees)</a> and <a href="#">Section 9.4 (Hips)</a> as appropriate.)
<b>Step 5</b>	<b>Combine</b> the WPI rating obtained from Step 3 with the WPI rating obtained from Step 4 (if any). The <b>maximum</b> WPI rating for the affected extremity is 60%.

**Table 9.13.3: Chronic pain conditions**

%WPI	Criteria	Grade (see <a href="#">Figure 9-D</a> )
5	Continuing pain that is disproportionate to any inciting event. <b>and</b> Evidence of <b>at least one</b> of the following: <ul style="list-style-type: none"> <li>• Hyperaesthesiae and/or allodynia; <b>and</b></li> <li>• Temperature asymmetry and/or skin colour changes and/or skin colour asymmetry; <b>and</b></li> <li>• Oedema and/or sweating increase or decrease and/or sweating asymmetry; <b>and</b></li> <li>• Decreased active joint range of motion and/or motor dysfunction (tremor, dystonia) and/or trophic changes (hair, nail, skin).</li> </ul>	5
10–15	Continuing pain that is disproportionate to any inciting event. <b>and</b> Evidence of <b>all</b> of the following: <ul style="list-style-type: none"> <li>• Hyperaesthesiae and/or allodynia; <b>and</b></li> <li>• Temperature asymmetry and/or skin colour changes and/or skin colour asymmetry; <b>and</b></li> <li>• Oedema and/or sweating increase or decrease and/or sweating asymmetry; <b>and</b></li> <li>• Decreased active joint range of motion and/or motor dysfunction (tremor, dystonia) and/or trophic changes (hair, nail, skin).</li> </ul>	4
16–36	Same as preceding criteria.	3
37–48	Same as preceding criteria.	2
49–59	Same as preceding criteria.	1
60	Same as preceding criteria.	0

## 9.14 Upper extremity function

- 333 Before using [Table 9.14: Upper extremity function](#) the assessor should read the instructions preceding the specific joint impairment tables in [Section 9.8 \(Hands and fingers\)](#), [Section 9.9 \(Wrists\)](#), [Section 9.10 \(Elbows\)](#) and [Section 9.11 \(Shoulders\)](#) (see [Part II – Introduction](#)). Table 9.14 is used strictly in accordance with those instructions. In particular, Table 9.14 cannot be used where an assessment can be made under one or more table in Section 9.9, Section 9.10 or Section 9.11 and there is no objectively demonstrated joint instability or arthritis or arthroplasty.
- 334 [Table 9.14: Upper extremity function](#) is an alternative table, which may be used instead of the specific orthopaedic or neurological table or tables. It is important to note that Table 9.14 assesses the function of the entire upper extremity. Consequently, for the purposes of ascertaining the most beneficial WPI rating for the same upper extremity, any assessment under Table 9.14 for a single upper extremity may be compared only with the total or combined impairment obtained after using other tables in [Part II – The upper extremities](#) (see [Chapter 9 – The musculoskeletal system](#)).
- 335 For the purposes of ascertaining the most beneficial WPI rating, [Table 9.14: Upper extremity function](#) may not be compared with single impairments under the other tables, unless there are no other impairments affecting the upper extremities.
- 336 At least one major criterion, and at least two minor criteria (where listed), must be satisfied for a WPI rating to be assigned under [Table 9.14: Upper extremity function](#). Where possible, the major criteria should be assessed on the basis of neurological examination of motor strength, co-ordination and dexterity. Where possible, functional activities should be assessed by observation of the specified activities.
- 337 [Table 9.14: Upper extremity function](#) should be used only to assess impairment from objectively identified orthopaedic or neurological conditions arising in, and affecting, the upper extremities.
- 338 While it is true that disuse secondary to pain may produce secondary dysfunction (that is, impairment) of the upper extremities, this must not be assessed using [Table 9.14: Upper extremity function](#) unless this dysfunction is permanent and there are objective clinical findings that cannot be validly assessed using other tables in [Part II – The upper extremities](#) (see [Chapter 9 – The musculoskeletal system](#)).
- 339 **[Table 9.14: Upper extremity function](#) must not be used for assessment of amputations.**
- 340 Where one limb only is affected by the injury, regardless of the number of impairments found in that limb, the limb should be assessed using the relevant tables other than [Table 9.14: Upper extremity function](#) and all impairments **combined** using the combined values table (see [Appendix 1](#)). The combined impairment rating should then be compared with the rating taken from the relevant (non-dominant or dominant) column in Table 9.14 and the higher rating obtained from the two methods used to assess WPI.
- 341 Where both limbs are affected by the injury, each limb should be assessed using the tables other than [Table 9.14: Upper extremity function](#) and all impairments in both limbs **combined** using the combined values table. The combined impairment rating should then be compared with the rating taken from the ‘both extremities’ column in Table 9.14 and the higher rating obtained from the two methods used to assess WPI.
- 342 [Table 9.14: Upper extremity function](#) may be used to assess upper extremity impairment arising as a result of spinal cord damage. Use the special procedure set out in the introduction to Part III of this Chapter (see [Part III – Introduction](#)). Table 9.14 is not to be used to assess upper extremity impairment arising as a result of nerve root compression, or other neurological sequelae of cervical spinal conditions. These should be assessed under [Table 9.13.1](#), [Table 9.13.2a](#) and [Table 9.13.2b](#) (tables dealing with neurological impairments affecting the upper extremities).

**Table 9.14: Upper extremity function**

<b>%WPI</b>	<b>%WPI</b>	<b>%WPI</b>	<b>Major criteria (at least one required)</b>	<b>Minor criteria (at least two required where listed)</b>
<b>Non-dominant extremity</b>	<b>Dominant extremity</b>	<b>Both extremities</b>		
<b>0</b>	<b>0</b>	<b>0</b>	Normal digital dexterity. No limitations in use of extremity for personal care.	Writes 2 A4 pages or more at one time. Can lift more than 13 kilograms (males). Can lift more than 9 kilograms (females). Able to lace shoes easily. Joins paper clips without difficulty.
<b>3</b>	<b>5</b>	<b>10</b>	Minor loss of digital dexterity. Minor limitations in use of extremity for personal care.	Rests after writing an A4 page. Cannot lift more than 13 kilograms (males). Cannot lift more than 9 kilograms (females). Finds it difficult to do up shoelaces. Fumbles when joining paper clips.
<b>10</b>	<b>10</b>	<b>20</b>	Moderate loss of digital dexterity. Moderate limitations in use of extremity for personal care.	Rests after writing half an A4 page. Cannot lift more than 4.5 kilograms. Cannot do up shoelaces. Cannot join paperclips. Dresses slowly unassisted.
<b>15</b>	<b>20</b>	<b>35</b>	Major loss of digital dexterity. Major restrictions in personal care.	Rests after writing 50 words or less. Cannot lift more than 1.5 kilograms. Cannot put on a tie or belt. Needs assistance to cut up food. Needs some assistance to dress.
<b>25</b>	<b>30</b>	<b>50</b>	Little useful digital co-ordination. Severely limited use of extremity for personal care.	Rests after writing 10 words or less. Cannot lift more than 0.5 kilograms. Constantly drops light objects (for example, cups). Unable to cut up food. Needs extensive assistance to dress.
<b>30</b>	<b>40</b>	<b>60</b>	No co-ordination of digits. Severely limited use of extremity for personal care.	Unable to sign name. Constantly needs a splint to write or eat. Unable to lift light objects. Needs food placed in mouth to eat. Unable to dress without assistance.
<b>40</b>	<b>50</b>	<b>70</b>	Minimal extremity movement against gravity. Cannot use extremity for personal care.	Cannot use extremity to eat. Cannot bring a pen to paper. Cannot raise extremity to assist dressing.
<b>60</b>	<b>60</b>	<b>84</b>	Unable to use upper extremity at all.	

## PART III – THE SPINE

### PART III – INTRODUCTION

343 The assessor should:

- a) obtain a comprehensive, accurate medical history and review all relevant available records;
- b) include in the assessment report a comprehensive description of current symptoms and their relationship to daily activities, detailed findings on physical examination, and all findings of relevant diagnostic and ancillary tests; and
- c) indicate how the impairment assessment was calculated by reference to the relevant tables.

344 For the same condition, WPI ratings from [Table 9.7: Lower extremity function](#) and/or [Table 9.14: Upper extremity function](#), are **not normally combined** with WPI ratings from [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) or [Table 9.17: Lumbar spine – diagnosis-related estimates](#).

345 However, the **special procedure** set out below applies where there is spinal cord injury with neurological sequelae (that is, corticospinal tract involvement).

<b>Step 1</b>	Assess (where applicable): <ol style="list-style-type: none"><li>1.1. Lower limb impairment using <a href="#">Table 9.7: Lower extremity function</a>;</li><li>1.2. Upper limb impairment using <a href="#">Table 9.14: Upper extremity function</a>;</li><li>1.3. Bladder/urological dysfunction using <a href="#">Table 12.7: Neurological impairment of the urinary system</a> (see <a href="#">Chapter 12 – The neurological system</a>);</li><li>1.4. Anorectal dysfunction using <a href="#">Table 12.8: Neurological impairment of the anorectal system</a> (see <a href="#">Chapter 12 – The neurological system</a>);</li><li>1.5. Sexual dysfunction using <a href="#">Table 12.9: Neurological impairment affecting sexual function</a> (see <a href="#">Chapter 12 – The neurological system</a>);</li><li>1.6. Respiratory dysfunction (for example, with cervical spinal cord injuries) using <a href="#">Table 12.6: Neurological impairment of the respiratory system</a> (see <a href="#">Chapter 12 – The neurological system</a>).</li></ol>
<b>Step 2</b>	<b>Combine</b> the relevant impairments from 1-6 in Step 1 above, as applicable.
<b>Step 3</b>	Then <b>combine</b> the WPI from the above procedure with the relevant WPI from <a href="#">Table 9.15: Cervical spine – diagnosis-related estimates</a> , <a href="#">Table 9.16: Thoracic spine – diagnosis-related estimates</a> or <a href="#">Table 9.17: Lumbar spine – diagnosis-related estimates</a> to obtain the final WPI.

346 For injuries not involving spinal cord damage but resulting in nerve root involvement/radiculopathy, use [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) or [Table 9.17: Lumbar spine – diagnosis-related estimates](#), **but do not combine** with WPI ratings from [Table 9.7: Lower extremity function](#) or [Table 9.14: Upper extremity function](#).

