WORKERS COMPENSATION COMMISSION

CERTIFICATE OF DETERMINATION

Issued in accordance with section 294 of the *Workplace Injury Management and Workers Compensation Act 1998*

Matter Number: **2355/19**
Applicant: **Wendy Susan Yates**
Respondent: **NSW Rural Fire Service Association Incorporated**
Date of Determination: **3 December 2019**
Citation: **[2019] NSWWCC 385**

The Commission determines:

1. The claim pursuant to section 66 of the *Workers Compensation Act 1987* is remitted to the Registrar for referral to an Approved Medical Specialist to assess the degree of whole person impairment, if any, arising from injury to the cervical spine, thoracic spine and lumbar spine and to the brain on 21 May 2009.

2. The material to be supplied to the Approved Medical Specialist should include:

    (a) the Application to Resolve a Dispute and attached documents;
    (b) the Reply and attached documents;
    (c) an undated letter by Ross Chapman of "H_2O Tanks & Liners" attached to Application Admit Late Documents by the applicant dated 5 July 2019, and
    (d) report of Associate Professor Jon Raftos attached to Application Admit Late Documents by the applicant dated 9 October 2019.
    (e) this Certificate of Determination and reasons.

A brief statement is attached setting out the Commission's reasons for the determination.

W Dalley
Arbitrator

I CERTIFY THAT THIS PAGE AND THE FOLLOWING PAGES IS A TRUE AND ACCURATE RECORD OF THE CERTIFICATE OF DETERMINATION AND REASONS FOR DECISION OF WILLIAM DALLEY, ARBITRATOR, WORKERS COMPENSATION COMMISSION.

S Naiker

Sarojini Naiker
Senior Dispute Services Officer
As delegate of the Registrar

STATEMENT OF REASONS

BACKGROUND

1. Wendy Susan Yates (Mrs Yates/the applicant) commenced employment with the Rural Fire Service (the Respondent) in 2008. On 21 May 2009, she was injured when the vehicle she was driving on her way to work left the road and collided with a tree (the subject accident). The airbag in Mrs Yates's vehicle deployed and she had to be cut from the vehicle. She was then taken by ambulance to Liverpool Hospital where x-rays showed compression fractures in the thoracic and lumbar spine.

2. Mrs Yates was released from hospital after 10 days to the care of her general practitioner. She continued to have severe spinal symptoms. She attempted to return to work in November 2009 for a limited period of two hours per day. At the completion of the first two-hour period Mrs Yates felt unwell. She drove home with a severe headache and vomited after arrival.

3. An ambulance was called and Mrs Yates was taken to Campbelltown Hospital where a diagnosis of possible aneurysm in the brain was made. Mrs Yates was transferred to the Intensive Care Unit at Liverpool Hospital where she came under the care of Dr Van Gelder. The diagnosis of ruptured cerebral aneurysm was confirmed and Mrs Yates underwent surgery.

4. Mrs Yates returned to work in February 2010 on a graduated rehabilitation program. In May 2010 Mrs Yates was examined by Dr Adler, a specialist in rehabilitation medicine. Subsequently, in May 2011, Mrs Yates entered into a complying agreement pursuant to section 66 of the *Workers Compensation Act 1987* (the 1987 Act) pursuant to which she was paid a lump-sum in respect of 24% whole person impairment in respect of injury on 21 May 2009 to the thoracic and lumbar spine. The "Medical report(s) relied on to assess the degree of permanent impairment" is recorded as "Dr R Adler - 21 May 2010".

5. In January 2012, she was informed that her position was becoming redundant and she was offered employment at a more junior level. Mrs Yates declined the redeployment and within a short time had found work with another employer. She continued to suffer back symptoms as well as impaired cognition and memory.

6. In February 2018, Mrs Yates was again assessed at the request of her solicitors by Dr D G Milder, neurologist. Dr Milder assessed whole person impairment (WPI):

    (a) cervical spine – 5% WPI

    (b) thoracic spine – 15% WPI

    (c) lumbar spine – 12% WPI

    (d) mental state – 15% WPI

7. A further lump sum claim was made by Mrs Yates's solicitors. The insurer disputed injury to the brain upon which the assessment of mental state impairment was based pursuant to paragraph 13.2 of AMA5.

8. An Application to Resolve a Dispute was filed in the Commission alleging injury on 21 May 2009 to "cervical, thoracic spine & lumbar spine and any impairment of mental status".

9. The respondent did not dispute injury to the cervical, thoracic and lumbar spine although the extent of that impairment was not conceded. The respondent maintained the dispute with respect to the allegation of injury to the brain resulting in mental state impairment.

10. Agreement was reached between the parties that the following questions should be referred to an Approved Medical Specialist (AMS) by way of a general medical dispute:

    (a) did the applicant receive an injury to her brain in the motor vehicle accident on 21 May 2009?

