Transport Accident Commission

Spinal Impairment Guides modification document

July 2014

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Guidelines modifying some aspects of the methods of assessing spinal impairment prescribed in 4th Edition of the AMA Guides to the Evaluation of Permanent Impairment

1. Background

1.1 These *Guidelines* are a Guides Modification Document made by the Transport Accident Commission pursuant to Section 46A(2C) of the *Transport Accident Act* 1986 with the approval of the Minister responsible for the administration of that Act.

1.2 They were developed by a panel of specialists comprising:

- Mr Gary Speck (chair) (Orthopaedic surgeon)
- Mr David Brownbill (Neurosurgeon)
- Mr Robert Dickens (Orthopaedic surgeon)
- Associate Professor Stephen Hall (Rheumatologist)
- Associate Professor Richard Stark (Neurologist)
- Mr Peter Wilde (Orthopaedic surgeon).

2. Introduction

2.1 Subject to the modification effected by these *Guidelines*, pages 94 to 111 of the *Guides* set out the approach, procedures and directions relevant to the assessment of spinal impairment.

2.2 The text of these *Guidelines* and the *Guides* must be read carefully. It is not appropriate to simply refer to Tables which may (and often do) only provide limited information and an incomplete summary of relevant matters.

2.3 Spinal impairment is assessed in spinal assessment regions.

2.4 In assessing spinal impairment using the DRE methodology, two types of descriptors are used:

(a) Descriptors under the heading "**description and verification**".

(b) Descriptors under the heading "**structural inclusions**".

2.5 These *Guidelines* modify the method of assessing spinal impairment by reference to "***structural inclusions***", including modification by substituting new descriptors of "***structural inclusions***". They also simplify and amend some other aspects of the instructions for the assessment of spinal impairment.

2.6 Different impairment category assessments (based on either or both types of descriptors) may be present in the same assessment region. Generally, it is not permissible to combine multiple DRE category assessments within a single

assessment region. The only exception is that combining certain DRE category assessments is permitted within the cervicothoracic and thoracolumbar assessment regions where there are long tract signs, as described in the text of the spine section of the *Guides* and in the revised Tables R-73 and R-74 in these *Guidelines*.

3. Definitions

3.1 In these *Guidelines*:

3.2 *Act* means the *Transport Accident Act* 1986;

3.3 *discectomy* means a partial or total removal of an intervertebral disc;[1]

3.4 *fracture* means cortical breach of bone, and does not include minor pathology such as bone bruising or microtrabecular fracture (or like conditions) that are seen or implied only on MRI or nuclear scanning;

3.5 *Guides* means the Guides to the Evaluation of Permanent Impairment published by the American Medical Association – 4th Edition (reprint 3, or later);

3.6 *Guidelines* means these Guidelines, and includes Tables R-70, R-72, R-73 and R74 and Table A;

3.7 *laminectomy* and *laminotomy* are references to spinal decompression surgery involving the lamina – the terms are often used interchangeably – *laminectomy* being the complete removal of the lamina or adjacent laminae, and *laminotomy* being the partial removal of the lamina or adjacent laminae;[2]

3.8 *minor spinal procedure* means a procedure performed by way of injection, vertebroplasty performed by needle, a per cutaneous spinal procedure (other than per cutaneous *discectomy*, *laminectomy* or *laminotomy*), implantation of a spinal stimulator and/or drug delivery system and similar minor spinal procedures;

3.9 *posterior or like element* means:

(a) a posterior part of a vertebra, which part forms part of the bony protective ring around the spinal canal, including a pedicle, a lamina, a pars interarticularis, a superior articular process and facet and an inferior articular process and facet, but does not include a transverse process or spinous process[3] or a transverse foramen;[4]

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[1] ***Discectomy*** is often used in conjunction with ***laminotomy*** and ***laminectomy***. See footnote 2.

[2] ***Laminectomy*** may be associated with a ***discectomy*** to decompress the spinal nerves or spinal cord and this should be considered as part of the ***laminectomy*** for the purpose of these ***Guidelines***.

[3] These structures do not form part of the bony protective ring around the spinal canal and are not ***posterior or like elements*** for the purpose of Table A in these ***Guidelines***.

(b) the occipital condyle;

(c) the dens , lateral mass or other atypical bony structures of C1 and C2 which form the bony protective ring around the spinal canal, but does not include a transverse process or spinous process[5] or a transverse foramen;[6]

3.10 ***structural inclusions*** means the ***structural inclusions*** and surgical and other procedures referred to in Table A, and the term ***structural inclusion*** refers to any such inclusion.

4. Precedence of the Guidelines

4.1 In assessing spinal impairment:

(a) the ***Act*** has precedence over these ***Guidelines*** and over the ***Guides;***

(b) these ***Guidelines*** have precedence over the ***Guides***.

4.2 If there is any inconsistency between the text in these ***Guidelines*** and an example which seeks to illustrate what is said in that text, the text prevails.

4.3 If there is any inconsistency between the text in the ***Guides*** and an example which seeks to illustrate what is said in that text, the text prevails. [7]

5. Spinal Assessment Regions

5.1 For the purposes of assessment of spinal impairment, there are three spinal assessment regions:

(a) the cervicothoracic (or cervical) region, which comprises the occipital condyle and the C1 to C7 vertebrae inclusive and includes motion segments C0-C1 to C7-T1 inclusively;

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[4] Extension of a ***fracture*** into the transverse foramen does not in itself justify any DRE category. If there is associated damage to the vertebral artery then other chapters of the ***Guides*** should be used to assess any impairment which may be a consequence of such damage.

[5] Footnote 3 applies.

[6] Footnote 4 applies.

[7] This order of precedence is consistent with what is said in the decision of the case of *H J Heinz Company Australia Ltd & Anor v Kotzman & Ors* [2009] VSC 311 at paragraph [28].