347 Except where the same nerve is involved, WPI ratings from [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) or [Table 9.17: Lumbar spine – diagnosis-related estimates](#) (where relevant) may be **combined** with WPI ratings under the following tables:

- a) tables dealing with spinal nerve root impairments and peripheral nerve injuries affecting the lower extremities:
  - i) [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#);
  - ii) [Table 9.6.2a: Sensory impairment due to peripheral nerve injuries affecting the lower extremities](#);
  - iii) [Table 9.6.2b: Motor impairment due to peripheral nerve injuries affecting the lower extremities](#);
- b) tables dealing with neurological impairments affecting the upper extremities:
  - i) [Table 9.13.1: Cervical nerve root impairment](#);
  - ii) [Table 9.13.2a: Specific nerve lesions affecting the upper extremities – sensory impairment](#);

iii) [Table 9.13.2b: Specific nerve lesions affecting the upper extremities motor impairment.](#)

- 348 Where there is brachial plexus involvement, WPI ratings from [Table 9.15: Cervical spine – diagnosis-related estimates](#) **may not be combined** with WPI ratings under [Table 9.13.1: Cervical nerve root impairment.](#)
- 349 Definitions of clinical findings for diagnosis-related estimates in assessing spinal impairment are used when assessing impairments of the spine under [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) and [Table 9.17: Lumbar spine – diagnosis-related estimates.](#)

## **PART III – DEFINITIONS OF CLINICAL FINDINGS FOR DIAGNOSIS-RELATED ESTIMATES IN ASSESSING SPINAL IMPAIRMENT**

- 350 These definitions, which are taken from the AMA5, apply to corresponding terms appearing in [Part III – The spine](#) of this Chapter.
- 351 **Alteration of motion segment integrity** – motion segment alteration can be either loss of motion segment integrity (increased translational or angular motion), or decreased motion secondary to developmental fusion, fracture healing, healed infection, or surgical arthrodesis. An attempt at arthrodesis may not necessarily result in a solid fusion but may significantly limit motion at a motion segment. Motion of the individual spine segments cannot be determined by a physical examination but is evaluated with flexion and extension roentgenograms. When routine x-rays are normal and severe trauma is absent, motion segment alteration is rare, and flexion and extension roentgenograms are indicated only if motion segment alteration is suspected from the individual’s history or routine x-rays.
- 352 **Asymmetry of spinal motion** in one of the three principal planes is sometimes caused by muscle spasm or guarding. That is, if an individual attempts to flex the spine, they are unable to do so moving symmetrically: rather, the head or trunk leans to one side. To qualify as true asymmetric motion, the finding must be reproducible and consistent, and the assessor must be convinced that the individual is co-operative and giving full effort.
- 353 **Atrophy** is measured with a tape measure at identical levels on both limbs. For reasons of reproducibility, the difference in circumference should be 2cm or greater in the thigh, and 1cm or greater in the arm, forearm, or leg.
- 354 **Cauda equina syndrome** is manifested by bowel or bladder dysfunction, saddle anaesthesia and variable loss of motor and sensory function in the lower extremities. Individuals with cauda equina syndrome usually have loss of sphincter tone on rectal examination and diminished or absent bladder, bowel, and lower limb reflexes.
- 355 **Electrodiagnostic verification of radiculopathy** – unequivocal electrodiagnostic evidence of acute nerve root pathology includes the presence of multiple positive sharp waves or fibrillation potentials in muscles innervated by one nerve root. However, the quality of the person performing and interpreting the study is critical. Electromyography should be performed only by a physician qualified through education, training, and experience in these procedures. Electromyography does not detect all compressive radiculopathies and cannot determine the cause of the nerve root pathology. On the other hand, electromyography can detect non-compressive radiculopathies which are not identified by imaging studies.
- 356 **Loss of motion segment integrity** is defined as an anteroposterior motion of one vertebra over another that is greater than 3.5mm in the cervical spine, greater than 2.5mm in the thoracic spine, and greater than 4.5mm in the lumbar spine. Alternatively, it is defined as a difference in the angular motion of two adjacent motion segments greater than 15° at L1-2, L2-3 and L3-4, greater than 20° at L4-5 and greater than 25° at L5-S1. In the cervical spine, it is also defined as motion at one level that is more than 11° greater than at either adjacent level.
- 357 **Muscle guarding** is a contraction of muscle to minimise motion or agitation of the injured or diseased tissue. It is not true muscle spasm because the contraction can be relaxed. In the lumbar spine, the contraction frequently results in loss of the normal lumbar lordosis, and it may be associated with reproducible loss of spinal motion.
- 358 **Muscle spasm** is a sudden, involuntary contraction of a muscle or group of muscles. Paravertebral muscle spasm is common after acute spinal injury but is rare in chronic back pain. It is occasionally visible as a contracted paraspinal muscle but is more often diagnosed by palpation (a hard muscle).

- 359 To differentiate true muscle spasm from voluntary muscle contraction, the individual should not be able to relax the contractions. The spasm should be present standing, as well as in the supine position, and frequently causes a scoliosis. The physician can sometimes differentiate spasm from voluntary contraction by asking the individual to place all their weight first on one foot, and then the other, while the physician gently palpates the paraspinal muscles. With this manoeuvre, the individual normally relaxes the paraspinal muscles on the weight-bearing side. If the assessor witnesses this relaxation, it usually means that true muscle spasm is not present.
- 360 **Non-verifiable radicular root pain** is pain that is in the distribution of a nerve root but has no identifiable origin (that is, there are no objective physical, imaging, or electromyographic abnormal findings).
- 361 **Radiculopathy** is significant alteration in the function of a nerve root or nerve roots, and is usually caused by pressure on one or several nerve roots. The diagnosis requires a dermatomal distribution of pain, numbness, and/ or paraesthesia. A root tension sign is usually positive. A diagnosis of herniated disc must be substantiated by an appropriate finding on an imaging study. The presence of findings on an imaging study is insufficient to make the diagnosis of radiculopathy. There must also be clinical evidence as described above.
- 362 **Reflexes** may be normal, increased, reduced, or absent. For reflex abnormalities to be considered valid, the involved and normal limb(s) should show marked asymmetry between arms or legs on repeated testing. Once lost because of previous radiculopathy, a reflex rarely returns. Abnormal reflexes such as Babinski signs or clonus may be signs of corticospinal tract involvement.
- 363 **Urodynamic tests** – cystometrograms are useful in individuals where a cauda equina syndrome is possible but not certain. A normal cystometrogram makes the presence of a nerve-related bladder dysfunction unlikely. Occasionally, more extensive urodynamic testing is necessary.
- 364 **Weakness and loss of sensation** – to be valid, the sensory findings must be in a strict anatomical distribution (that is, follow dermatomal patterns). Motor findings should also be consistent with the affected nerve structure(s). Significant, long-standing weakness is usually accompanied by atrophy.

## PART III – MULTI-LEVEL FRACTURES INVOLVING THE SPINAL CANAL

- 365 For multiple fractures involving the spinal canal on more than one level, as distinct from the spinous processes or facet joints, the assessment made under [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) or [Table 9.17: Lumbar spine – diagnosis-related estimates](#) is to be adjusted as follows:
- where there are multi-level fractures but no associated neurological compromise: increase the assessment under Table 9.15, Table 9.16 or Table 9.17 **by one level**;
  - where there are multi-level fractures with neurological compromise: increase the assessment under Table 9.15, Table 9.16 or Table 9.17 **by two levels**.
- 366 The adjustment, by one or two levels, as applicable, **may be made only once** under each table.
- 367 The adjusted WPI assessment **may not exceed** the maximum WPI rating available in each individual table.

### 9.15 Cervical spine – diagnosis-related estimates

**Table 9.15: Cervical spine – diagnosis-related estimates**

See note to Table 9.15 for further information.

%WPI	Criteria
0	No significant clinical findings, no muscular guarding, no documented neurological impairment, no significant loss of motion segment integrity, no other indication of impairment related to injury. <b>or</b> No fractures.



%WPI	Criteria
8	<p>Clinical history and examination findings compatible with specific injury. Findings may include: muscle guarding or spasm; asymmetric loss of range of motion or non-verifiable radicular complaints defined as complaints of radicular pain without objective findings.</p> <p><b>and</b></p> <p>No alteration of structural integrity.</p> <p><b>or</b></p> <p>Clinically significant radiculopathy and objectively demonstrated disc herniation consistent with the radiculopathy (improved following non-operative treatment).</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of less than 25%; <b>or</b></li> <li>• Posterior element fracture without dislocation – healed without loss of structural integrity or radiculopathy; <b>or</b></li> <li>• Spinous or transverse process fracture with displacement.</li> </ul>
10–18	<p>Significant signs of radiculopathy, such as pain and/or sensory loss in a dermatomal distribution, loss or alteration of relevant reflex(es), loss of muscle strength, or unilateral atrophy compared with the unaffected side, measured at the same distance above or below the elbow. The neurological impairment may be verified by electrodiagnostic findings.</p> <p><b>or</b></p> <p>Clinically significant radiculopathy and objectively verified disc herniation consistent with the radiculopathy, or with improved radiculopathy following surgery.</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of 25% to 50% – healed without loss of structural integrity, with or without radiculopathy; <b>or</b></li> <li>• Posterior element fracture with displacement disrupting the spinal canal – healed without loss of structural integrity, with or without radiculopathy.</li> </ul> <p><b>Note:</b> In the case of fractures, differentiation from a congenital or developmental condition should be accomplished, if possible, by examining pre-injury roentgenograms, if available, or by a bone scan performed after the onset of the condition.</p>
28	<p>Alteration of motion segment integrity (at least 3.5mm of translation of one vertebra on another or angular motion of more than 11° greater than at each adjacent level).</p> <p><b>or</b></p> <p>Bilateral or multilevel radiculopathy with objectively verified disc herniation consistent with the radiculopathy.</p> <p><b>or</b></p> <p>Loss of motion of a motion segment due to a developmental fusion or successful or unsuccessful attempt at surgical arthrodesis.</p> <p><b>or</b></p> <p>Compression fracture of one vertebral body of more than 50% without residual neural compromise.</p>
38	<p>Significant upper extremity impairment requiring the use of upper extremity external functional or adaptive device(s). There may be total neurological loss at a single level or severe, multilevel neurological dysfunction.</p> <p><b>or</b></p> <p>Structural compromise of the spinal canal with severe upper extremity motor and sensory deficits but without lower extremity involvement.</p>

**Note to Table 9.15**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 9.16 Thoracic spine – diagnosis-related estimates

**Table 9.16: Thoracic spine – diagnosis-related estimates**

See note to Table 9.16 for further information.

%WPI	Criteria
0	<p>No significant clinical findings, no muscular guarding, no documented neurological impairment, no significant loss of motion segment integrity, no other indication of impairment related to injury.</p> <p><b>or</b></p> <p>No fractures.</p>
8	<p>History and examination findings compatible with a specific injury. Findings may include: significant muscle guarding or spasm; asymmetric loss of range of motion (dysmetria); or non-verifiable radicular complaints, defined as complaints of radicular pain without objective findings.</p> <p><b>and</b></p> <p>No alteration of motion segment integrity.</p> <p><b>or</b></p> <p>Herniated disc at the level and on the side that would be expected from objective clinical findings, but without radicular signs following conservative treatment.</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of less than 25%; <b>or</b></li> <li>• Posterior element fracture without dislocation – healed without alteration of motion segment integrity or radiculopathy; <b>or</b></li> <li>• Spinous or transverse process fracture with displacement, but without a vertebral body fracture.</li> </ul>
10–18	<p>Ongoing neurological impairment of the lower extremity related to a thoracolumbar injury, documented by alteration of motor and sensory functions, altered reflexes, or findings of unilateral atrophy above or below the knee related to no other condition (may be verified by electrodiagnostic testing).</p> <p><b>or</b></p> <p>Clinically significant radiculopathy and objectively verified disc herniation consistent with the radiculopathy, or with improved radiculopathy following surgery.</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of 25% to 50% – healed without alteration of structural integrity; <b>or</b></li> <li>• Posterior element fracture with mild displacement disrupting the canal – healed without alteration of structural integrity.</li> </ul> <p><b>Note:</b> Differentiation from a congenital or developmental condition should be accomplished, if possible, by examining pre-injury roentgenograms, if available, or by a bone scan performed after the onset of the condition.</p>
23	<p>Alteration of motion segment integrity (more than 2.5mm translation of one vertebra on another).</p> <p><b>or</b></p> <p>Bilateral or multilevel radiculopathy with objectively verified disc herniation consistent with the radiculopathy.</p> <p><b>or</b></p> <p>Compression fracture of one vertebral body of more than 50% without residual neural compromise.</p>

%WPI	Criteria
28	<p>Significant signs of radiculopathy, such as dermatomal pain and/or in a dermatomal distribution, sensory loss, loss of relevant reflex(es), loss of muscle strength or measured unilateral atrophy above or below the knee compared to measurements on the contralateral side at the same location (may be verified by electrodiagnostic findings).</p> <p><b>and</b></p> <p>Alteration of motion segment integrity (more than 2.5mm translation of one vertebra on another).</p> <p><b>or</b></p> <p>Compression fracture of one vertebral body by more than 50% with neural motor compromise, but not bilateral involvement. In that instance, refer notes concerning corticospinal tract impairment evaluation (<a href="#">Part III – Introduction</a>).</p>

**Note to Table 9.16**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 9.17 Lumbar spine – diagnosis-related estimates

**Table 9.17: Lumbar spine – diagnosis-related estimates**

See note to Table 9.17 for further information.