    (b) Did the accident on 21 May 2009 cause or result in an aggravation, acceleration, exacerbation or deterioration of a basilar artery aneurysm?

11. The AMS provided a Medical Assessment Certificate dated 2 August 2019 addressing those questions.

ISSUES FOR DETERMINATION

12. The parties agree that the only issue in dispute is whether Mrs Yates suffered an injury to her brain at the time of the subject accident.

13. Impairment of mental status is assessed under the area of "nervous system" pursuant to the NSW Workers Compensation Guidelines for the Evaluation of Permanent Impairment (Fourth Edition – 1 April 2016)[1]. For the sake of clarity, the allegation of injury in Part 4 of the Application to Resolve a Dispute was amended to add after the words "impairment of mental status" the words; "due to head/brain injury".

PROCEDURE BEFORE THE COMMISSION

14. I am satisfied that the parties to the dispute understand the nature of the application and the legal implications of any assertion made in the information supplied. I have used my best endeavours in attempting to bring the parties to the dispute to a settlement acceptable to all of them. I am satisfied that the parties have had sufficient opportunity to explore settlement and that they have been unable to reach an agreed resolution of the dispute.

EVIDENCE

Documentary Evidence

15. The following documents were in evidence before the Commission and taken into account in making this determination:

    (a) Application to Resolve a Dispute and attached documents;

    (b) Reply and attached documents;

    (c) Amended Request for Assessment of General Medical Dispute dated 24 June 2019;

    (d) Medical Assessment Certificate by Dr Ross Mellick, AMS, dated 2 August 2019;

    (e) Letter containing statement of Mr Ross Chapman attached to Application Admit Late Documents by the applicant dated 5 July 2019, and

    (f) Report of Dr Jon Raftos dated 2 October 2019 attached to Application to Admit Late Documents by the applicant dated 2 October 2019.

[1] chapter 5, page 31

Oral Evidence

16. No application was made to adduce oral evidence or to cross examine any witness.

FINDINGS AND REASONS

17. Counsel for the applicant submitted that the brain injury described by Associate Professor Raftos should be accepted as having been caused by the subject accident. The evidence established on the balance of probabilities that there had been a severe impact as result of which Mrs Yates had suffered a blow to the head and had lost consciousness. She had complained of severe headaches since that time up to the incident on 4 November 2009 when it appears the aneurysm ruptured.

18. The causal connection between the subject accident and the ruptured aneurysm suggested by Associate Professor Raftos, who gave a detailed explanation, should be accepted.

19. The medical evidence suggested that this conclusion was open and common sense notions of causation linked the rupture to the subject accident. The Commission was not bound to accept the opinion of the AMS but was entitled to rely on its own evaluation of the whole of the evidence, noting the remarks of President *Keating in Woolworths Ltd v Christopher-Coates*[2]*.*

20. Counsel for the respondent submitted that the evidence did not establish that the rupture of the aneurysm was causally related to the subject accident. There was no report of head or brain injury in the hospital notes and loss of consciousness was in doubt. Dr Adler who had examined Mrs Yates for the purposes of her earlier lump sum claim had noted there was no loss of consciousness.

21. The clinical notes in evidence contain no record of any complaint of headaches up to 4 November 2009. Associate Professor Raftos was of the opinion that the subject accident "could" have caused the rupture but that opinion did not establish causation on the balance of probabilities but was simply a possible explanation.

The Applicant

22. In her statement dated 12 April 2019 Mrs Yates set out her recollection of the subject accident. She said:

> "A van with a trailer attached approaching from the opposite direction crossed the centreline on a curve towards me. In order to avoid the accident, I swerved my vehicle to the left. Due to the fact that the road was wet from rain and had potholes, I lost control of the vehicle. At some point, I became unconscious. I later learned that my card spun around and hit a rural fence and three trees."

23. Mrs Yates said that she recovered consciousness while seated in the vehicle. She noted a cut across the bridge of her nose about two or three centimetres long. She thought this was due to her having hit her head on the steering wheel "before the airbags deployed".

24. Mrs Yates recounted being taken to Campbelltown Hospital and subsequently transferred to Liverpool hospital where she was found to be suffering from compression fractures of the vertebral bodies at T12 and L2 as well as minor fractures to T9 and T10. She recalled that she had developed "black eyes" a few days later while still in hospital.

[2] [2014] NSWWCCPD 14

25. Mrs Yates said that she was released from hospital after 10 days and referred to a course of hydrotherapy and physiotherapy as well as medication.

26. Mrs Yates said:

> "After the accident, I used to get a lot of debilitating headaches. Some days, I had headaches for three days straight in a row. I would get photophobic and nauseous. My husband would leave me alone in a dark room. I was managing it with Panadeine Forte, Endone and Mersyndol Forte."