(b) the thoracolumbar (or thoracic) region, which comprises the T1 to T12 vertebrae inclusive and includes motion segments T1-T2 to T11-T12 inclusively;

(c) the lumbosacral (or lumbar) region, which comprises the L1 to L5 vertebrae inclusive and includes motion segments T12-L1 to L5-S1 inclusively.

5.2 The sacrum (as opposed to the L5-S1 motion segment) is not to be regarded as a vertebra, nor is it to be regarded as a part of a spinal region. Impairment (if any) of the sacrum is to be assessed as part of the impairment of the pelvis. However the L5-S1 motion segment (for the purposes of assessment of impairment by reference to impairment of a motion segment) is deemed to form part of the lumbosacral (or lumbar) region.

6. Rules for the evaluation of spinal impairment

6.1 Assessment by regions

6.1.1 Assessment of impairment is to be undertaken on a regional basis, noting that there are three possible assessment regions of the spine as set out in paragraph 5.1, above.

6.1.2 As is set out at page 100 of the *Guides*:

> *"Adverse conditions are possible for each spine segment or region, and appropriate DREs are given for all the regions."*

6.1.3 An impairment (if any) should be assessed for each region and the impairments so assessed should then be combined using the combined values formula A+B (1-A) as set out in the *Guides* at page 322[8] to express the person's total spine impairment.

6.2 Structural Inclusions

6.2.1 The descriptions of ***structural inclusions*** that appear in the *Guides* are deleted and replaced by the descriptions of ***structural inclusions*** as set out in these *Guidelines*, including in Table A.

6.2.2 In these *Guidelines*, the term ***structural inclusions*** is defined to include certain conditions affecting one or more vertebra or one or more motion segments and certain surgical and other procedures, in each case as set out in these *Guidelines*, including Table A.

[8] The formula is to be applied as explained in the decision of the case of *TAC v Weigert* [2010] VSC 20.

6.2.3 The rationale of assessment of impairment by reference to a structural inclusion is as set out at page 99 of the *Guides*:

> *"Certain spine fracture patterns may lead to significant impairment and yet not demonstrate any of the findings involving the differentiators".*

6.2.4 *Structural inclusions* constitute persisting impairments of the spine. They may arise from various causes. They are relevant to the assessment of current impairment and to the assessment of pre-existing or otherwise unrelated impairment.

6.2.5 Within a spinal assessment region an impairment assessed by reference to a *structural inclusion*:

(a) cannot be combined with another impairment assessed by reference to a *structural inclusion*;

(b) sometimes can be combined with an impairment assessed by reference to long tract signs (as set out the *Guides* and in the footnotes to Tables R-73 and R-74 in these *Guidelines*).

6.3 Fractures

6.3.1 As set out in Table A, certain *fractures* are assessable as structural inclusions under these *Guidelines*.

6.3.2 Impairment is assessed for the *structural inclusion* of a *fracture* upon the basis that the *fracture* has occurred. The impairment assessment may be based on historic or current evidence of the *fracture*.[9]

6.3.3 Subject to the above, as is set out at page 99 of the *Guides*:

> *"If the patient demonstrates the structural inclusions of two categories, the physician should place the patient in the category with the higher impairment percent."*

6.3.4 Multiple *fractures* affecting a single vertebra are to be assessed on the basis of the highest scoring *structural inclusion*. The presence of multiple *fractures* in a single vertebra does not justify any DRE category assessment from Table A under the heading: "conditions affecting multiple vertebrae".

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[9] The assessment of an impairment based on historic evidence of a ***fracture*** arises because the fact of ***fracture*** necessarily carries with it an ongoing impairment. This is so whether or not the ***fracture*** remains discernable on x-ray or other investigation at the time of the assessment. The reader should pay careful attention to the definition of "***fracture***" occurring in these ***Guidelines***. A ***fracture*** is a cortical breach of bone discernable at any point in time (but does not include minor pathology such as bone bruising or microtrabecular ***fracture*** (or like conditions) that are seen or implied only on MRI or nuclear scanning.

6.3.5 Multiple *fractures* (i.e. *fractures* of multiple vertebrae) do not need to be of contiguous vertebrae to justify a DRE category assessment within a spinal assessment region (but the vertebrae do need to be contiguous to engage consideration of the rules for dealing with junction pathology in these *Guidelines*).

6.3.6 An impairment can only be awarded if the relevant descriptor is strictly satisfied.[10]

> ***Example**: A person has a **fracture** of the anterior part of T4 with 5% compression of the vertebral body, along with a **fracture** of the anterior part of T6 with 30% compression of the vertebral body. The 5% crush (assessed individually) assesses as DRE category I (Table A column 1 DRE I). The 30% crush (assessed individually) assesses as DRE category III (Table A column 1 DRE III). A DRE category III assessment only is justified based on **structural inclusions** in the thoracolumbar assessment region. Despite there being two **fractures**, the descriptors of DRE category IV in column 2 of Table A are not satisfied.*

6.3.7 It may be the case that there are multiple *fractures* of the articular processes or articular facets of the vertebrae comprising a single motion segment. Such *fractures* (which only involve the articular processes or facets of a single motion segment) do not justify a DRE IV category assessment from column 2 of Table A. In such cases these types of *fractures* within a single motion segment are assessed on the highest DRE category assessment justified by considering each individual *fracture* of the involved articular processes or facet joints.