%WPI	Criteria
0	<p>No significant clinical findings, no observed muscle guarding or spasm, no documented neurological impairment, no documented alteration in structural integrity, and no other indication of impairment related to injury.</p> <p><b>or</b></p> <p>No fractures.</p>
8	<p>Clinical history and examination findings compatible with a specific injury. Findings may include: significant muscle guarding or spasm; asymmetric loss of range of motion; or non-verifiable radicular complaints, defined as complaints of radicular pain without objective findings.</p> <p><b>and</b></p> <p>No alteration of the structural integrity and no significant radiculopathy.</p> <p><b>or</b></p> <p>Prior clinically significant radiculopathy and objectively demonstrated disc herniation, consistent with the radiculopathy, but radiculopathy no longer present following conservative treatment.</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of less than 25%; <b>or</b></li> <li>• Posterior element fracture without dislocation (not developmental spondylolysis) that has healed without alteration of motion segment integrity; <b>or</b></li> <li>• Spinous or transverse process fracture with displacement without a vertebral body fracture, with no disruption of the spinal canal.</li> </ul>

%WPI	Criteria
10–13	<p>Significant signs of radiculopathy, such as dermatomal pain and/or in a dermatomal distribution, sensory loss, alteration of relevant reflex(es), loss of muscle strength or measured unilateral atrophy above or below the knee compared to measurements on the contralateral side at the same location (may be verified by electrodiagnostic findings).</p> <p><b>or</b></p> <p>History of a herniated disc at the level and on the side consistent with objective clinical findings, associated with radiculopathy, or now asymptomatic following surgery for radiculopathy.</p> <p><b>or</b></p> <p>Fractures:</p> <ul style="list-style-type: none"> <li>• Compression fracture of one vertebral body of 25% to 50% – healed without alteration of structural integrity; <b>or</b></li> <li>• Posterior element fracture with displacement disrupting the spinal canal – healed without alteration of structural integrity.</li> </ul>
23	<p>Loss of motion segment integrity (at least 4.5mm of translation of one vertebra on another, or angular motion greater than 15° at L1-2, L2-3, and L3-4, greater than 20° at L4-5, and greater than 25° at L5-S1). May have complete, or near complete, loss of motion of a motion segment due to developmental fusion, or successful or unsuccessful attempt at surgical arthrodesis.</p> <p><b>or</b></p> <p>Compression fracture of one vertebral body of more than 50%, without residual neurological compromise.</p>
28	<p>Both radiculopathy and loss of motion segment integrity are present, with significant lower extremity impairment indicated by atrophy or loss of reflex(es), pain, and/or sensory changes within an anatomic distribution (dermatomal), verified by electrodiagnostic findings.</p> <p><b>and</b></p> <p>Loss of motion segment integrity (at least 4.5mm of translation of one vertebra on another or angular motion greater than 15° at L1-2, L2-3, and L3-4, greater than 20° at L4-5, and greater than 25° at L5-S1).</p> <p><b>or</b></p> <p>Compression fracture of one vertebral body of more than 50%, with unilateral neurological compromise.</p>

**Note to Table 9.17**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 9.18 Fractures of the pelvis

368 A WPI rating from [Table 9.18: Fractures of the pelvis](#) may be **combined** with WPI ratings from [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) or [Table 9.17: Lumbar spine – diagnosis-related estimates](#).

**Table 9.18: Fractures of the pelvis**

%WPI	Criteria (one required – different conditions may be assessed separately)
0	Healed fracture: <ul style="list-style-type: none"> <li>• without displacement or residual signs</li> <li>• of one or both rami with displacement but without residual signs</li> <li>• of ischium or ilium with displacement but without residual signs</li> <li>• of coccyx with displacement but without residual signs</li> <li>• of one pubic ramus with displacement, deformity and residual signs.</li> </ul>
2	Healed fracture of ilium with displacement, deformity and residual signs.
5	Healed fracture of: <ul style="list-style-type: none"> <li>• sacrum with displacement but without residual signs</li> <li>• symphysis pubis without separation and without residual signs</li> <li>• both pubic rami with displacement, deformity and residual signs.</li> </ul> Non-union of coccyx fracture. Excision of coccyx.
10	Healed fracture of: <ul style="list-style-type: none"> <li>• ischium with displacement of 2.5cm or more, deformity and residual signs</li> <li>• sacrum involving sacro-iliac joint.</li> </ul>
15	Healed fracture of symphysis pubis with separation or displacement.
Evaluate in accordance with <a href="#">Table 9.4: Hips</a>	Fracture involving acetabulum.

# CHAPTER 10 – THE URINARY SYSTEM

## 10.0 Introduction

- 369 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).
- 370 Impairments assessed under [Chapter 10 – The urinary system](#) include those resulting from an endocrine system condition. An impairment assessed under [Chapter 3 – The endocrine system](#) may be **combined** with those assessed under Chapter 10.

## 10.1 The upper urinary tract

- 371 The upper urinary tract comprises the kidney and ureters.
- 372 Upper urinary tract dysfunction may be indicated by symptoms and signs including:
- changes in urination;
  - oedema;
  - decreased physical stamina;
  - appetite and weight loss;
  - anaemia;
  - uraemia;
  - loin, abdominal or costovertebral angle pain;
  - haematuria;
  - rigours / chills and fever;
  - hypertension or its complications;
  - abnormalities in the appearance of the urine or its sediment;
  - biochemical blood changes.
- 373 Especially in its early stages, renal disease may only become evident with laboratory findings.
- 374 Continuous medical treatment includes drug or dietary therapy.
- 375 Renal replacement therapy includes peritoneal or haemodialysis and renal transplantation.

**Table 10.1: The upper urinary tract**

Nerve root	Criteria (criteria in both Category A and Category B must be satisfied if present)	
	Category A	Category B
	Creatinine clearance	Other symptom(s)
0	>62ml/min	<b>and</b> intermittent symptoms and signs of upper urinary tract dysfunction are present but do not require continuous treatment or surveillance.
5	52-62ml/min	<b>and</b> intermittent symptoms and signs of upper urinary tract dysfunction are present but do not require continuous treatment or surveillance.
10	not applicable	Loss of one kidney or one kidney not functioning.
15	>62ml/min	<b>and</b> intermittent symptoms and signs of upper urinary tract dysfunction are present and require continuous surveillance and frequent treatment.
20	52-62ml/min	<b>and</b> symptoms and signs of upper urinary tract dysfunction are present and require continuous surveillance and frequent treatment.
25	not applicable	Successful renal transplantation results in marked renal function improvement (regardless of creatinine clearance level).

Criteria (criteria in both Category A and Category B must be satisfied if present)		
	Category A	Category B
Nerve root	Creatinine clearance	Other symptom(s)
30	43-52ml/min	<b>and</b> symptoms and signs of upper urinary tract dysfunction are present and require continuous surveillance and frequent treatment.
40	28-42ml/min	Not applicable
50	43-52ml/min	<b>and</b> symptoms and signs of upper urinary tract dysfunction are present and are not completely controlled by surgical or continuous medical treatment.
60	<28ml/min	Not applicable
70	28-42ml/min	<b>and</b> symptoms and signs of upper urinary tract dysfunction are present and are not controlled by surgical or continuous treatment.
80	<28ml/min	<b>and</b> symptoms and signs of upper urinary tract dysfunction are present and are not controlled by surgical or continuous treatment.
90	<14ml/min	<b>and</b> renal replacement therapy.
95	<14ml/min	<b>and</b> metabolic coma from renal failure.

## 10.2 Urinary diversion

376 Using the combined values chart (see [Appendix 1](#)), WPI ratings derived from [Table 10.2: Urinary diversion](#) may be **combined** with WPI ratings derived from [Table 10.1: The upper urinary tract](#).

**Table 10.2: Urinary diversion**

%WPI	Type of diversion
10	Ureterointestinal. <b>or</b> Cutaneous ureterostomy.
15	Nephrostomy.

## 10.3 Lower urinary tract

377 The lower urinary tract comprises the bladder and urethra.

378 Using the combined values chart (see [Appendix 1](#)), WPI ratings derived from [Table 10.3: Lower urinary tract](#) may be **combined** with WPI ratings from [Table 10.1: The upper urinary tract](#), and with WPI ratings from [Table 10.2: Urinary diversion](#).

379 Impairment in the lower urinary tract due to neurological causes, as opposed to local lower urinary tract pathology, should be assessed under [Table 12.7: Neurological impairment of the urinary system](#) (see [Chapter 12 – The neurological system](#)).

380 If:

- a) several impairments of the urinary system are present; and
- b) there is an impairment of bladder function due to neurological causes

then:

- c) a WPI rating from [Table 10.3: Lower urinary tract](#) (except for bladder function) may be **combined** with a WPI rating from [Chapter 12 – The neurological system](#).

381 Symptoms and signs of bladder disorder include:

- a) urinary frequency;
- b) dysuria;
- c) strangury;
- d) urinary incontinence;
- e) urine retention;
- f) haematuria;
- g) pyuria;
- h) passage of urinary calculi;
- i) a suprapubic mass.

382 Signs and symptoms of urethra function impairment include:

- a) dysuria;
- b) diminished urinary stream;
- c) urinary retention;
- d) incontinence;
- e) extraneous or ectopic urinary openings;
- f) periurethral masses;
- g) diminished urethral calibre.

**Table 10.3: Lower urinary tract**

%WPI	Criteria
<b>0</b>	Symptoms and signs of bladder or urethral disorder occurring 1-3 times a year and requiring intermittent treatment – between episodes lower urinary tract function is normal.
<b>5</b>	Symptoms and signs of bladder or urethral disorder occurring 4-6 times a year and requiring intermittent treatment – between episodes lower urinary tract function is normal. <b>or</b> Urethral stricture requiring dilation up to six times a year – between dilations there is normal urethral function.
<b>10</b>	Symptoms and signs of bladder disorder occurring 7-12 times a year and requiring intermittent treatment – between episodes bladder function is normal. <b>or</b> Urethral stricture requiring dilation more than six times a year – between dilations there are significant periods of normal urethral function.
<b>15</b>	Symptoms and signs of bladder disorder occurring more than 12 times a year and requiring intermittent treatment – between episodes bladder function is normal. <b>or</b> Urethral fistula.
<b>20</b>	Symptoms and signs of bladder disorder requiring continuous treatment. <b>or</b> Good bladder reflex activity (that is, storage of urine) but no voluntary control over the reflex activity. <b>or</b> Urethral stricture requiring dilation more than six times a year – between dilations there are no significant periods of normal urethral function.
<b>30</b>	Poor reflex bladder activity (that is, intermittent dribbling incontinence, stress incontinence or urge incontinence) and no voluntary control over the incontinence. <b>or</b> Urethral dysfunction resulting in intermittent urine dribbling and loss of voluntary urinary control.