27. Mrs Yates said that on 4 November 2009, she attempted to return to work on restricted duties. She said that she had been certified to work two hours per day. She was nervous and shaking. Mrs Yates said that after two hours she "developed a huge headache and felt violently sick". She said she attributed the headache to being nervous and tense about going back to work and that "it was just one of those headaches which I was getting after the accident".

28. Mrs Yates said she drove home but could no longer cope with any light or sound. She started vomiting. Her husband called an ambulance and Mrs Yates was taken to Campbelltown Hospital. She was then transferred to Liverpool Hospital where she came under the care of Dr Van Gelder. She was diagnosed with a ruptured cerebral aneurysm and haemorrhage which was treated surgically. She remained in hospital for three weeks.

29. Mrs Yates said that following the surgery she was left with permanent weakness on the left side of her body as well as problems with memory and major depression. She recalled that her treating neurosurgeon told her that he could not say whether the problem resulted from the motor vehicle accident.

30. Mrs Yates described her post surgery return to work in February 2010 and his subsequent employment. She described the problems she was experiencing as a result of her injuries and the subsequent treatment. She said she had tried to end her life on two occasions.

31. Mrs Yates said that she believed that the aneurysm was from the accident, noting that she had hit her head on the steering wheel.

Mr Adam Yates

32. A statement by Mrs Yates's husband, Adam Yates, was in evidence dated 29 March 2019. Mr Yates said that on 3 November 2009, his wife had begun her first day back at work with the respondent in Penrith. He said that his wife had informed him that she felt nauseous and was suffering from a mild headache. She had assumed this was linked to anxiety and elected to go to work.

33. Mr Yates said that in the course of the day, Mrs Yates had contacted him. She had told him that she was suffering from "a severe headache that was only deteriorating as the day went on". He said that on her return from work she had been unable to communicate, complaining that any noise, including talking, was like "knives being stabbed into her eyes". He said she went to bed but was unable to settle.

34. Mr Yates said that Mrs Yates had complained of "stinging/aching eyes, nauseousness, a throbbing head and neck". He said these symptoms were familiar as his wife had suffered from headaches previously after the accident. He said these had normally been able to be managed with a dark and quiet room, Panadol and wet flannel on her head. Mr Yates said that he called an ambulance because the symptoms persisted. He noted that Mrs Yates had been taken to hospital and was there diagnosed with a ruptured cerebral aneurysm and haemorrhage.

35. Mr Yates stated that his wife's personality changed substantially following this incident. He said that she suffered deepening depression and said that "on two separate incidents, Wendy has tried to end her life and she said, 'she could not cope with living like this'". He said, "when questioned about this, Wendy has been consistent in saying that she feels incompetent and different from prior to the accident."

Mr Ross Chapman.

36. A letter (which is undated and does not bear a signature) from Mr Ross Chapman was in evidence. Mr Chapman said he recalled the subject accident, although it had occurred 10 years earlier, because of its dramatic nature.

37. Mr Chapman said that he recalled witnessing the subject accident. He said that Mrs Yates's vehicles was heading towards him as he was driving in the opposite direction but, "as she rounded the corner the car slid across the road in front of my car and hit the embankment and fence narrowly missing my bull bar." Mr Chapman said that he stopped and observed that Mrs Yates was unconscious. He called emergency services as well as contacting Mrs Yates's husband after locating her phone. He was later informed that the driver of the silver Hyundai was the applicant.

Campbelltown Hospital

38. Records produced by Campbelltown Hospital where in evidence. The admission summary on 21 May 2009 records a history of Mrs Yates having been involved in high-speed motor vehicle accident with severe immediate back pain. The CT scan showed fractures of both T12 and L2. The notes record "no other injuries were noted". A similar history as recorded under the heading "Triage & History":

> "High-Speed MVA prox 60 minutes ago patient lost control of car and travelled uncontrolled down the road another hundred metres taking out shrubs up an embankment and a wooden and metal fence. O/A patient alert orientated and complained of severe back pain lumbar and abdo pain. Able to move limb with pain has had methoxy and morphine. Airbags deployed."

39. The "Injury & Pain Chart" records pain at slightly above belt level in the back. Ambulance records record an impact at an estimated speed greater than 90 km/h. Mrs Yates was noted to be wearing a seatbelt. There was major deformation to the front of the vehicle. On arrival of the ambulance Mrs Yates was noted to be seated in the driver's seat with the airbags deployed. She complained of lower back pain. On examination she was noted to be conscious. The record states "Pt said that she was conscious during the event. Nil LoC".