> ***Example**: A person has a **fracture** dislocation of C4 on C5 with associated displaced **fractures** of the right superior articular process of C5 and the left inferior articular process of C4. In considering what DRE category assessment is justified from Table A, DRE category IV from column 2 is not justified because of the rule above. The highest DRE category assessment based on any individual **fracture** within the motion segment in this case is DRE category III.*

6.4 Particular Fractures

6.4.1 A *fracture* of C7 is assessed as an impairment in the cervicothoracic region.

6.4.2 A *fracture* of T1 is assessed as an impairment in the thoracolumbar region.

6.4.3 A *fracture* of T12 is assessed as an impairment in the thoracolumbar region.

6.4.4 A *fracture* of L1 is assessed as an impairment in the lumbosacral region.

[10] Note: This is true of all assessments of spinal impairment, not just impairment assessed by reference to Table A.

6.5 Spinal surgery and other procedures

6.5.1 Neither the fact that surgery or another procedure has been performed nor the outcome of such surgery or procedure is to be considered as a type of *fracture*. Subject to what is set out below, no impairment rating is to be given only by reason of the fact that a person has had a surgical or other procedure or that the person exhibits a sign or symptom of having had such surgery or procedure.

6.5.2 However, as specifically set out in these *Guidelines*, when certain surgical or other procedures (identified in Table A) are undertaken this represents an impairing factor in itself. Table A describes impairments arising from certain surgical and other procedures. Impairment following such surgical or other procedures should be assessed when the condition is stable.

6.5.3 A ***discectomy*** and/or ***laminectomy*** and/or ***laminotomy*** is to be regarded as at a single level (Table A column 3 DRE III) if performed within the same motion segment.

> ***Example:*** *A person has symptoms and signs of radiculopathy associated with the nerve root between L3 and L4. This condition is treated surgically with micro-**discectomy**, **laminotomy** of L3 and **laminectomy** of L4. Despite multiple surgical procedures having been performed, each is at the level of the L3-L4 motion segment. As such, when considering possible assessment from column 3 of Table A, only a '*single level ***discectomy*** and/or ***laminectomy*** and /or ***laminotomy'*** has been performed.

> ***Example:*** *A person has symptoms and signs of multilevel radiculopathy associated with nerve roots arising between L2-L3 and L4-L5. This condition is treated surgically with micro-**discectomy** of the discs between L2-L3 and L4-L5. As such, when considering DRE category assessment from column 3 of Table A, it is the case that '*multilevel ***discectomy*** and/or ***laminectomy*** and/or ***laminotomy'*** *has been performed.*

6.5.4 If a single or multilevel fusion, stabilisation or disc replacement is performed, the DRE category assessment by reference to a ***structural inclusion*** may only be assessed in accordance with column 3 of Table A, "Structural impairment assessed by reference to a surgical or other procedure".

> ***Example:*** *A person has a **fracture** dislocation of C6-C7 with displaced **fractures** of the lamina and inferior articular processes of C6, along with displaced **fractures** of the superior articular processes of C7. A single level fusion is performed with **discectomy**, placement of bone graft and fusion between C6-C7. There are no signs of radiculopathy (as defined for Table A) at the time of assessment. As a fusion has been performed at the C6-C7 motion segment the assessment is based on the DRE category assessment from column 3 of Table A. In this case DRE III is justified on the basis of a single level fusion without radiculopathy (as defined for Table A).*

6.5.5 If only ***discectomy***, ***laminectomy***, ***laminotomy*** or ***minor spinal procedure*** is performed, the DRE category assessment based on a ***structural inclusion*** may be assessed under Table A Column 1, 2, or 3, and the highest DRE category assessment justified is given.

> ***Example:*** *A person has a crush* ***fracture*** *of the superior end plate of L4 with 20% loss of vertebral height. There is also a bulge of the disc between L3 and L4 which is treated with* ***discectomy***. *At the time of assessment the person has no signs of radiculopathy (as defined for Table A) in the lumbar spine. The assessment is based on the highest DRE category assessment justified by columns 1, 2 or 3 of Table A. From column 1, a DRE category II is justified based the degree of crush of L4. From column 3, a DRE category II is justified on the basis of single level* ***discectomy*** *without radiculopathy (as defined for Table A). As such, DRE category II only is justified based on* ***structural inclusions****.*

6.5.6 Other than as set out above, the fact a person may have a condition that satisfies the criteria of an impairment assessed by reference to a ***structural inclusion*** does not preclude a higher DRE category assessment being given if the requirements of that higher DRE category are satisfied.

6.5.7 It may be the case that surgical stabilisation of the spine is undertaken but the implanted instrumentation is later to be removed, or has been removed, or intended fusion fails to occur. If implanted instrumentation is to be removed, it may be that the person's condition has not yet stabilised. If implanted instrumentation has been removed, or an intended fusion fails to fuse the affected motion segment, the assessment should be based on the person's current condition. In particular, if a motion segment has been fused, the assessment is by reference to column 3 of Table A. If the motion segment is not fused, the assessment may be by reference to column 1 or 2 and the higher of those DRE category assessments is given.

> ***Example:*** *A person has a* ***fracture*** *of T8 (which would justify DRE category III if assessed from column 1 of Table A) which is treated with surgical stabilisation from T7 to T9. The stabilising instrumentation is later removed and the T7-T8 and T8-9 motion segments are found to have not fused. As such, the DRE category assessment is based on the single* ***fracture*** *justifying DRE III, and not the surgical procedure (as the motion segments were not fused).*

> ***Example:*** *A person has burst* ***fracture*** *of L3 which is treated with surgical stabilisation and fusion from L2 to L4. The stabilising instrumentation is later removed, but the L2-L3 and L3-L4 motion segments remain fused. As such, the impairment is based on a two level fusion as assessed from column 3 of Table A (as the motion segments have fused).*

6.5.8 It is strongly recommended that operation reports be made available to the impairment assessor so that the precise nature of any surgical procedure to the spine can be understood and current impairment be appropriately assessed.