%WPI	Criteria
40	No reflex or voluntary control of bladder (that is, continuous dribbling incontinence). or Urinary diversion with cystectomy.

# CHAPTER 11 – THE REPRODUCTIVE SYSTEM

## 11.0 Introduction

383 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).

## 11.1 Male reproductive system

384 WPI ratings from tables in [Section 11.1 \(Male reproductive system\)](#) may be **combined**, provided the total WPI rating for all conditions affecting ability to father children does not exceed 20%.

385 The WPI ratings in the tables in [Section 11.1 \(Male reproductive system\)](#) are applicable to 40–65 year old men.

386 Where the employee is outside this age group, the following calculation should be made:

- a) for men 39 years of age or younger, the combined WPI rating (from the tables in [Section 11.1 \(Male reproductive system\)](#)) is increased by 50%;
- b) men 66 years of age or older, the combined WPI rating (from the tables in [Section 11.1 \(Male reproductive system\)](#)) is decreased by 50%.

387 For example, a 29 year old man with a combined maximum WPI of 20% of the male reproductive system would be rated as suffering a 30% WPI: 20% WPI + (0.5 x 20% WPI) = 30% WPI.

388 The tables in [Section 11.1 \(Male reproductive system\)](#) are not to be used with respect to sexual dysfunction arising as a result of neurological impairments rather than local reproductive pathology. Where sexual dysfunction is the result of spinal cord injury, use [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#) (see [Chapter 9 – The musculoskeletal system](#)). Where sexual dysfunction is the result of neurological disorder other than spinal nerve root impairment, use [Table 12.9: Neurological impairment affecting sexual function](#) (see [Chapter 12 – The neurological system](#)).

389 The tables in [Section 11.1 \(Male reproductive system\)](#) are intended for use only to assess impairment resulting from neurological impairment, or local lesions of:

- a) penis;
- b) scrotum;
- c) testes;
- d) epididymes;
- e) spermatic cords; and
- f) prostate and/or seminal vesicles.

390 These tables can be used to assess impairment where obstruction of the vascular supply of the penis and other male organs occurs.

391 These tables are not intended for use where sexual function is impaired for any other reason (for example, pain or depression).

### 11.1.1 Male reproductive organs – penis

**Table 11.1.1: Male reproductive organs – penis**

%WPI	Criteria
0	Occasional interference with sexual function.
10	Sexual function possible but always with a degree of difficulty with erection, ejaculation and/or sensation.
15	Sexual function possible in that there is sufficient erection but sensation and/or ejaculation is absent.
20	No sexual function is possible.

### 11.1.2 Male reproductive organs – scrotum

392 Skin disorders such as dermatitis, or tinea, affecting the scrotal skin are assessed under [Table 4.1: Skin disorders](#) (see [Chapter 4 – Disfigurement and skin disorders](#)). [Table 11.1.2: Male reproductive organs – scrotum](#) is not used to assess these conditions.

**Table 11.1.2: Male reproductive organs – scrotum**

%WPI	Criteria
0	Symptoms and/or signs of scrotal loss or disease with no evidence of testicular malfunction, malposition or loss of mobility.
5	Symptoms and/or signs of scrotal loss or disease with no evidence of testicular malfunction but with testicular malposition or loss of mobility.
10	Total loss of scrotum. <b>or</b> Symptoms and signs of scrotal loss or disease with necessity for testes to be implanted elsewhere to preserve testicular function.
15	Symptoms and signs of scrotal loss or disease with necessity for testes to be implanted elsewhere to preserve testicular function. <b>and</b> Scrotal pain or discomfort present with physical activity.
20	Symptoms and signs of scrotal loss or disease unable to be controlled by treatment. <b>and</b> Scrotal pain severely limits physical activity.

### 11.1.3 Male reproductive organs – testes, epididymes and spermatic cords

**Table 11.1.3: Male reproductive organs – testes, epididymes and spermatic cords**

%WPI	Criteria
0	Symptoms and signs of testicular, epididymal and/or spermatic cord dysfunction are present and there is anatomical alteration. <b>and</b> Continuous treatment is not required and there are no seminal or hormonal abnormalities.
5	Loss of one testis.
10	Symptoms and signs of testicular, epididymal and/or spermatic cord dysfunction are present and there is anatomical alteration. <b>and</b> Continuous or frequent treatment is required, or treatment is not possible. <b>and</b> There are no seminal or hormonal abnormalities.
15	Symptoms and signs of testicular, epididymal and/or spermatic cord dysfunction are present and there is anatomical alteration. <b>and</b> Continuous or frequent treatment is required, or treatment is not possible. <b>and</b> There is no detectable seminal or hormonal function.
20	Loss of both testes.

## 11.1.4 Male reproductive organs – prostate and seminal vesicles

Table 11.1.4: Male reproductive organs – prostate and seminal vesicles

%WPI	Criteria
0	Symptoms and signs of prostate and/or seminal vesicle disease or dysfunction are present. <b>and</b> There is anatomical alteration. <b>and</b> Continuous or very frequent treatment not required.
10	Frequent and severe symptoms of prostate and/or seminal vesicle disease or dysfunction are present. <b>and</b> there is anatomical alteration. <b>and</b> Continuous or very frequent treatment not required.
15	Prostatectomy.

## 11.2 Female reproductive system

393 WPI ratings from the tables in [Section 11.2 \(Female reproductive system\)](#) may be **combined**. However, the total WPI rating for all conditions affecting ability to conceive and be delivered of children may not exceed 30%.

394 The tables in [Section 11.2 \(Female reproductive system\)](#) are not to be used with respect to sexual dysfunction arising as a result of neurological impairments rather than local reproductive pathology. Where sexual dysfunction is the result of spinal cord injury, use [Table 9.6.1: Spinal nerve root impairment affecting the lower extremity](#) (see [Chapter 9 – The musculoskeletal system](#)). Where sexual dysfunction is the result of neurological disorder other than spinal nerve root impairment, use [Table 12.9: Neurological impairment affecting sexual function](#) (see [Chapter 12 – The neurological system](#)).

### 11.2.1 Female reproductive organs – vulva and vagina

Table 11.2.1: Female reproductive organs – vulva and vagina

See note to Table 11.2.1 for further information.

%WPI	Criteria – pre-menopausal	Criteria – post-menopausal
0	Symptoms and signs of disease or deformity of the vulva and/or vagina are present. <b>and</b> Continuous treatment is not required. <b>and</b> Sexual intercourse is possible. <b>and</b> The vagina is adequate for childbirth.	Symptoms and signs of disease or deformity of the vulva and/or vagina are present. <b>and</b> Continuous treatment is not required. <b>and</b> Sexual intercourse is possible with or without considerable difficulty.
10–15	Symptoms and signs of disease or deformity of the vulva and/or vagina are present. <b>and</b> Continuous treatment is required. <b>and</b> Sexual intercourse is possible only with difficulty. <b>and</b> Limited potential for vaginal delivery.	Symptoms and signs of disease or deformity of the vulva and/or vagina are present. <b>and</b> Continuous treatment is required and may not control symptoms. <b>and</b> Sexual intercourse is not possible.

%WPI	Criteria – pre-menopausal	Criteria – post-menopausal
25	Symptoms and signs of disease or deformity of the vulva and/or vagina are present. <b>and</b> Continuous treatment does not control symptoms. <b>and</b> Sexual intercourse is not possible. <b>and</b> Vaginal delivery is not possible.	

**Note to Table 11.2.1**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 11.2.2 Female reproductive organs – cervix and uterus

**Table 11.2.2: Female reproductive organs – cervix and uterus**

See notes to Table 11.2.2 for further information.

%WPI	Criteria – pre-menopausal	Criteria – post-menopausal
0	Symptoms or signs of disease or deformity of cervix and/or uterus present. <b>and</b> Continuous treatment not required. <b>or</b> Cervical stenosis not requiring treatment.	Cervical stenosis. <b>or</b> Anatomical loss of cervix and/or uterus.
5		Symptoms and signs of disease or deformity of cervix and/or uterus present. <b>and</b> Continuous treatment required.
10	Symptoms and signs of disease or deformity of cervix and/or uterus present. <b>and</b> Continuous treatment required.	Symptoms and signs of disease or deformity of the cervix and/or uterus present. <b>and</b> Treatment does not give control.
15	Cervical stenosis requiring periodic treatment.	
25	Symptoms and signs of disease or deformity of cervix and/or uterus present. <b>and</b> Treatment does not control symptoms. <b>or</b> Complete cervical stenosis.	
30	Total hysterectomy. <b>and/or</b> Amputation of cervix.	

**Notes to Table 11.2.2**

1. Hormone replacement therapy is not considered continuous treatment for the purposes of Table 11.2.2.
2. Oral contraception may be considered continuous treatment if pregnancy is contraindicated because of the cervical or uterine lesion.

### 11.2.3 Female reproductive organs – fallopian tubes and ovaries

Table 11.2.3: Female reproductive organs – fallopian tubes and ovaries

%WPI	Criteria – pre-menopausal	Criteria – post-menopausal
0	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment not required. <b>and</b> No difficulties with conception or loss of one ovary.	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment not required. <b>or</b> Unilateral or bilateral loss of one or both fallopian tubes and/or one or both ovaries.
5	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment not required. <b>and</b> Conception possible with medical intervention. <b>or</b> Loss of one fallopian tube.	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment required.
10	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment required. <b>and</b> Conception is possible although medical intervention may be required.	Symptoms or signs of disease or deformity of the fallopian tubes or ovaries present. <b>and</b> Continuous treatment does not give control.
20	Bilateral loss of both fallopian tubes. <b>or</b> Irreparable loss of patency of both fallopian tubes.	
30	Loss of both ovaries. <b>or</b> Failure to produce ova despite treatment.	

# CHAPTER 12 – THE NEUROLOGICAL SYSTEM

## 12.0 Introduction

395 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).

396 The four categories of cerebral impairment are:

- a) disturbances of levels of consciousness or awareness:
  - i) [Table 12.1.1: Permanent disturbances of levels of consciousness and awareness](#);
  - ii) [Table 12.1.2: Epilepsy, seizures and convulsive disorders](#);
  - iii) [Table 12.1.3: Sleep and arousal disorders](#);
- b) impairment of memory, learning, abstract reasoning and problem solving ability:
  - i) [Table 12.2: Impairment of memory, learning, abstract reasoning and problem solving ability](#);
- c) communication impairments:
  - i) [Table 12.3: Criteria for rating impairment due to aphasia or dysphasia](#); and
- d) emotional or behavioural impairments:
  - i) [Table 12.4: Emotional or behavioural impairments](#).

397 WPI ratings from these four categories of cerebral impairment **may not be combined** with each other. The highest WPI rating from these four categories is to be used. Unless otherwise indicated, the highest WPI rating may then be **combined** with:

- a) a WPI rating from any other table or tables in [Chapter 12 – The neurological system](#) other than tables covering the first four categories; and
- b) WPI ratings from tables in other chapters.