40. A handwritten record notes a high-speed motor vehicle accident with loss of control. The record notes "no LOC"

41. Under the heading "Summary of Progress" the history is recorded of the motor vehicle accident:

> "She had immediate severe back pain. In ED she required 25+ milligrams of morphine for severe back pain and had midline tenderness in her upper lumbar area. She was neurologically intact. A CT Abdo and spine was performed which revealed anterior fractures of both T12 and L2. No other injuries were noted."

42. There is no record of any laceration to the nose or face.

Liverpool Hospital

43. Liverpool hospital records note fractures at T12 and L2 as the reason for admission. The records note "pain control with analgesia" with "no need for neurosurgical intervention".

44. CT angiogram of the chest disclosed:

> "Fractures involving T10, T12 and L2 as described above. Possible fractures of T9. Fullness of the superior mediastinum laterally to the arch of the aorta however no dissection or aneurysm is demonstrated to the arch of the aorta. This may represent a venous bleed and progress imaging may be performed if clinically indicated."

45. Nursing notes for 22 May 2009 record a GCS of 15 with a notation "slightly distressed – nauseous – scalp/face NAD. Pain to R) clavicle" with the notation of continuing back pain.

46. The handwritten entry dated 28 May 2009 records no abnormality in respect of the head or neck.

47. The discharge summary from Liverpool Hospital dated 17 November 2009 records a diagnosis of "Grade 1 subarachnoid haemorrhage – coiling of small basilar artery tip aneurysm on 6/11/09". The records note the subject accident six months earlier with chronic back pain and depression.

48. The "Summary of Patient Progress" records:

> "46-year-old female transferred from Campbelltown presented with spontaneous grade 1 SAH [subarachnoid haemorrhage], she was admitted in ICU for 1 week. CT cerebral angiogram showed small basilar aneurysm which was coiled on 6/11/09 and patient started on nimodipine. No postop complications and patient recovered well."

49. The report of the CT scan of the brain performed on 5 November 2009 records "acute subarachnoid haemorrhage in the basal cisterns with a 4 x 3 mm basilar tip aneurysm."

GP Clinical Notes

50. Clinical notes from 9 September 2006 were in evidence. General health issues are noted in the period up to May 2009. There is complaint of headaches recorded on 28 May 2007 and a note on 10 May 2008 "Panadeine forte for menstrual migraines – was on sandomigraine but taken off by previous GP after two-year use, only requires analgesia day 2 of periods, pack of 20 lasts several months." The general practitioner, Dr Anna Pham, prescribed Panadeine Forte.

51. A suicide attempt with hospitalisation in Campbelltown Hospital was recorded on 10 September 2008. On 7 March 2009, Doctor Ho noted "previous overdose attempts" noting family, work and relationship stressors. On 14 March 2009 the general practitioner records referral for a mental health care plan.

52. On 3 June 2009, the general practitioner, Dr Ho, noted the motor vehicle accident recording that Mrs Yates had suffered fractures and was on crutches. She was noted to be "feeling in the dark, frustrated, irritated." Subsequent attendances note continuing pain together with relationship stress. Dr Ho describes Mrs Yates as "progressing well" in August and September 2009 but with continuing complaints of back problems.

53. In October, Mrs Yates is noted to be very depressed but with "no suicidal ideations". On 23 October 2009, Dr Ho recorded: "progressing well – return to work plan – light duties – issues are sleeping at night – more aware of her depression."

54. On 20 November 2009, the general practitioner recorded “unsure of correlation between work injury and SAH [*scil* subarachnoid haemorrhage] – potential maintain current restrictions, review with Dr McKechnie for advice – WorkCover related – when to return to work – when to return to physiotherapy.”

55. There is no complaint of headaches recorded in the general practitioner’s clinical notes between the date of the subject accident and the bursting of the aneurysm in November 2009. There is also no record of any suicide attempt after the subject accident.

Reid Clinical Psychology.

56. A referral letter from the general practitioner, Dr Ho, dated 14 March 2009 to Ms Briallen Reid, psychologist, notes that Mrs Yates was suffering from depression and anxiety. The general practitioner said: “Significant stressors – father has terminal illness and mother is unwell, struggling with relationship due to miscommunication, and has a heavy workload as an administrator for the rural Fire Brigade. Has had two suicidal attempts but can guarantee her safety.”

57. A report dated 15 April 2009 from the psychologist, Briallen Reid was in evidence. Ms Reid noted that she had first seen Mrs Yates on 3 April 2009. She recorded a history of problems within Mrs Yates’s relationship with a husband and pressure at work. She noted suicidal thoughts with overdose attempts in September 2008 and January 2009. These followed arguments with her husband.

58. The psychologist diagnosed anxiety and depression and recommended cognitive behavioural therapy. Progress Notes record attendance at cognitive behavioural therapy group sessions in October 2009 conducted by associate of Ms Reid, Ms Cosette Dean. A referral letter from Dr Kate Watson to the psychologist dated 27 August 2015 notes a prior history of panic attacks in 1999 and migraines in 2000.