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6.6 Particular spinal surgeries

6.6.1 A single level fusion of the C7-T1 motion segment is to be assessed as an impairment from the cervicothoracic region.

6.6.2 A single level fusion of the T1-T2 motion segment is to be assessed as an impairment from the thoracolumbar region.

6.6.3 A single level fusion of the T11-T12 motion segment is to be assessed as an impairment from the thoracolumbar region.

6.6.4 A single level fusion of the T12-L1 motion segment is to be assessed as an impairment from the lumbosacral region.

6.7 Single level fusion with another *fracture*

6.7.1 It may be the case that a single level fusion, stabilisation or disc replacement has been performed, but there is also a *fracture* of another vertebra in the same spinal assessment region. In certain circumstances this may justify an increase in the DRE category assessment as described in column 3 of Table A.

6.8 Junction Pathology

6.8.1 As already noted the spine is divided into three regions, however pathology may exist close to or cross over these regions.

6.8.2 Where a *structural inclusion* in Table A involves vertebrae or motion segments which overlap two spinal assessment regions (e.g. T12 and L1, and C7 and T1), the DRE category assessment under column 2 of Table A by reference to "conditions affecting multiple vertebrae" can be given in respect of the more cranial spinal assessment region. Subject to paragraph 6.8.3, this rule should be applied if it will give a higher impairment assessment for the person, when compared with the impairment assessment obtained by assessing each region separately, with strict reference to the spinal assessment regions described in these *Guidelines*.

6.8.3 The rule should not be applied when:

(a) there is a compensable structural inclusion in one spinal assessment region and a pre-existing or otherwise non-compensable structural inclusion in the other spinal assessment region; or

(b) there are three or more affected contiguous vertebrae or motion segments (except in the case of surgical procedure – see Paragraph 6.8.4)

In such cases a DRE category assessment must be assessed for each region separately and with strict reference to the definition of spinal assessment regions in these *Guidelines*.

6.8.4 If a surgical procedure is performed which extends across the junction between two spinal assessment regions, then only one DRE category assessment, being an impairment of the more cranial spinal assessment region, should be given to account for the impairment by reason of the surgical procedure and its outcome.

6.9 Spinal cord damage

6.9.1 Where there is spinal cord damage the assessment must be undertaken using either the methodology for the relevant spinal assessment region (the region with the spinal cord damage) in Section 3.3 (including 3.3a to 3.3j) of Chapter 3 ("The Spine") or in Chapter 4 ("The Nervous System") of the *Guides*.[11]

6.9.2 A person who has sustained spinal cord damage can be assessed using either of those methodologies as described in paragraph 6.9.1 but the impairment ratings assessed via each methodology cannot be combined. It is recommended that both methods are applied and the method providing the greater impairment percentage for the spinal cord damage represents the appropriate assessment.

6.9.3 In various places in the DRE methodology there are references to circumstances where a DRE category assessment is to be combined with bladder and bowel impairment estimates based on the *Guides* chapters on the digestive and urinary and reproductive systems.

In such cases, rather than requiring the person to attend two further assessments pursuant to Chapters 10 and 11 of the *Guides*, it is also possible (and is generally preferable) that the assessment be undertaken using Tables 17 and 18 of Chapter 4 as the injury may be purely neurological in nature.[12] This rule is limited to the circumstances described above. Other than as expressly permitted by this rule, impairment assessed under Chapter 4 of the *Guides* cannot be combined with impairment assessed for the relevant spinal assessment region (the region with the spinal cord damage) from Section 3.3 (including 3.3a to 3.3j) of Chapter 3 of the *Guides* or under these *Guidelines*.

[11] See Tables 13 to 19 in Chapter 4 of the ***Guides***.

[12] The effect of this rule is to override certain paragraphs of the ***Guides***, mainly the first complete paragraph of page 105 and the last paragraph in the left column of page 107, which pertain to the cervicothoracic and thoracolumbar assessment regions. There does not appear to be a similar paragraph relating to the lumbosacral assessment region.

6.10 **Reprint 3 or later to be used**

6.10.1 Only reprint 3, or later, of the *Guides* may be used (and must be used in conjunction with these *Guidelines*) for the purpose of assessing spinal impairment.

7. Reports

7.1 When reporting an impairment, the DRE category assessment awarded (e.g. "DRE category III") is to be specified and a clear explanation provided, with reference as appropriate to the *Guidelines* or the *Guides*, as to why that category is justified.

7.2 In the *Guides*, there are headings for each DRE category assessment, but those headings do not always accurately reflect why a particular category is appropriate. As such, it is particularly important that a clear explanation is provided, with reference as appropriate to the *Guidelines* or the *Guides*, as to why a particular category is awarded.

8. Guidance about radiology

8.1 Identification and assessment of *fractures* are best undertaken using x-rays and/or CT scans.

8.2 The reader is reminded that the term *fracture* is defined in these *Guidelines*. That definition is repeated here:

> *fracture* means cortical breach of bone, and does not include minor pathology such as bone bruising or microtrabecular *fracture* (or like conditions) that are seen or implied only on MRI or nuclear scanning;

8.3 There should be clear evidence of a *fracture* objectively confirmed by the examiner, exercising clinical skills and utilising ancillary imaging to make a diagnosis of *fracture*.

8.4 The examiner must clearly indicate whether they have viewed the imaging in compiling the assessment.

8.5 Where later x-rays and/or CT scans no longer demonstrate the presence of a *fracture* due to healing then the assessment should be based on earlier studies.

8.6 Special investigations including flexion/extension x-rays should only be undertaken if they are requested on clinical grounds by a treating doctor.