398 The following procedure should be used in assessing cerebral function.

<b>Step 1</b>	Assess whether disturbance is present in the level of consciousness or awareness ( <a href="#">Table 12.1.1: Permanent disturbances of levels of consciousness and awareness</a> , <a href="#">Table 12.1.2: Epilepsy, seizures and convulsive disorders</a> and <a href="#">Table 12.1.3: Sleep and arousal disorders</a> ). This may be a permanent alteration or an intermittent alteration in consciousness, awareness or arousal. Use the most applicable of <a href="#">Table 12.1.1</a> , <a href="#">Table 12.1.2</a> or <a href="#">Table 12.1.3</a> .
<b>Step 2</b>	Evaluate mental status and highest integrative functioning ( <a href="#">Table 12.2: Impairment of memory, learning, abstract reasoning and problem solving ability</a> ).
<b>Step 3</b>	Identify any difficulty with comprehension and the use of language ( <a href="#">Table 12.3: Criteria for rating impairment due to aphasia or dysphasia</a> ) Use the higher of the WPI ratings from these two tables.
<b>Step 4</b>	Evaluate any emotional or behavioural disturbances, such as depression, that can modify cerebral function ( <a href="#">Table 12.4: Emotional or behavioural impairments</a> ).
<b>Step 5</b>	Identify the most severe cerebral impairment from steps 1 to 4 above. <b>Combine</b> the most severe WPI rating with WPI ratings from any tables in <a href="#">Chapter 12 – The neurological system</a> including and following <a href="#">Table 12.5.1: The olfactory nerve (I)</a> , or with WPI ratings from other chapters.

399 For the purposes of [Chapter 12 – The neurological system](#), activities of daily living are those in [Figure 12-A](#).

**Figure 12-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

**Notes regarding station, gait and movement disorders**

1. Station, gait and movement disorders:
  - (i) station and gait disorders affecting the lower extremities are to be assessed under [Table 9.7: Lower extremity function](#) (see [Chapter 9 – Musculoskeletal system](#));
  - (ii) movement disorders affecting the upper extremities are to be assessed under [Table 9.14: Upper extremity function](#) (see [Chapter 9 – Musculoskeletal system](#)); and
  - (iii) except as provided for in the case of injury involving spinal cord damage (see notes to [Table 9.15: Cervical spine – diagnosis-related estimates](#), [Table 9.16: Thoracic spine – diagnosis-related estimates](#) and [Table 9.17: Lumbar spine – diagnosis-related estimates](#), [Chapter 9 – Musculoskeletal system](#)), station, gait and movement disorders **may not be combined** with any other WPI ratings from Chapter 9 for the same condition, but may be **combined** with other WPI ratings under [Chapter 12 – The neurological system](#).

## 12.1 Disturbances of levels of consciousness and awareness

### 12.1.1 Permanent disturbances of levels of consciousness and awareness

400 [Table 12.1.1: Permanent disturbances of levels of consciousness and awareness](#) applies to stupor, coma, and permanent vegetative state. These conditions are assessed based on clinical findings on neurological examination and relevant ancillary testing such as CT scan, MRI, SPECT, EEG, evoked potentials and vestibular testing.

**Table 12.1.1: Permanent disturbances of levels of consciousness and awareness**

See note to Table 12.1.1 for further information.

%WPI	Criteria
10–15	Mild persistent alteration of state of consciousness limiting ability to perform some activities requiring alertness but not interfering with self care.
30	Moderate persistent alteration of state of consciousness limiting ability to perform most activities of daily living including self care.
70	Semi-comatose state with complete dependence on others for self care and subsistence.
95	Persistent vegetative state or coma requiring total medical support in a specialised care facility.

**Note to Table 12.1.1**

1. Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.



## 12.1.2 Epilepsy, seizures and convulsive disorders

401 [Table 12.1.2: Epilepsy, seizures and convulsive disorders](#) is used for episodic neurological disorders of consciousness and awareness.

**Table 12.1.2: Epilepsy, seizures and convulsive disorders**

%WPI	Criteria
10	Paroxysmal disorder with predictable characteristics but unpredictable occurrence and frequency and severity of attacks which place some restrictions on activities of daily living and may constitute a risk to the employee or others.
20	Paroxysmal disorder with predictable characteristics but unpredictable occurrence and frequency and severity of attacks which place many restrictions on activities of daily living and constitutes a risk to the employee or others.
40	Severe paroxysmal disorder of such frequency and severity that it limits activities of daily living to those that are supervised or protected.
70	Severe, uncontrollable paroxysmal disorder of such severity that it totally restricts the employee's daily activities – full time care and supervision are required.

## 12.1.3 Sleep and arousal disorders

402 Arousal and sleep disorders include disorders related to:

- a) initiating and maintaining sleep, or inability to sleep;
- b) excessive somnolence, including sleep-induced respiratory impairment; and
- c) sleep-wake schedules.

403 Central sleep apnoea should be assessed using [Table 12.1.3: Sleep and arousal disorders](#). Obstructive sleep apnoea should be assessed using [Table 2.4: WPI derived from obstructive sleep apnoea score](#) (see [Chapter 2 – The respiratory system](#)).

**Table 12.1.3: Sleep and arousal disorders**

See notes to Table 12.1.3 for further information.

%WPI	Criteria
10	Reduced daytime alertness placing some restrictions on activities of daily living, performance of which might constitute a risk to the employee.
20	Reduced daytime alertness placing many restrictions on activities of daily living and constituting a risk to the employee.
40	Reduced daytime alertness of such severity that it limits activities of daily living to those that are supervised or protected.
60	Severe reduction in daytime alertness which totally restricts the employee's daily activities. Full time care and supervision are required.

### Notes to Table 12.1.3

1. 'Supervision' means the immediate presence of a suitable person, responsible in whole or in part for the care of the employee.
2. 'Suitable person' means a person capable of responsibly caring for the employee in an appropriate way.

## 12.2 Impairment of memory, learning, abstract reasoning and problem solving ability

- 404 WPI ratings in [Table 12.2: Impairment of memory, learning, abstract reasoning and problem-solving ability](#) reflect increasing levels of severity. To satisfy particular WPI rating requirements, the majority of criteria for each WPI rating should be present, as described in [Figure 12-B: Clinical dementia rating \(CDR\)](#).
- 405 The WPI ratings are incremental. In order to satisfy the criteria for a particular degree of impairment, the employee must have a greater degree of impairment than that described for the preceding levels.
- 406 The clinical dementia rating (CDR) test for memory, abstract reasoning and problem solving ([Figure 12-B](#)) should be administered by a professional competent in the area.
- 407 The employee’s cognitive function for each category (memory, orientation, judgement and problem solving, community affairs, home and hobbies, personal care) is scored independently. For the purposes of assessing impairment, memory is considered the primary category. The other categories are secondary.
- 408 The following rules apply to scoring:
- if at least three secondary categories are given the same numeric score as memory, then the clinical dementia rating equals the memory score (CDR=M);
  - if three or more of the secondary categories are given a score greater than or less than that for memory, then CDR is increased or decreased from M by one level as applicable;
  - however, if three secondary categories are scored one side of M, and two are scored on the other side of M, then CDR=M.
- 409 Find the row in [Table 12.2: Impairment of memory, learning, abstract reasoning and problem-solving ability](#) that exactly matches the respective scores for CDR and memory. The WPI rating is shown in the first column of that row.

**Table 12.2: Impairment of memory, learning, abstract reasoning and problem solving ability**

%WPI	CDR Score	Memory Score
0	0	0
3	0.5	0
7	0.5	0.5
10	0.5	1.0
15	1.0	0.5
20	1.0	1.0
25	1.0	2.0
30	2.0	1.0
40	2.0	2.0
45	2.0	3.0
55	3.0	2.0
70	3.0	3.0

**Figure 12-B: Clinical dementia rating (CDR)**

From the AMA5.

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

Source: Morris JC, 1993, 'The Clinical Dementia Rating (CDR): current version and scoring rules', *Neurology*, 43(11): 2412-2414.

## 12.3 Communication impairments – dysphasia and aphasia

- 410 Communication involves comprehension, understanding, language, and effective interaction between and among individuals. Aphasia is a condition in which language function is defective or absent. It includes a lack of comprehension with deficits in vision, hearing, and language (both spoken and written), and also the inability to implement discernible and appropriate language symbols by voice, action, writing or pantomime. Dysphasia is a language impairment that is less severe than aphasia (which literally means ‘no speech’) but still is associated with a lesion in the dominant parietal lobe. It presents as a communication problem due to receptive or expressive dysphasia or a combination of the two. Inability to have a meaningful conversation because no nouns are used is an example of dysphasia. Other common errors include errors of grammatical structure, word-finding difficulties, and word substitution. Dysphasia and aphasia are different from dysarthria, which is imperfect articulation of speech due to disordered muscle control. Dysphonia is an impairment of sound production that causes difficulty speaking and understanding. Speech and communication impairments due to non neurological primary problems are discussed in [Chapter 7 – Ear, nose and throat disorders](#).
- 411 Dysphasia is the most common diagnosis, since most individuals usually retain some ability to communicate. An inability to understand language has a poorer prognosis than an inability to express language. Speech therapy is of little value in the absence of comprehension; therefore, compensatory techniques may not be learned when a receptive aphasia or dysphasia exists. Tests for dysphasia should be conducted after it is established how confused or disoriented the individual is and which side of the brain is dominant for speech. Cognition should also be evaluated after dysphasia mechanisms have been excluded.
- 412 Aphasia and dysphasia test batteries are frequently devised by the clinician and cover the following simple tasks:
- listening to spontaneous speech or responses to simple questions;
  - pointing commands and questions that can be answered ‘yes’ or ‘no’ to test comprehension;
  - repeating words and phrases;
  - naming objects that have high-and-low frequency use;
  - reading comprehension and reading aloud (reading is related to educational achievement, which must be known before interpreting reading comprehension and reading aloud results); and
  - writing and spelling.
- 413 If comprehension is relatively intact, the aphasia screening battery may be adequate to place an individual in class 1 or 2. However, individuals with dysphasia may score poorly on aphasia and dysphasia test batteries while they demonstrate communicative competency for activities of daily living. This communicative competency may be measured by means of the communicative abilities in daily living (CADL), in which non verbal communication is assessed. [Table 12.3: Criteria for rating impairment due to aphasia or dysphasia](#) describes the criteria for rating impairment due to aphasia or dysphasia.

**Table 12.3: Criteria for rating impairment due to aphasia or dysphasia**

%WPI	Criteria
5	Minimal disturbance in comprehension and production of language symbols of daily living.
10	Moderate impairment in comprehension and production of language symbols of daily living.
32	Able to comprehend non verbal communication; production of unintelligible or inappropriate language for daily activities.
50	Complete inability to communicate or comprehend language symbols.

## 12.4 Emotional or behavioural impairments

- 414 Emotional or behavioural disorders resulting from verifiable neurological impairments (for example, stroke or head injury) are assessed under [Table 12.4: Emotional or behavioural impairments](#).
- 415 Psychiatric impairments without documented neurological origin are assessed under [Chapter 5 – Psychiatric conditions](#). They are not assessed under [Table 12.4: Emotional or behavioural impairments](#).
- 416 Neurological conditions associated with changes in emotion and affect include:
- right hemisphere infarct and inappropriate jocularity;
  - left hemisphere infarct and deep dejection, and dysphasia;
  - left-sided temporolimbic seizure foci and ideational disorders; and
  - right-sided temporolimbic seizure foci and mood disturbances.
- 417 The neuropsychiatric inventory (NPI) may be used to assess ‘no cognitive’ behavioural symptoms such as apathy, delusions, dysphoria, agitation/aggression, euphoria, hallucinations, irritability/lability, and aberrant motor behaviour (Cummings et al, 1994).

**Table 12.4: Emotional or behavioural impairments**

See notes to Table 12.4 for further information.