59. The Mental Health Care Plan dated 27 August 2015 notes a history of depression and anxiety “including 2 x intentional overdoses in 2008 and 2009 (secondary to marital conflict)”. The history includes increased work stress in Mrs Yates’s current employment in a veterinary surgery due to interpersonal conflict.

60. A report dated 15 September 2015 from a psychologist, Ms Cosette Dean, at Reid Clinical Psychology to Dr Watson notes that the psychologist had previously seen Mrs Yates in 2009 “for assistance with depressed mood associated with a brain haemorrhage and marital conflict.”

61. The balance of the report deals with interpersonal conflict which Mrs Yates was then experiencing at work with the psychologist suggesting strategies for coping.

Dr McKechnie, Neurosurgeon

62. A series of reports by Dr Simon McKechnie, neurosurgeon, were in evidence. Mrs Yates came under the care of Dr McKechnie following admission to Liverpool Hospital where he recommended conservative treatment in respect of the T12 and L2 fractures.

63. Following Mrs Yates’s release from hospital, Dr McKechnie ordered a follow-up scan and his subsequent reports deal with injuries to the thoracic and lumbar spine.

64. Dr McKechnie saw Mrs Yates on a number of occasions up to October 2009 with continuing complaints of back pain. Dr McKechnie noted the results of the MRI scan with no nerve root or thecal sac compression.

65. Dr McKechnie reviewed Mrs Yates again on 24 November 2009 when he noted: "She has had an eventful time since the last visit in October for work-related back injury. On 4 November, she suffered a severe sudden headache with nausea and vomiting and was diagnosed with a grade 2 subarachnoid haemorrhage." He noted the treatment that followed under the care of Dr Van Gelder with an "unremarkable recovery".

66. Dr McKechnie reported that Mrs Yates was complaining of headaches, dizziness and memory loss. He reported that he had explained that "these are frequent symptoms following a subarachnoid haemorrhage." He noted that the lower back pain had worsened. Analgesics were prescribed for the back pain and for the "recent headaches".

67. Dr McKechnie reviewed Mrs Yates on 23 March 2010, noting continuing headaches as well as chronic lower back pain. He noted that radiological imaging of the brain looked "satisfactory" and referred Mrs Yates for a cerebral angiogram. He went on to discuss the back injury.

68. Dr McKechnie again saw Mrs Yates on 18 May 2010. He commented "From the brain point of view she is still having some headaches the [sic] remains neurologically intact." He noted the results of the cerebral angiogram which he referred to the operating neurosurgeon, Dr Wenderoth, for comment. He went on to discuss the back injury which continued to give rise to pain.

69. Dr McKechnie reported on 21 October 2010 that he had again reviewed Mrs Yates after she had recently returned from a cruise. She reported exacerbation in her back pain and was still taking OxyContin and occasional Endone. He commented "she remains neurologically intact" and noted that she was to have a cerebral angiogram in mid-2011 for follow-up of the surgical treatment of the basilar artery aneurysm.

70. When he saw Mrs Yates next in February 2011, Dr McKechnie reported improvement in the pain since the last review, noting that she had been able to stop taking OxyContin and Endone. He referred Mrs Yates for a CT angiogram of the brain and saw her again on 26 July 2011 following that investigation. He noted that the angiogram demonstrated that the previously coiled basilar artery aneurysm remained secure.

71. Dr McKechnie reviewed Mrs Yates on 24 September 2013 noting with respect to the aneurysm that "the previously coiled basilar tip aneurysm is well secured" and that her lower back pain was reasonably well-controlled.

72. Dr McKechnie again saw Mrs Yates on 7 March 2017, when she was again referred by her general practitioner Dr Hakam with what Dr McKechnie described as "a potential new problem" identified by a follow-up MRI scan. He said there was "no significant residual or recurrent aneurysm of the previous coiled basilar artery site" but there appeared to be an area of calcification of the right frontal lobe which he felt was likely to be a very small calcified meningioma.

Dr Van Gelder and Dr Wenderoth

73. A report by Dr Van Gelder to the general practitioner, Dr Ho, dated 10 December 2009 was in evidence. Dr Van Gelder noted that he had reviewed Mrs Yates on 8 December 2009 the diagnosis of subarachnoid haemorrhage treated with coiling of the small basilar tip cerebral aneurysm. He noted a "good recovery".

74. Dr Van Gelder noted that Mrs Yates was seeing Dr McKechnie in respect of her back injury and felt was appropriate that Dr McKechnie also manage the neurosurgical aspects of the subarachnoid haemorrhage.