9. Tables

9.1 As is set out in the *Guides* at page 100:

> *"The physician should start with Table 70 (p.108) as a guide toward the appropriate category for the spine impairment. A series of differentiators (Table 71, p.109) describes clinical criteria that correlate with serious physiologic dysfunctional or structural change, which the physician should use to help define the patient's impairment."*

9.2 When using the *Guides* in conjunction with these *Guidelines:*

a) a reference to Table 70 in the *Guides* is to be read as Table R-70 in the *Guidelines;*

b) a reference to Table 72 in the *Guides* is to be read as Table R-72 in the *Guidelines;*

c) a reference to Table 73 in the *Guides* is to be read as Table R-73 in the *Guidelines;*

d) a reference to Table 74 in the *Guides* is to be read as Table R-74 in the *Guidelines;*

e) Impairment assessed by reference to a *structural inclusion*, or to a surgical or other procedure, is to be assessed according to these Guidelines, including Table A (below).

9.3 The Tables (R-70, R-72, R-73, R-74 and Table A) provide only limited information about the actual descriptors for assessing impairment. In addition to the differentiators, physicians should also review the DRE category descriptions on pages 101 to 109 of the *Guides*, and the instructions in these *Guidelines*.

Table R-70. Spine Impairment Categories for Cervicothoracic, Thoracolumbar and Lumbosacral Regions. #

	Category					Category*		
Patient's Condition	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**
Complaints or Symptoms	I							
Fracture of transverse or spinous process of single vertebra	I							
10% or less compression of a single vertebral body	I							
More than 10% but less that 25% compression of a single vertebral body		II						
Spinous or transverse process ***fractures two or more vertebrae***		II						
10% or less compression of multiple vertebral bodies		II						
Posterior or like element fracture of a single vertebra without displacement, or with minimal displacement		II						
Single vertebral body compression of 25% to 50%			III					
Posterior or like element fracture of a single vertebra with displacement which disrupts the spinal canal			III					
Two or more ***fractures*** that would individually rate DRE II if assessed separately			III					
Radiculopathy as defined by the ***Guides***			III					
Fractures of multiple vertebrae without radiculopathy as defined for Table A		II	III	IV				
Loss of Motion Segment Integrity of a single motion segment				IV				
Vertebral body compression, greater than 50%				IV	V			
Multiple **fractures** with signs of radiculopathy as defined for Table A			III	IV	V			
Cauda equina syndrome *without* bowel or bladder impairment						VI		
Cauda equina syndrome *with* bowel or bladder impairment							VII	
Paraplegia								VIII
Spondylolysis *without* loss of motion segment integrity or radiculopathy	I	II						
Spondylolysis *with* loss of motion segment integrity or radiculopathy			III	IV	V			
Spondylolisthesis *without* loss of motion segment integrity or radiculopathy	I	II						
Spondylolisthesis *with* loss of motion segment integrity or radiculopathy			III	IV	V			
Spondylolisthesis *with* cauda equina syndrome						VI	VII	VIII
Vertebral body ***fracture*** *without* loss of motion segment integrity or radiculopathy as defined for Table A	I	II	III	IV				
Vertebral body ***fracture*** *with* loss of motion segment integrity or radiculopathy as defined for Table A			III	IV	V			
Vertebral body ***fracture*** *with* cauda equina syndrome						VI	VII	VIII
Vertebral body dislocation *without* loss of motion segment integrity or radiculopathy as defined for Table A		II						
Vertebral body dislocation *with* loss of motion segment integrity or radiculopathy as defined for Table A			III	IV	V			
Vertebral body dislocation *with* cauda equina syndrome						VI	VII	VIII
Minor Spinal Procedure	I							
Spine surgical or other procedure without cauda equina syndrome		II	III	IV	V			
Spine surgical or other procedure with cauda equina syndrome						VI	VII	VIII
Stenosis, or facet arthrosis or disease, or disk arthrosis	I	II						

the reader must heed the caution set out in the text in paragraph 9.3.

*Long-tract categories VI, VII, and VIII for long-tract signs may be combined (using the formula A+B (1-A) as set out in the ***Guides*** at page 322) with impairment percentages of cervicothoracic categories II-V or thoracolumbar categories II-IV (see new Tables R73 and R-74 in these ***Guidelines***).

Table R-72 DRE Lumbosacral Spine Impairment. #		
DRE Impairment Category	**Description**	**% Impairment of the whole person**
I	A. Complaints or symptoms; B. ***Structural Inclusions*** as per Table A	0
II	A. Minor impairment: clinical signs of lumbar injury are present without radiculopathy as defined in the ***Guides*** or loss of motion segment integrity; B. ***Structural Inclusions*** as per Table A	5
III	A. Radiculopathy: signs of radiculopathy as defined in the ***Guides*** are present; B. ***Structural Inclusions*** as per Table A	10
IV	A. Loss of motion segment integrity: criteria for this condition are described in Section 3.3b, p. 95; B. ***Structural Inclusions*** as per Table A	20
V	A. Radiculopathy as defined in the ***Guides*** and loss of motion segment integrity B. ***Structural Inclusions*** as per Table A	25
VI	Cauda equina-like syndrome without bowel or bladder impairment	40
VII	Cauda equina syndrome with bowel or bladder impairment	60
VIII	Paraplegia	75

The reader must heed the caution set out in the text in paragraph 9.3.