%WPI	Criteria (all required)
0	No limitation of activities of daily living and daily social and interpersonal functioning.
5	Minor limitation of activities of daily living and daily social and interpersonal functioning attributable to the normal variation in the general population.
10	Mild limitation of activities of daily living and daily social and interpersonal functioning. Impairment levels are compatible with most usual functioning. Able to live independently, looks after self adequately, with occasional lapses in grooming and observing nutritional requirements. Existing relationships strained.
30	Moderate limitation of some activities of daily living and some daily social and interpersonal functioning. Cannot live independently without regular support. Needs supervision and/or prompting to perform activities of self-care and personal hygiene. Previously established relationships severely strained.
50	Severe limitation in performing most activities of daily living. Impairment significantly impedes useful functioning in most daily social and interpersonal functioning.
65	Severe limitation in performing most activities of daily living. Impairment significantly impedes useful functioning in most daily social and interpersonal functioning. Needs supervised residential care. Unable to form or sustain long-term relationships.
80	Completely unable to perform any daily activities, requiring total dependence on another person. Impairment levels preclude all useful functioning. Unable to function within society.

### Notes to Table 12.4

- ‘Supervision’ means the immediate presence of a suitable person, responsible in whole or in part for the care of the employee.
- ‘Suitable’ person means a person capable of responsibly caring for the employee in an appropriate way.

## 12.5 Cranial nerves

418 Unless otherwise indicated, only the highest WPI rating from the preceding four categories (that is all tables in [Section 12.1 \(Disturbances of levels of consciousness and awareness\)](#), [Section 12.2 \(Impairment of memory, learning, abstract reasoning and problem solving ability\)](#), [Section 12.3 \(Communication impairments – dysphasia and aphasia\)](#) and [Section 12.4 \(Emotional or behavioural impairments\)](#)) may be **combined** with a WPI rating from one or more tables in the remainder of [Chapter 12 – The neurological system](#), and with WPI ratings from other chapters. (For further information about deriving WPI ratings from an assessment of cerebral function, see Steps 1 to 5 in the introduction to Chapter 12).

### 12.5.1 The olfactory nerve (I)

419 The WPI ratings in [Table 12.5.1: The olfactory nerve \(I\)](#) reflect bilateral partial loss of function and total loss of function (anosmia).

420 A WPI rating made under [Table 12.5.1: The olfactory nerve \(I\)](#) **may not be combined** with a WPI rating for the same condition made under [Table 7.3: Olfaction and taste](#) (see [Chapter 7 – Ear, nose and throat disorders](#)).

**Table 12.5.1: The olfactory nerve (I)**

%WPI	Criteria
2	Bilateral partial loss of function.
5	Bilateral total loss of function.

### 12.5.2 The optic nerve, the oculomotor and trochlear nerves and the abducens (II, III, IV and VI)

421 Dysfunction of these cranial nerves causes impairment of the visual system and is to be assessed under [Chapter 6 – The visual system](#).

### 12.5.3 The trigeminal nerve (V)

422 This is a mixed nerve having sensory fibres to the face, cornea, anterior scalp, nasal and oral cavities, tongue and supratentorial dura mater. It also transmits motor impulses to the muscles of mastication.

423 Where sensory loss affects more than one division of the nerve with differing severity, the respective values for each affected division may be **combined** using the combined values chart (see [Appendix 1](#)).

424 If paralysis of the motor fibres of the nerve causes interference with speech, this impairment should be evaluated in accordance with the criteria in [Chapter 7 – Ear, nose and throat disorders](#).

425 Impairment due to chewing and swallowing difficulties is assessed under [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#). For the same condition, WPI ratings derived from [Table 12.5.6](#) **may not be combined** with WPI ratings from [Table 7.7: Chewing and swallowing](#) (see [Chapter 7 – Ear, nose and throat disorders](#)).

**Table 12.5.3: The trigeminal nerve (V)**

%WPI	Criteria
0	No loss of sensory function.
3	Partial loss of sensory function of any <b>one</b> division of the nerve.
6	Partial loss of sensory function of any <b>two</b> divisions of the nerve.
7	Complete loss of sensory function of any one division of the nerve. <b>and/or</b> Mild uncontrolled facial neuralgic pain that <b>may interfere</b> with activities of daily living.
10	Partial loss of sensory function of all <b>three</b> divisions of the nerve.
14	Complete loss of sensory function of any <b>two</b> divisions of the nerve. <b>and/or</b> Moderately severe, uncontrolled facial neuralgic pain that <b>interferes</b> with activities of daily living.
20	Complete loss of sensory function of all <b>three</b> divisions of the nerve. <b>and/or</b> Severe, uncontrolled, unilateral or bilateral facial neuralgic pain <b>preventing</b> performance of activities of daily living.

#### 12.5.4 The facial nerve (VII)

- 426 This is a mixed nerve. The motor part innervates the facial muscles of expression and the accessory muscles for chewing and swallowing. The sensory fibres carry tactile sensations from the ear, soft palate and adjacent pharynx, and transmit taste from the anterior two thirds of the tongue.
- 427 Impairment due to chewing and swallowing difficulties is assessed under [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#). For the same condition, WPI ratings derived from Table 12.5.6 **may not be combined** with WPI ratings from [Table 7.7: Chewing and swallowing](#) (see [Chapter 7 – Ear, nose and throat disorders](#)).
- 428 Facial nerve injury, complicated by visual changes, such as occur with corneal desiccation and scarring, should rate as a significant impairment. This should be assessed under [Chapter 6 – The visual system](#), and may be **combined** with a WPI rating from [Table 12.5.4: The facial nerve \(VII\)](#).
- 429 For the same condition, a WPI rating from [Table 12.5.4: The facial nerve \(VII\)](#) **may not be combined** with a WPI rating from [Table 7.3: Olfaction and taste](#) (see [Chapter 7 – Ear, nose and throat disorders](#)).

**Table 12.5.4: The facial nerve (VII)**

See note to Table 12.5.4 for further information.

%WPI	Criteria
3	Complete loss of taste over anterior two thirds of tongue. <b>or</b> Mild unilateral facial weakness.
10–12	Mild bilateral facial weakness. <b>or</b> Severe unilateral facial paralysis with 75% or greater facial involvement and inability to control eyelid closure.
30	Severe bilateral facial paralysis with 75% or greater facial involvement and inability to control eyelid closure.

#### Note to Table 12.5.4

- Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 12.5.5 The auditory nerve (VIII)

430 The auditory nerve has two portions:

- a) the cochlear portion concerned with hearing; and
- b) the vestibular portion concerned with balance and spatial orientation.

431 Impairment of hearing due to a lesion of the cochlear portion of the nerve should be evaluated under [Chapter 7 – Ear, nose and throat disorders](#). A WPI rating derived from Chapter 7 may be **combined** with a WPI rating from [Table 12.5.5: The auditory nerve \(VIII\)](#).

432 Lesions of the vestibular portion of the nerve result in vertigo with or without nausea and vomiting.

433 [Table 12.5.5: The auditory nerve \(VIII\)](#) is used where symptoms are continuous.

434 To obtain the final WPI rating in the case of episodic disturbances of equilibrium (such as Menière’s disease), apply the modifier from [Figure 12-C: %WPI modifiers for episodic conditions](#) to the WPI rating from [Table 12.5.5: The auditory nerve \(VIII\)](#).

### Table 12.5.5: The auditory nerve (VIII)

See notes to Table 12.5.5 for further information.

%WPI	Criteria
0	Symptoms of vestibular dysequilibrium present without supporting objective findings, and activities of daily living can be performed without assistance.
5	Symptoms of vestibular dysequilibrium present with supporting objective findings, and most activities of daily living can be performed without assistance.
10	Symptoms of vestibular dysequilibrium present with supporting objective findings, and most activities of daily living, except those of a complex nature (for example, riding a bicycle), or hazardous nature (for example, walking on a roof, girders or scaffolding), can be performed without assistance.
20	Symptoms of vestibular dysequilibrium present with supporting objective findings, and assistance is required with most activities of daily living, except self care, walking, and riding in a motor vehicle as a passenger.
30	Symptoms of vestibular dysequilibrium present with supporting objective findings, and assistance is required with all activities of daily living, except self care.
45	Symptoms of vestibular dysequilibrium present with supporting objective findings, and assistance is required with all activities of daily living, including self care not requiring ambulation.
60	Symptoms of vestibular dysequilibrium present with supporting objective findings, and activities of daily living cannot be performed without assistance, including self care.
80	Symptoms of vestibular dysequilibrium present with supporting objective findings, and activities of daily living cannot be performed without assistance, including self care, and home confinement is necessary

#### Notes to Table 12.5.5

1. ‘Assistance’ means the immediate presence of a suitable person, responsible in whole or in part for the care of the employee.
2. ‘Suitable person’ means a person capable of responsibly caring for the employee in an appropriate way.



**Figure 12-C: %WPI modifiers for episodic conditions**

Signs and symptoms	Modifier
Absent.	0.0
Intermittent.	0.2
Present on a daily basis for periods aggregating 3 or more months per year but less than 6 months per year.	0.4
Present on a daily basis for periods aggregating 6 or more months per year but less than 8 months per year.	0.6
Present on a daily basis for periods aggregating 8 months or more per year but less than 10 months per year.	0.8
Present on a daily basis for period aggregating 10 months per year or more.	1.0

### 12.5.6 The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves (IX, X, XI and XII)

- 435 The spinal accessory nerve assists the vagus nerve in supplying some of the muscles of the larynx, and innervates the cervical portions of the sternocleidomastoid and trapezius muscles.
- 436 Disorders of these nerves affecting musculoskeletal function should be assessed in accordance with criteria contained in [Chapter 9 – Musculoskeletal system](#).
- 437 The glossopharyngeal nerve and the vagus nerve are mixed nerves supplying sensory fibres to the posterior third of the tongue, larynx and trachea. Sensory impairment may contribute to difficulties swallowing, breathing and speaking.
- 438 The hypoglossal nerve is a motor nerve that innervates the musculature of the tongue.
- 439 Dysarthria is a situation where the articulation of the voice mechanism is at fault. Pronunciation is unclear, although the linguistic content and meaning are normal.
- 440 Dysphagia is a condition in which the action of swallowing is difficult to perform, painful, or in which swallowed material is delayed in its passage to the stomach. Speech is slowed or slurred and may be completely unintelligible or non-functional. All other causes of difficulty with chewing or swallowing should be assessed using [Table 7.7: Chewing and swallowing](#) (see [Chapter 7 – Ear, nose and throat disorders](#)). For the same condition, WPI ratings from [Table 7.7](#) **may not be combined** with WPI ratings from [Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves \(IX, X, XI and XII\)](#).

**Table 12.5.6: The glossopharyngeal, vagus, spinal accessory and hypoglossal nerves (IX, X, XI and XII)**

%WPI	Criteria (one required – different conditions may be assessed separately)
10	Mild dysarthria (speech slow or slurred especially when tired). Dystonia ( <i>only neurological</i> ). Mild dysphagia (coughing on liquids or semi-solid foods). Diet limited to semi-solid or soft foods. Spasmodic torticollis ( <i>only neurological</i> ).
25	Moderately severe dysarthria (speech is laboured, imprecise, and often unintelligible). Speaker is required to repeat often and may need augmentative device to help convey message. Moderately severe dysphagia with nasal regurgitation and aspiration of liquids and semisolid foods. Diet limited to liquid foods.
50	Severe dysarthria – speech may be completely unintelligible or non-functional, or intelligible only to familiar people, and only with the aid of an augmentative communication device. Severe dysphagia (inability to swallow food, liquids or manage oral secretions). Regular suctioning required. Ingestion of food requires tube feeding or gastrostomy.

## 12.6 Neurological impairment of the respiratory system

441 Where the ability to breathe is impaired because of a neurological impairment, [Table 12.6: Neurological impairment of the respiratory system](#) may be used. Impairments of the respiratory system not of documented neurological origin are assessed under [Chapter 2 – The respiratory system](#). They are not assessed under Table 12.6.