75. The report of Dr Wenderoth who performed the coiling of the basilar aneurysm at the basilar apex was in evidence. He reported "successful inclusion of the basilar tip aneurysm" on 6 November 2009.

Dr R Adler

76. Mrs Yates was examined by Dr Adler, a specialist in rehabilitation medicine, on 22 April 2010. His report dated 21 May 2010 was in evidence. Dr Adler recorded the subject accident noting the fractures of T12 and L2. He recorded "There was no loss of consciousness." Dr Adler reported the brain haemorrhage due to cerebral aneurysm and the surgery that followed. He noted a continuing problem as short-term memory loss and weakness in the left arm and leg. He noted back pain gradually improving which he described as currently "relatively mild". He recorded complaints of low back pain and noted that there was no longer any short-term memory loss. He recorded the results of examination of the lumbar spine as well as noting under the heading "neurological": "mild weakness of the left arm and left lower limb and resisted motion testing of 4+/5 great strength with no hand dexterity loss and no spasticity."

77. Dr Adler recorded under the heading "Diagnosis":

> "Mrs Yates suffered a T12 and L2 crush fracture, which is healing without complication and steadily improving…. During her convalescence from the spinal fractures she suffered a brain haemorrhage, with successful surgical intervention to clip and aneurysm, but only very mild residual weakness of the left arm and leg not associated with any disability."

78. Under the heading "Causation", Dr Adler recorded: "the spinal disability is solely result of the trauma arising from the motor vehicle accident of 21 May 2009. There are no other pre-existing conditions." He felt that Mrs Yates would affect a "full recovery" from her back injury and that there should not be any long-term occupational disability. He said "Her present incapacity is due to her convalescence from a recent stroke, and she is gradually upgrading her hours of work. Her present work restrictions are as I understand primarily required as a consequence of the cerebral haemorrhage."

79. The report dated 21 May 2010 in evidence made no assessment of permanent impairment.

80. A further report dated 16 August 2010 notes that the doctor has been provided with the CT scan of the thoracic and lumbar spines performed on 27 July 2010 identifying T12 and L2 endplate fractures with loss of vertebral height. He said: "This would allow for revision of the AMA 4 calculations I provided in my letter of 21 May 2010. The T12 WPI is unchanged. However, the L2 compression fracture being 51% would place it in a DR E IV category. The total is then T12 DRE III 15% WPI and L2 DRE IV 20% WPI. The total is 32% WPI." It appears there was probably a further report dated 21 May 2010 assessing impairment although with there was assessment at that time of an assessment in respect of injury to the brain is not disclosed.

Dr Guy Bashford

81. The treating general practitioner, Dr Ho, referred Mrs Yates to rehabilitation specialist, Dr Guy Bashford, in February 2011. Dr Bashford noted that Mrs Yates "remembers swerving to avoid a car that across the midline, but thereafter lost consciousness." He reported:

> "She is not in a position to know whether she had a closed head injury, but had a laceration across the bridge of her nose. From the time of the accident she had low back, thoracolumbar, neck and left knee pain which have been present since."

82. With respect to the aneurysm he noted:

> "On the 4 November 2009, she suffered from a cerebral haemorrhage due to, I believe, a berry aneurysm. This was coiled and is due for review by the radiologist in the coming weeks. After the cerebral haemorrhage her pain increased somewhat after stopping the anti-inflammatories, but there were no new areas of pain. She had a very mild left hemiparesis without a hemianaesthesia. Shortly after the bleed she had short-term memory deficits, but this had resolved."

83. On examination, Dr Bashford noted that Mrs Yates was mildly hyperreflexic through the left upper and lower limb consistent with the cerebral haemorrhage and that she had "associated mild increase in other aspects of spasticity" with "mild weakness, but this was not apparent functionally".

84. Dr Bashford's diagnosis dealt only with the spinal injuries. The further reports of Dr Bashford relate to treatment of the spinal injuries and do not assist with determination of the present issue.

Dr Dan Milder

85. A number of reports by Dr Milder, consultant neurologist, were in evidence. In a report to Mrs Yates's solicitors dated 7 February 2017 Dr Milder recorded the history of the subject accident which he said left Mrs Yates with no memory of the event. He noted that fractures of the 12th thoracic and second lumbar vertebrae were confirmed. He reported: "In November 2009, a sudden severe headache associated with vomiting resulted in admission to the Emergency Department of the Campbelltown Hospital. An aneurysm of the basilar artery associated with subarachnoid haemorrhage was detected."

86. Dr Milder recorded the symptoms suffered by Mrs Yates and her treatment. In addition to the thoracic and lumbar spine injuries he diagnosed cervical soft tissue and ligamentous injuries and recorded:

> "She has sustained a head injury of significant degree, resulting in cognitive and memory deficits. It is possible the head injury has contributed to the development of a basilar artery aneurysm and its subsequent rupture, or alternatively, has predisposed to the subsequent rupture of a previously present basilar artery aneurysm."