Table R-73 DRE Cervicothoracic Spine Impairment Categories.[#]					
DRE Impairment Category	**Description**	**% Impairment of the whole person**	**Impairment % with long-tract signs* combined**		
			VI(40)	VII(60)	VIII(75)
I	A. Complaints or symptoms; B. ***Structural Inclusions*** as per Table A	0	-	-	-
II	A. Minor Impairment: clinical signs of impairment are present without signs of radiculopathy as defined in the ***Guides*** or loss of motion segment integrity; B. ***Structural Inclusions*** as per Table A	5	43	62	76
III	A. Radiculopathy: signs of radiculopathy are present as defined in the ***Guides***; B. ***Structural Inclusions*** as per Table A	15	49	66	79
IV	A. Loss of motion segment integrity or multilevel neurologic compromise; B. ***Structural Inclusions*** as per Table A	25	55	70	81
V	A. Severe upper extremity neurologic compromise: single level or multilevel loss of function B. ***Structural Inclusions*** as per Table A	35	61	74	84
VI	Cauda equina syndrome without bowel or bladder impairment	40	The 40% impairment for Category VI must be combined with the impairment percent from the most appropriate cervicothoracic impairment category, II, III, IV, or V		
VII	Cauda equina syndrome with bowel or bladder impairment	60	The 60% impairment for Category VII must be combined with the impairment percent from the most appropriate cervicothoracic impairment category, II, III, IV, or V		
VIII	Paraplegia	75	The 75% impairment for Category VIII must be combined with the impairment percent from the most appropriate cervicothoracic impairment category, II, III, IV, or V		

*If a person has impairment in cervicothoracic spine impairment category VI, VII, or VIII, the appropriate impairment percent should be *combined* (Combined Values Chart, p. 322) with the percent in cervicothoracic impairment category II, III, IV, or V that best reflects the person's condition.

[#] The reader must heed the caution set out in the text in paragraph 9.3.

Table R-74 DRE Thoracolumbar Spine Impairments. #

DRE Impairment Category	Description	% Impairment of the whole person	Impairment (%) with long-tract signs* combined		
			VI(35)	VII(55)	VIII(70)
I	A. Complaints or symptoms; B. ***Structural Inclusions*** as per Table A	0	-	-	-
II	A. Minor impairment: clinical signs of thoracolumbar injury are present without radiculopathy as defined in the ***Guides*** or loss of motion segment integrity; B. ***Structural Inclusions*** as per Table A	5	38	57	72
III	A. Signs of radiculopathy as defined the ***Guides*** are present; B. ***Structural Inclusions*** as per Table A	15	45	62	75
IV	A. Loss of motion segment integrity or multilevel neurologic compromise; B. ***Structural Inclusions*** as per Table A	20	48	64	76
V	A. Signs of radiculopathy as defined in the ***Guides*** and loss of motion segment integrity; B. ***Structural Inclusions*** as per Table A	25	Impairment percents in thoracolumbar category V are not combined with impairment percents representing long-tract signs for the thoracolumbar spine		
VI	Cauda equina syndrome without bowel or bladder impairment	35	The 35% thoracolumbar category VI impairment must be combined with the impairment percent from the most appropriate thoracolumbar impairment category, IIB, IIIB, or IV		
VII	Cauda equina syndrome with bowel or bladder impairment	55	The 55% thoracolumbar category VII impairment must be combined with the impairment percent from the most appropriate thoracolumbar impairment category, IIB, IIIB, or IV		
VIII	Paraplegia	70	The 70% thoracolumbar category VII impairment must be combined with the impairment percent from the most appropriate thoracolumbar impairment category, IIB, IIIB, or IV		

• *Note:* If a person has an impairment in thoracolumbar spine impairment category VI, VII, or VIII, the impairment percent for that category should be combined (Combined Values Chart, p. 322) with the percent in thoracolumbar category II, III, or IV (*not* V*)* that best reflects the person's condition. Combining a thoracolumbar category II or category III impairment percent with an impairment percent representing long-tract signs (thoracolumbar categories VI, VII, VIII) is appropriate only if the person qualifies for category II-B or category III-B because of the presence of ***structural inclusions***. A thoracolumbar category V impairment should *not* be combined with a category VI, VII, or VIII impairment representing the presence of long-tract signs.

The reader must heed the caution set out in the text in paragraph 9.3.

Table A: Spine Impairment Categories assessed by reference to structural inclusions

DRE Category	Column 1	Column 2	Column 3	Impairment % of whole person for regions		
				Cervicothoracic	Thoracolumbar	Lumbosacral
	Conditions affecting a single vertebra	**Conditions affecting multiple vertebrae**	**Structural impairment assessed by reference to a surgical or other procedure**			
I	10% or less compression of a single vertebral body; or A fracture, with or without displacement, of a spinous or transverse process of a single vertebra.		One or more ***minor spinal procedures.***	0	0	0
II	More than 10% but less than 25% compression of one vertebral body; or ***Posterior or like element*** fracture without displacement, or with minimal displacement.	10% or less compression of two or more vertebral bodies; or Fracture, with or without displacement, of spinous and/or transverse process of two or more vertebrae; or Two or more vertebrae with any combination of the single fracture types mentioned above.	Single level ***discectomy*** and/or ***laminectomy*** and/or ***laminotomy*** without signs of radiculopathy as defined for Table A*.	5	5	5

Table A: Spine Impairment Categories assessed by reference to structural inclusions