**Table 12.6: Neurological impairment of the respiratory system**

%WPI	Criteria
10	Able to breathe spontaneously but has difficulty performing activities of daily living that require moderate exertion.
25	Able to breathe spontaneously but is restricted to sitting, standing or limited walking.
60	Able to breathe spontaneously but to such a limited degree that the employee is confined to bed.
90	No capacity for spontaneous respiration.

## 12.7 Neurological impairment of the urinary system

442 Where there is loss of bladder control due to a neurological impairment, [Table 12.7: Neurological impairment of the urinary system](#) may be used.

443 Impairments of the urinary system not of documented neurological origin are assessed under [Chapter 10 – Urinary system](#). They are not assessed under [Table 12.7: Neurological impairment of the urinary system](#).

444 Documentation by cystometric and other relevant urologic tests may be necessary.

445 The status of the upper urinary tract must also be considered. Except for an impairment of bladder function, if several impairments of the urinary system are present, a WPI rating from [Table 12.7: Neurological impairment of the urinary system](#) may be **combined** with a WPI rating from [Chapter 10 – Urinary system](#).

**Table 12.7: Neurological impairment of the urinary system**

See note to Table 12.7 for further information.

%WPI	Criteria
5	Some degree of voluntary control but impaired by urgency or intermittent incontinence.
10–15	Good bladder reflex activity, limited capacity, and intermittent emptying without voluntary control.
30	Poor bladder reflex activity, intermittent dribbling, and no voluntary control.
50	No reflex or voluntary control of the bladder.

### Note to Table 12.7

- Assessors should refer to the [Principles of Assessment](#) for guidance on awarding an impairment value within a range.

## 12.8 Neurological impairment of the anorectal system

446 Where there is loss of ability to control emptying because of a neurological impairment, [Table 12.8: Neurological impairment of the anorectal system](#) may be used. Impairments of the anorectal system not of documented neurological origin are assessed under [Chapter 8 – The digestive system](#). They are not assessed under Table 12.8.

**Table 12.8: Neurological impairment of the anorectal system**

%WPI	Criteria
10	Reflex regulation but only limited voluntary control.
20	Reflex regulation but no voluntary control.
40	No reflex regulation or voluntary control.

## 12.9 Neurological impairment affecting sexual function

- 447 Where there is loss of awareness and the capability of having an orgasm because of a neurological impairment, [Table 12.9: Neurological impairment affecting sexual function](#) may be used. Impairments of sexual function not of documented neurological origin are not assessed under Table 12.9. They are assessed under [Chapter 11 – The reproductive system](#).
- 448 The employee’s previous sexual functioning should be considered.
- 449 Impairment of the peripheral nervous system is assessed using the methodology for assessing the lower and upper extremities described in [Chapter 9 – Musculoskeletal system](#).

**Table 12.9: Neurological impairment affecting sexual function**

%WPI	Criteria
10	Sexual functioning is possible, but with difficulty of erection or ejaculation in men, or lack of awareness, excitement or lubrication in either sex.
15	Reflex sexual functioning is possible, but there is no awareness.
20	No sexual functioning.

# CHAPTER 13 – THE HAEMATOPOIETIC SYSTEM

## 13.0 Introduction

450 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).

## 13.1 Anaemia

451 Iron deficiency anaemia and megaloblastic anaemia are generally manageable with proper treatment and should not cause permanent impairment. Some haemolytic anaemias are reversible with appropriate therapy, such as steroids or splenectomy, and also should result in negligible impairment.

452 The impairment resulting from persistent refractory anaemia, whether haemolytic or aplastic, is assessed using [Table 13.1: Anaemia](#).

**Table 13.1: Anaemia**

See note to Table 13.1 for further information.

%WPI	Haemoglobin level	Transfusion requirements
0	100-120g/L	None
10	80-100g/L	None
20	80-100g/L	2 units every 6 weeks
40	<80g/L	2-3 units every 4 to 6 weeks
60	<80g/L	2-3 units every 2-3 weeks

**Note to Table 13.1.**

1. The haemoglobin levels referred to in Table 13.1 are the levels prior to transfusion.

## 13.2 Leukocyte abnormalities or disease

453 Chronic low white cell counts (for example, neutropenia) are usually associated with substantially increased risk of infection. Impairment is measured in terms of the infection.

454 Neoplastic disorders of leukocytes include leukaemias, lymphomas, multiple myeloma, and macroglobulinaemia. Some of these disorders (chronic lymphatic leukaemia, hairy cell leukaemia, and some lymphomas) may cause no impairment for many years.

455 Similarly, multiple myeloma and macroglobulinaemia may be initially asymptomatic, and cause no gastrointestinal haemorrhage, bone pain, or need for chemotherapy or radiation.

456 The impairment should be assessed by reference to the appropriate chapters of this guide.

457 As the early stages of HIV infection are not likely to manifest in impaired organ systems, [Table 13.2: Leukocyte abnormalities or disease](#) alone should be used to assess any impairment. Where organ systems are impaired as the disease progresses, impairment should be assessed using those chapters of the guide which assess impairment of the principal organ systems affected by the disease: including, but not limited to, [Chapter 2 – The respiratory system](#), [Chapter 8 – The digestive system](#), [Chapter 10 – The urinary system](#), and [Chapter 12 – The neurological system](#). If several systems are involved, the WPI ratings derived for each system are **combined** using the combined values chart (see [Appendix 1](#)).

458 The combined impairment should then be compared with the WPI rating from [Table 13.2: Leukocyte abnormalities or disease](#) in order to ascertain the more beneficial WPI rating.

459 The contribution of side effects of drug treatment to overall impairment should also be considered.

460 The same principle applies to other conditions of the haematopoietic system where organ systems are impaired by the disease process and impairment can be assessed using other chapters of the guide.

461 For the purposes of [Table 13.2: Leukocyte abnormalities or disease](#), activities of daily living are those in [Figure 13-A](#).

**Figure 13-A: Activities of daily living**

Activity	Examples
Self care, personal hygiene	Bathing, grooming, dressing, eating, eliminating.
Communication	Hearing, speaking, reading, writing, using keyboard.
Physical activity	Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning, carrying, lifting, pulling, pushing, climbing, exercising.
Sensory function	Tactile feeling.
Hand functions	Grasping, holding, pinching, percussive movements, sensory discrimination.
Travel	Driving or travelling as a passenger.
Sexual function	Participating in desired sexual activity.
Sleep	Having a restful sleep pattern.
Social and recreational	Participating in individual or group activities, sports activities, hobbies.

**Table 13.2: Leukocyte abnormalities or disease**

See notes to Table 13.2 for further information.

%WPI	Criteria (all required)
0	Signs of leukocyte abnormality but no symptoms. No or infrequent treatment needed. All the activities of daily living can be performed.
10	Signs and symptoms of leukocyte abnormality. Infrequent treatment needed. Almost all the activities of daily living can be performed.
20	Signs and symptoms of leukocyte abnormality. Continuous or regular treatment needed. Most of the activities of daily living can be performed.
30	Signs and symptoms of leukocyte abnormality. Continuous or regular treatment needed. Interference with the performance of the activities of daily living to the extent that some assistance from others is required.
50	Signs and symptoms of leukocyte abnormality. Continuous or regular treatment needed. Interference with the performance of the activities of daily living to the extent that considerable assistance from others is required.
70	Signs and symptoms of leukocyte abnormality. Continuous or regular treatment needed. Interference with the performance of the activities of daily living to the extent that continuous assistance from others is required.
80	Signs and symptoms of leukocyte abnormality. Continuous or regular treatment needed. Totally dependent on others for performance of all activities of daily living.

### Notes to Table 13.2

1. 'Assistance' means the immediate presence of a suitable person, responsible in whole or in part for the care of the employee.
2. 'Suitable person' means a person capable of responsibly caring for the employee in an appropriate way.

## 13.3 Haemorrhagic disorders and platelet disorders

- 462 Thrombocytopenia does not constitute an impairment unless severe and not reversible by steroids, splenectomy, or other therapy.
- 463 A bleeding disorder that causes problems only after trauma or surgery does not constitute a permanent bleeding impairment.
- 464 Where an injury is made more severe by the presence of an underlying bleeding disorder, a combined WPI rating is allowed, incorporating values for bleeding sites or organ damage. A WPI rating obtained from tables in other chapters may be **combined** with a WPI rating obtained from [Table 13.3: Haemorrhagic disorders and platelet disorders](#).
- 465 Other complications of bleeding disorders, including gastrointestinal, mucosal or intramuscular haemorrhage, should also be assessed according to the site of the blood loss under other Chapters of the guide, including [Chapter 8 – The digestive system](#) and/or [Table 13.1: Anaemia](#).
- 466 A WPI rating obtained from other tables in this Guide may be **combined** with a WPI rating obtained from [Table 13.3: Haemorrhagic disorders and platelet disorders](#).

**Table 13.3: Haemorrhagic disorders and platelet disorders**

%WPI	Criteria
0	Splenectomy. or Easy bruising.
10	Continuous or regular medication is required.
25	Refractory thrombocytopenia <20,000/ $\mu$ L.

## 13.4 Thrombotic disorders

- 467 Long-term prophylaxis means prophylaxis continuing for at least two years.
- 468 Employees who have permanent respiratory or cardiac limitations secondary to massive pulmonary embolism should be assessed as appropriate under [Chapter 1 – The cardiovascular system](#) and [Chapter 2 – The respiratory system](#).
- 469 For specific levels of impairment for post-thrombotic syndrome, use [Table 1.4: Peripheral vascular disease of the lower extremities](#) or [Table 1.5: Peripheral vascular disease of the upper extremities](#) (see [Chapter 1 – The cardiovascular system](#)). These tables may be used as an alternative. WPI ratings from Tables 1.4 or 1.5, and [Table 13.4: Thrombotic disorders](#), **may not be combined**.
- 470 [Table 1.4: Peripheral vascular disease of the lower extremities](#) and [Table 1.5: Peripheral vascular disease of the upper extremities](#) should be used as the primary guide for assessing peripheral complications of thrombosis.

**Table 13.4: Thrombotic disorders**

%WPI	Criteria
0	Superficial thrombosis or thrombophlebitis.
10	Deep venous or other thrombosis requiring long-term prophylaxis with warfarin.
30	Post-phlebotic syndrome.

# DIVISION 2 – ASSESSMENT OF THE DEGREE OF NON-ECONOMIC LOSS SUFFERED BY AN EMPLOYEE AS A RESULT OF AN INJURY OR IMPAIRMENT

## Introduction

471 In conducting an assessment, the assessor must have regard to the [Principles of Assessment](#) and the definitions contained in the [Glossary](#).

472 The degree of non-economic loss is to be assessed in accordance with [Division 2](#).

473 The compensation payable for non-economic loss is divided into two equal amounts.

474 [Table B6: Worksheet – calculation of non-economic loss](#) uses the following formula to calculate the total payable in an individual case:

$$A + B = \$Total$$

WHERE “A” = the percentage assessment of total permanent impairment, multiplied by the first half of the maximum

AND “B” = a reasonable percentage of the second half of the maximum having regard to the non-economic loss suffered.

475 Listed below are the tables in [Division 2](#) used to calculate a reasonable percentage.

a) Pain:

i) [Table B1: Pain](#).

b) Suffering:

i) [Table B2: Suffering](#).

c) Loss of amenities:

i) [Table B3.1: Mobility](#);

ii) [Table B3.2: Social relationships](#); and

iii) [Table B3.3: Recreation and leisure activities](#).

d) Other loss:

i) [Table B4: Other loss](#).

e) Loss of expectation of life:

i) [Table B5: Loss of expectation of life](#).