87. In a subsequent report dated 13 February 2018, Dr Milder notes the more recent MRI scan results and records the same diagnosis with respect to the aneurysm as in his earlier report.

88. In a report dated 10 July 2018 Dr Milder assessed permanent impairment in respect of the cervical thoracic and lumbar spines. He also assessed: "According to Table 13-6, page 320, Class II, she suffers an impairment of mental status that represents impairment of the whole person of 15%."

Professor Matthew Kiernan

89. Professor Matthew Kiernan examined Mrs Yates in September 2018 at the request of the insurer. He noted history of the subject accident recording that Mrs Yates had "no further memory related to the collision" after moving off the road but noted that Mrs Yates recalled waking up while still seated inside the car. She recalled a lady approaching the car to speak to her to say that an ambulance had been called. He noted the diagnosis of the spinal fractures.

90. Under the heading “Intercurrent Medical Problems” Professor Kiernan noted:

> “At the time of her initial return to work, Mrs Yates explained that she suffered a severe headache. She continued her four-hour shift but then came home and vomited. She developed photophobia. Subsequently her husband became concerned and called an ambulance. Mrs Yates was taken to Campbelltown Hospital where an intracerebral haemorrhage was diagnosed.”

91. Professor Kiernan discussed the spinal injuries and said:

> “In relation to the possibility of head injury it seems likely from the description provided by Mrs Yates that there was a period of loss of consciousness related to the subject accident. However, there is no objective evidence of structural abnormality on brain imaging suggest that Mrs Yates suffered a traumatic brain injury.”

92. Professor Kiernan felt that the intracranial aneurysm should be regarded as “constitutional in nature”. He felt that the spinal injuries should be assessed by an orthopaedic surgeon.

Dr John Bentivoglio

93. Mrs Yates was examined by Dr Bentivoglio, orthopaedic surgeon, at the request of the solicitors for the insurer in December 2018. He recorded that Mrs Yates had been “knocked out for a short period of time and had significant injuries to her thoracic spine and lumbar spine regions.” He noted the treatment that followed. He recorded: “Initially this lady lost six months off work. She then return to work. On the first day back at work she experienced severe headaches and eventually transpired that she had a leaking cerebral aneurysm that required surgical treatment.”

94. Dr Bentivoglio reported impairment in respect of the cervical spine, thoracic and lumbar spine. He did not comment on the aetiology of the cerebral aneurysm.

Dr Ross Mellick

95. A Medical Assessment Certificate dated 2 August 2019 by Dr Ross Mellick, an Approved Medical Specialist, (AMS) was in evidence. The dispute referred to the AMS was in respect of “liability for brain injury/permanent impairment of nervous system.” The specific questions that the AMS was asked to address are set out below.

96. The AMS was provided with the Application to Resolve a Dispute and attached documents and the Reply and attached documents.

97. The AMS reported that there was “no preceding history of back pain or headache prior to the motor vehicle accident”. He recorded history of episodic headaches occurring following the subject accident which he said, “became a problem in the interval prior to resuming work.” The headache was said to be “associated with considerable discomfort on exposure to light.” The AMS recorded:

> “It was mainly occipital to begin with but then spread to involve by frontal headache. The headache was always associated with nausea and she vomited on occasions. She was also sensitive to sound and can recall asking her husband not to speak to her because the sound of his voice caused discomfort, as the exposure to bright light caused discomfort.”

98. The AMS noted the attempt to return to work in November 2009 when Mrs Yates experienced “an episode of headache which was unusually severe.” He recorded that Mrs Yates had to stop the car on the way home to be ill and vomited again at home. He noted that an ambulance had been called with the subsequent diagnosis of an intracranial aneurysm associated with a subarachnoid bleed.

99. The AMS noted the MRI scan of the brain reported on 7 February 2017 (incorrectly recorded as 2007) and the interventional angiography and performed on 6 November 2009.

100. The AMS reported:

> "The aneurysm was well visualised prior to coiling was found to be 2 mm in diameter. This should be regarded to have been present long before the motor vehicle accident. It is situated at a common site for constitutional berry aneurysms [?and] should be regarded to have no etiological connection with the motor vehicle accident".

101. The AMS noted the opinion of Dr Milder with regard to the possibility that the head injury had contributed to the development of the aneurysm and subsequent rupture or else had predisposed the brain to the subsequent rupture. The AMS commented that this opinion was restricted to a possibility.