III	25% to 50% compression of one vertebral body; ***Posterior or like element fracture*** with displacement which disrupts the spinal canal.	More than 10% but less that 25% compression of two or more vertebral bodies; or Posterior or like element ***fracture*** without displacement, or with minimal displacement that does not disrupt the spinal canal of two or more vertebrae; or Two or more vertebrae with any combination of the single ***fracture*** types mentioned directly above.	Single level ***discectomy*** and/or ***laminectomy*** and /or ***laminotomy*** with signs of radiculopathy as defined for Table A*; Multilevel ***discectomy*** and/or ***laminectomy*** and/or ***laminotomy*** without signs of radiculopathy as defined for Table A*; Single level surgical stabilisation, disc replacement or fusion without signs of radiculopathy as defined for Table A*.	15	15	10
IV	Greater than 50% compression of one vertebral body; or DRE III is justified based on the descriptors from column 1 above *and*, signs of radiculopathy as defined for Table A*.	More than 25% but less than 50% compression of two or more vertebral bodies; or ***Posterior or like element*** fracture with displacement which disrupts the spinal canal of two or more vertebrae; or Two or more vertebrae with any combination of the single ***fracture*** types mentioned directly above; or DRE III is justified based on the descriptors from column 2 above, *and*, signs of radiculopathy as defined for Table A*.	Single level surgical stabilisation, fusion or disc replacement with signs of radiculopathy as defined for Table A*; Multilevel surgical stabilisation, fusion or disc replacement with or without signs of radiculopathy as defined for Table A*; Multilevel **discectomy** and/or ***laminectomy*** and/or ***laminotomy*** with signs of radiculopathy as defined for Table A*; Single level surgical stabilisation , disc replacement or fusion without signs of radiculopathy as defined for Table A*, *and*, another ***fracture*** within the same spinal assessment region that would justify DRE category III if assessed separately (but not ***fracture*** of a vertebra which is part of the motion segment that has been fused).	25	20	20

Table A: Spine Impairment Categories assessed by reference to structural inclusions

V	DRE IV is justified based on the descriptors from column 1 above, *and*, signs of radiculopathy as defined for Table A*.	DRE IV is justified based on the descriptors from column 2 above *and*, signs of radiculopathy as defined for Table A*.		35	25	25

The term '***posterior or like element***' is specifically defined in the 'definitions' section of these ***Guidelines*** at paragraph 3.9.

*In Table A, signs of radiculopathy means signs verified by reference to differentiators 2, 3, or 4 (but not differentiator 1) of Table 71 in the ***Guides***, or verified by the presence of well-defined myotomal weakness.

Readers are reminded of the following rule which is stated in paragraph 6.5.3 of these ***Guidelines***: "A ***discectomy*** and/or ***laminectomy*** and/or ***laminotomy*** is to be regarded as at a single level (Table A column 3 DRE III) if performed within the same motion segment".

Made pursuant to Section 46A(2C) of the *Transport Accident Act* 1986 on [date] by the Transport Accident Commission with the approval of the Minister responsible for the administration of the Act, The Hon. G. K. Rich-Phillips, MLC, Assistant Treasurer.

(signed)

For and on behalf of the Transport Accident Commission

(signed)

Assistant Treasurer

Spinal Impairment Guides modification document

Terms of reference

Terms of Reference

Drafting of a Guides Modification Document for the Assessment of Spinal Impairment

BACKGROUND

The Transport Accident Commission (**TAC**) is a statutory authority created under the *Transport Accident Act 1986* (**the Act**). The TAC administers a comprehensive no-fault and common law damages compensation scheme for people who are injured or die as a result of a transport accident within Victoria or interstate[1]. In the 2012/2013 financial year, the TAC provided 45,038 people with benefits and paid a total of $1.01 billion in support services and common law benefits.

In order to determine an injured person's entitlement to lump sum compensation, the TAC is required to assess and determine the degree of whole person impairment, in accordance with the provisions of the Act[2].

Prior to the Supreme Court of Victoria decision in *Transport Accident Commission v. Serwylo* [2010] VSC 421(Serwylo), expert medical practitioner impairment assessors expressed differing views about whether pathology at multiple levels in a spinal assessment region represented multi-level structural compromise, or not; with assessments varying between Diagnosis Related Estimate (DRE) Category I and IV under the American Medical Association: Guides to the Evaluation of Permanent Impairment – 4th Edition[3] (Guides).

Following *Serwylo*, multiple fractures or dislocations following a transport accident are now sufficient to deem that the level of impairment be assessed under DRE Category IV, irrespective of whether the fractures are considered by expert medical practitioners to be significant enough to be characterised as causing multi-level structural compromise.

On 14 November 2013, the Victorian Parliament passed the *Transport Accident Amendment Act* 2013. As amended, Section 46A(2C) of the Act now provides that:

> (2C) The Commission may, with the approval of the Minister, make a Guides Modification Document containing guidelines regarding the use and application of the A.M.A Guides for the purposes of this Act including but not limited to guidelines that—
>
> (a) amend the A.M.A Guides;
>
> (b) provide for the application or interpretation of the A.M.A Guides, including provision for modified

[1] Involving a Victorian registered vehicle.
[2] The TAC makes the determination based on assessments available to it. The determination is not made by a medical practitioner or by a Medical Panel. See also *Gillat v TAC* [2003] VSC 15.
[3] Reprint 3, or later and as modified by the provisions of the *Transport Accident Act 1986*.

application, or exclusion, of part or all of the A.M.A Guides;

(c) substitute or replace part or all of the A.M.A Guides.

(2D) A Guides Modification Document made under subsection (2C) must be published in the Government Gazette as soon as practicable after it is approved by the Minister.

OBJECTIVES AND SCOPE

The Guides Modification - Spinal Expert Panel (**the Panel**) is required to provide a Guides Modification Document (Guidelines) in accordance with Section 46A(2C) of the Act to modify the DRE Method of assessing spinal impairment in the Guides to address the consequences of the *Serwylo* decision.

The Guidelines are required to:

(a) address the items numbered 1-9 which are described below;

(b) not conflict with the provisions of the Act;

(c) promote less disputation about impairment assessment rather than more disputation of impairment assessment;

(d) give consideration to the efficacy of modifications developed in other Australian Compensation Jurisdictions as a starting point;

(e) reflect the intention and promote the purpose of the Act.

In considering the intention and purpose of the Act it is relevant to note Section 8 of the Act which includes the following objectives:

(a) to reduce the cost to the Victorian community of compensation for transport accidents;

(b) to provide, in the most socially and economically appropriate manner, suitable and just compensation in respect of persons injured or who die as a result of transport accidents;

(c) to determine claims for compensation speedily and efficiently.