476 Scores derived from these tables are then transferred to [Table B6: Worksheet – calculation of non-economic loss](#).

## B1 Pain

- 477 Using [Table B1: Pain](#), a score out of five is assessed for pain.
- 478 Using [Table B6: Worksheet – calculation of non-economic loss](#), the score for pain is combined with the scores derived from [Table B2: Suffering](#), [Table B3.1: Mobility](#), [Table B3.2: Social relationships](#), [Table B3.3: Recreation and leisure activities](#), [Table B4: Other loss](#) and [Table B5: Loss of expectation of life](#).
- 479 The term ‘pain’ is defined in the [Glossary](#).
- 480 Only ongoing pain of a continuing or episodic nature is to be considered.
- 481 [Table B1: Pain](#) does not include:
- temporary pain; or
  - speculation of future pain that has not yet manifested itself.
- 482 In [Table B1: Pain](#), VAPS means ‘visual analogue pain scale’, with 0 being no pain, and 10 being the worst pain ever experienced.

**Table B1: Pain**

Score	Description of level of effect (all required)
0	No pain experienced. VAPS = 0
1	Intermittent attacks of pain of nuisance value only. Can be ignored when activity commences. VAPS = 1-2
2	Intermittent attacks of pain. Not easily tolerated, but short-lived. Pain responds fairly readily to treatment (for example, analgesics, anti-inflammatory medications). VAPS = 3-4
3	Episodes of pain more persistent. Not easily tolerated. Treatment, if available, of limited benefit. VAPS = 5-6
4	Pain occurring most of the time. Restrictions on activity. Resistant to treatment. VAPS = 7-8
5	Pain continuous and severe. Preventing activity. Uncontrolled by medication. VAPS = 9-10



## B2 Suffering

- 483 Using [Table B2: Suffering](#), a score out of five is assessed for suffering.
- 484 Using [Table B6: Worksheet – calculation of non-economic loss](#), the score for suffering is combined with the scores derived from [Table B1: Pain](#), [Table B3.1: Mobility](#), [Table B3.2: Social relationships](#), [Table B3.3: Recreation and leisure activities](#), [Table B4: Other loss](#) and [Table B5: Loss of expectation of life](#).
- 485 The term ‘suffering’ is defined in the [Glossary](#).
- 486 Suffering includes emotional symptoms which are within the normal range of human responses to distressing events such as grief, anguish, fear, frustration, humiliation, embarrassment.
- 487 Only ongoing suffering of a continuing or episodic nature is considered.
- 488 [Table B2: Suffering](#) does not include:
- temporary suffering; or
  - speculation about future suffering that has not yet manifested itself.

**Table B2: Suffering**

Score	Description of level of effect (all required)
0	No symptoms of mental distress experienced.
1	Symptoms of mental distress minimal or ill defined. Symptoms occur <b>intermittently</b> . No interference with activity.
2	Distinct symptoms of mental distress which are <b>episodic in nature</b> . Activities reduced during such episodes. Recovers quickly after episodes.
3	Symptoms of mental distress are distinct and varied. Episodes of mental distress occur <b>regularly</b> . Ability to cope or perform activity effectively reduced during episodes. Needs time to recover between episodes. Treatment – medication such as anti-depressants, counselling or other therapy by a psychologist or psychiatrist, or other supportive therapy – is of benefit in controlling or relieving symptoms.
4	Symptoms of mental distress are wide ranging and tend to dominate thinking. Rarely free of symptoms of mental distress. Difficulty coping or performing activity. Treatment necessary either to control or relieve symptoms.
5	Symptoms of mental distress arising from accepted condition <b>interferes with normal thought processes</b> . Activities severely restricted. Treatment of no real benefit in controlling or relieving symptoms.

## B3 Loss of amenities

489 The term 'loss of amenities' is defined in the [Glossary](#). Loss of amenities is also known as 'loss of enjoyment of life'.

490 A score out of five is assessed for each of the following:

- a) Mobility (using [Table B3.1: Mobility](#)). 'Mobility' refers to the employee's ongoing ability to move around in their environment. This includes walking, driving, being a passenger, using public transport
- b) Social relationships (using [Table B3.2: Social relationships](#)). 'Social relationships' refers to the employee's ongoing capacity to engage in usual social and personal relationships
- c) Recreation and leisure activities (using [Table B3.3: Recreation and leisure activities](#)). 'Recreation and leisure activities' refers to the employee's ongoing ability to maintain customary recreational and leisure pursuits.

491 Using [Table B6: Worksheet – calculation of non-economic loss](#), these scores are then combined with the scores derived from [Table B1: Pain](#), [Table B2: Suffering](#), [Table B4: Other loss](#) and [Table B5: Loss of expectation of life](#).

**Table B3.1: Mobility**

Score	Description of level of effect (all required)
0	No or minimal restrictions on mobility.
1	Periodic effects on mobility, resulting in the need for some assistance <b>or</b> effects continuing but mild (such as slowing of pace or the need for a walking stick).
2	Mobility reduced, but remains independent of others both within and outside the home. Can travel but may require rest breaks, special seating, or other special treatment.
3	Mobility markedly reduced. Needs some assistance from others. Unable to use most forms of transport.
4	Restricted to home and vicinity. Can only travel outside home with door to door transport and the assistance of others.
5	Severely restricted mobility (for example, bed, chair, room). Dependent on others for assistance. Mechanical devices or appliances used for mobility within the home (for example, wheelchair, hoist).

**Table B3.2: Social relationships**

Score	Description of effect (all required)
0	Usual relationships unaffected.
1	Minor interference with personal relationships, causing some reduction in social activities and contacts.
2	Relationships confined to immediate and extended family and close friends, <b>but</b> unable to relate to casual acquaintances.
3	Difficulty in maintaining relationships with close friends and the extended family.
4	Social contacts confined to immediate family.
5	Difficulties relating socially to anyone.

**Table B3.3: Recreation and leisure activities**

Score	Description of effect (all required)
0	Able to follow usual recreation and leisure activities
1	<b>Intermittent interference</b> with activities. In between episodes able to pursue usual activities.
2	Interference to activities reduces <b>frequency of activity</b> , but is able to continue. Is able to follow alternatives.
3	Unable to continue with pre-injury level of activity. Alternative activity possible.
4	Range of pre-injury activities greatly reduced. Needs some assistance to participate in pre-injury recreation and leisure activities.
5	Unable to undertake any pre-injury recreation and leisure activities.

## B4 Other loss

492 [Table B4: Other loss](#) is used to assess losses of a non-economic nature that are not adequately covered by [Table B1: Pain](#), [Table B2: Suffering](#), [Table B3.1: Mobility](#), [Table B3.2: Social relationships](#), [Table B3.3: Recreation and leisure activities](#) or [Table B5: Loss of expectation of life](#).

493 A score out of three is assessed.

494 Using [Table B6: Worksheet – calculation of non-economic loss](#), this score is then combined with the scores derived from [Table B1: Pain](#), [Table B2: Suffering](#), [Table B3.1: Mobility](#), [Table B3.2: Social relationships](#), [Table B3.3: Recreation and leisure activities](#) and [Table B5: Loss of expectation of life](#).

**Table B4: Other loss**

Score	Description of effect
0	Nil or minimal disadvantages.
1	Moderate disadvantages. For example, dependence upon a specialised diet; detrimental effects of climatic features including temperature, humidity, ultra-violet rays, light, noise, dust.
2	Marked disadvantages. For example, requirement to move to specially modified premises.
3	Severe disadvantages. For example, dependence upon external life saving or supporting machines including aspirator, respirator, dialysis machine, or any form of electro-mechanical device for the sustenance or extension of activities.

## B5 Loss of expectation of life

495 A score out of three is assessed.

496 Using [Table B6: Worksheet – calculation of non-economic loss](#), this score is then combined with the scores derived from [Table B1: Pain](#), [Table B2: Suffering](#), [Table B3.1: Mobility](#), [Table B3.2: Social relationships](#), [Table B3.3: Recreation and leisure activities](#) and [Table B4: Other loss](#).

497 Loss of expectation of life is restricted to a maximum of three points because of the value placed on it by the courts in damages cases.

**Table B5: Loss of expectation of life**

Score	Description of effect
0	Loss of life expectancy of less than one year.
1	Loss of life expectancy of one year to less than 10 years.
2	Loss of life expectancy of 10 years to less than 20 years.
3	Loss of life expectancy of 20 years or greater.

## B6 Calculation of non-economic loss

498 [Table B6: Worksheet – calculation of non-economic loss](#) allows for the calculation of the percentage of non-economic loss suffered by the employee for the purposes of section 27 of the Seafarers Act.

**Table B6: Worksheet – calculation of non-economic loss**

### STEP 1 – Calculation of total score from Division 2 tables

Table	Score	Factor	Final score
Table B1: Pain		x 0.5 =	
Table B2: Suffering		x 0.5 =	
B3: Amenities of life			
B3.1: Mobility score		x 0.6 =	
B3.2: Social relationships		x 0.6 =	
B3.3: Recreation and leisure activities		x 0.6 =	
Table B4: Other loss		x 1.0 =	
Table B5: Loss of expectation of life		x 1.0 =	
<b>Total of scores =</b>			

### STEP 2 – Conversion of total of scores to a percentage

#### Choose either Step 2.1 or Step 2.2

##### Step 2.1

If the total of scores from Step 1 above:

- equals 15; or
- is greater than 15

then the percentage of non-economic loss suffered by the employee is 100% (%NEL).

##### Or

##### Step 2.2

If the total of scores from Step 1 above is less than 15, complete the following calculation to find the percentage non-economic loss suffered by the employee:

$$\frac{(\text{Total of scores from Step 1})}{15} \times 100 = \%NEL$$

# DIVISION 3 – CALCULATION OF THE TOTAL ENTITLEMENT TO COMPENSATION FOR PERMANENT IMPAIRMENT AND NON-ECONOMIC LOSS

499 Use [Table C1: Worksheet – calculation of total entitlement](#) to derive the total entitlement.

**Table C1: Worksheet – calculation of total entitlement**

Current statutory maximum amounts for permanent impairment and non-economic loss compensation are available on the Authority’s website: [comcare.gov.au/claims/statutory-rates](http://comcare.gov.au/claims/statutory-rates). They are indexed annually on 1 July in accordance with movements in the Consumer Price Index.

Calculate total whole person impairment entitlement		
<b>Step 1</b>	Obtain the current indexed maximum amount for permanent impairment under subsection 39(9) of the Seafarers Act ( <b>maximum s 39(9) amount</b> ) and complete the following calculation: $\%WPI \times (\text{maximum s 39(9) amount}) =$	\$
<b>Step 2</b>	Obtain the current indexed maximum amount for non-economic loss under subsection 41(2) “A” of the Seafarers Act ( <b>maximum s 41(2) “A” amount</b> ) and complete the following calculation: $\%WPI \times (\text{maximum s 41(2) "A" amount}) =$	\$
<b>Step 3</b>	Obtain the current indexed maximum amount for non-economic loss under subsection 41(2) “B” of the Seafarers Act ( <b>maximum s 41(2) “B” amount</b> ) and complete the following calculation: $\%WPI \times (\text{maximum s 41(2) "B" amount}) =$	\$
<b>Step 4</b>	Add the amounts calculated in Steps 1, 2 and 3 to calculate the total entitlement under sections 39 and 41 of the Seafarers Act:	\$