ITEMS FOR PANEL CONSIDERATION

1. The language of DRE Category IV: What words should constitute the descriptor for Structural Inclusion (2) for DRE Category IV for each of the three assessment regions of the spine?

Currently, the Guides use similar but inconsistent language for each of these descriptors. The Panel is required to consider what descriptor/s should apply for each assessment region of the spine.

A related issue is the meaning and application of the phrase 'multilevel structural compromise' which is found in Table 70 of the Guides[4].

2. What parts of the spine appropriately belong to each assessment region?

The Panel is required to provide a clearer definition of the assessment regions of the spine. The definition should address the inclusion, or not, of the sacrum and occipital condyle.

The Panel is required to provide direction regarding the approach that should be taken when multiple levels of spinal pathology involve the junction between two assessment regions.

3. What fracture patterns constitute multi-level structural compromise?

The Panel is required to examine fracture patterns that occur in the spine, and determine whether particular fracture patterns should be considered to be causing multilevel structural compromise structural compromise.

The examination should include the status of:

- Fractures of various types affecting the body of a vertebra, including crushing fractures, fractures of the vertebral end plate, and micro trabecular fractures;
- Fractures of the posterior elements of the vertebra, including those extending into the transverse foramen;
- Fractures of the atypical bony structures of the 1st and 2nd cervical vertebrae, including the dens.

4. What pathology described as a dislocation constitutes multi-level structural compromise?

The Panel is required to examine patterns of dislocation (or non-bony pathology), and determine whether particular patterns of dislocation should be considered to be causing multilevel structural compromise.

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[4] For the purposes of this document , the phrase "multi-level structural compromise" from Table 70 is used to signify the varying words used in Structural Inclusion(2) of DRE Category IV and as well as the terminology from Table70.

5. Whether Spinal Surgery should be regarded as causing multi-level structural compromise?

The Panel is required to consider whether surgical procedures performed on the spine should be regarded as causing multi-level structural compromise, and if so, how this should be dealt with when assessing impairment.

6. Assessing the effect of healing on the assessment of multi-level structural compromise

The Panel is required to consider how the healing of spinal pathology should be accounted for when considering whether there is multilevel structural compromise.

In considering this issue, the Panel will need to give consideration to directions in the Act, including:

- The requirement for the TAC to assess the degree of impairment, not injury;[5]
- The requirement to assess impairment when the injury stabilises;[6]
- The removal of text from page 3/100 of the AMA Guides;[7]
- The requirement that "the degree of impairment resulting from an injury must be made based on the person's current impairment as at the date of the assessment, including any changes in the signs and symptoms following the any medical or surgical treatment undergone by the person in respect of the injury."[8]

7. Appropriate use of radiological studies when interpreting whether there is multilevel structural compromise

The Panel is required to consider whether, and if so, what guidance should be provided regarding the use of radiological studies when considering if multi-level structural compromise is present.

8. Consequential changes the descriptors of other DRE Categories

The Panel is required to determine whether consequential changes are necessary to the language of other DRE category descriptors, tables or the text of the Guides. Recommendations for any such changes must be clearly defined and be linked to the objective of addressing the consequences of the *Serwylo* decision.

9. Efficiency: Making the AMA Guides more consistent and easier

Consistent with the objective of the Act to "determine claims for compensation speedily and efficiently", in addressing the issues described above, the Panel is

[5] *Section 46A of the Transport Accident Act 1986.*
[6] *Section 46A(1) of the Transport Accident Act 1986 and Baylis v TAC* [2004] VSC 102.
[7] *Section 46A(2B) of the Transport Accident Act 1986.*
[8] *Section 46A(2A) of the Transport Accident Act 1986 and Baylis v TAC (supra).*

required to provide Guidelines which make the DRE methodology of the AMA Guides more consistent and easier to apply.

COMPOSITION AND CONSULTATION

The Panel will be chaired by Mr Gary Speck (Orthopaedic specialist and Chair of the Spine Reference Group of the Ministerially Approved Training Course (MATC) in the application of the Guides[9]).

The Panel will also comprise the following members:

- Associate Professor Stephen Hall (Rheumatologist and member of the Spine Reference Group;
- Associate Professor Richard Stark (Neurologist and Chair of the MATC Committee of Management[10]);
- Mr David Brownbill (Neurosurgeon);
- Mr Robert Dickens (Orthopaedic Specialist), and
- Mr Peter Wilde (Orthopaedic Specialist and President of the Spine Society of Australia[11]).

The TAC will provide the Panel with administrative and secretarial support as required and will respond to any formal legislation or policy questions made by the Panel. The Panel will be supported where necessary by the TAC who will provide advice regarding the experience of the TAC in managing impairment claims which are affected by the *Serwylo* decision.

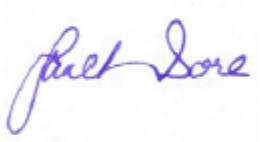
The Panel will consult where necessary with other medical practitioners who are accredited Guides assessors at a consultation event on or about 12 March 2014.

TIMING

The Panel must provide the proposed Guidelines to the TAC by the 31 March 2014.

MEDIA AND PUBLIC ENQUIRIES

All media and public enquiries must be directed to the TAC's corporate affairs team on (03) 5225 6591.



Janet Dore
Chief Executive Officer
Transport Accident Commission
Dated: 5 February 2014

[9] National Chairman, Australian Society of Orthopaedic Surgeons and Director of AMA Victoria.
[10] Chair of the Neurology Reference Group of the MATC, Chair of the Core Module Reference Group of the MATC and previous member of the Spine Reference Group.
[11] Head of Vertebral Column Surgery, University of Melbourne Clinical School, Austin Hospital.