102. The AMS agreed with Professor Kiernan that there was no etiological connection to the subject accident.

103. In answer to the particular questions asked the AMS reported:

> "1. **Did the applicant receive an injury to her brain in the motor vehicle accident on 21 May 2009?**
>
> No, there is no evidence historically or radiologically or on examination establishing a brain injury to have occurred at the time of the motor vehicle accident.
>
> **2. Did the accident on 21 May 2009 cause or result in an aggravation, acceleration, exacerbation or deterioration of a basilar artery aneurysm? If so, what the accident the main contributing factor to the contraction or aggravation, acceleration, exacerbation or deterioration of the basilar artery aneurysm?**
>
> The motor vehicle accident did not result in an aggravation, acceleration, exacerbation or deterioration of the basilar aneurysm and the accident should not be regarded to have been a main contributing factor to contraction, aggravation, acceleration, exacerbation or deterioration of the basilar aneurysm and should not be regarded to have contributed to the rupture of the aneurysm".

Associate Professor John Raftos

104. Associate Professor Raftos was asked to provide a report as to the relationship between the subject accident and the brain injury based upon a review of the Medical Assessment Certificate, the reports of Dr Milder the cerebral scans and angiography results as well as the statement of Mr Ross Chapman. He did not examine Mrs Yates but it is not apparent that this would detract from the weight to be given to his report as there is no dispute that Mrs Yates suffered a ruptured aneurysm and the issue is one of causation.

105. It does not appear from the list of documents set out in his report that a statement from Mrs Yates was included. I infer the history was either provided by the solicitors in their letter of instruction or else was that relied upon in the Medical Assessment Certificate.

106. Associate Professor Raftos noted that Mrs Yates was found to be unconscious immediately following the accident. He noted that history of hospitalisation and the diagnosis of the thoracic and lumbar vertebral bodies. He also noted that the CT scan of the chest was reported as showing a possible venous bleed indicated by "fullness of the superior mediastinum laterally to the arch of the aorta".

107. Associate Professor Raftos recorded that Mrs Yates had suffered severe headaches and frequent nausea with sensitivity to lights and loud noise following the subject accident. On return to work, he recorded that Mrs Yates had developed another severe headache associated with nausea and photophobia. He recorded that she had vomited on returning home had been taken to hospital where the brain scan showed a subarachnoid haemorrhage.

108. Associate Professor Raftos reported his opinion that the possible "non-specific bleeding into the mediastinum around the aorta" was associated with the force of impact on the subject accident which had led to the spinal fractures. He noted there was no reported abnormality the aorta itself."

109. Associate Professor Raftos was asked to consider:

> "In November 2009, prior to the coiling procedure, the scan was taken. The results showed a berry type aneurysm 2 mm in diameter. The motor accident took place six months prior to that day. Is it possible to tell with certainty, by relying on the results of the scan that the aneurysm has been present long before the MVA in May 2009?"

Associate Professor Raftos replied: "It is not possible to tell with certainty how long the aneurysm that was discovered on 6 November 2009 had been present".

110. Associate Professor Raftos was then asked to consider:

> "It is our understanding that cerebral aneurysms are associated with several risk factors including smoking, hypertension and genetic factor. None of these factors are related to our client. Furthermore, one of the acquired risk factors can be associated with head trauma. We have a statement of the witness who was present at the scene of the accident. He testified that the client was unconscious when he found her in the car straight after the impact. Could the above-named factors indicate that the MVA resulted in an aggravation, acceleration or exacerbation of the basilar aneurysm?"

111. Associate Professor Raftos replied:

> "Yes. Mrs Yates suffered substantial acceleration/deceleration forces when her vehicle struck the fence and tree at speed, causing her head to first accelerate forwards and then to suddenly decelerate on contact with the airbag. Those forces caused sufficient brain injury for her to lose consciousness. If the basilar tip aneurysm that caused a subarachnoid haemorrhage six months later was present at the time of the accident, then it would be reasonable to expect that these forces could also have aggravated, accelerated, or exacerbated the basilar tip aneurysm causing it to leak over the following months and to rupture on 6 November 2009."

Other Documentary Evidence

112. A number of reports relating to radiological investigations of the spine were in evidence together with nursing notes from Liverpool Hospital following the subject accident which deal principally with the spinal injury. These were not referred to in submissions and do not assist in determination of the current issue.

113. Reports by Dr J Parker, obstetrician and gynaecologist, were in evidence. The reports were not referred to in submissions and do not relate to the present issue.

Discussion

114. The issue to be decided in the arbitration proceedings is whether Mrs Yates suffered an injury to the brain in the subject accident on 21 May 2009. For the reasons set out below I am satisfied that Mrs Yates did suffer an injury to the brain in the subject accident and that the effects of that injury are matters to be determined by an AMS in accordance with paragraph (c) of the definition of "medical dispute" in section 319 of the *Workplace Injury Management and Workers Compensation Act 1998* (the 1998 Act).

115. Although submissions at the hearing addressed the chain of causation which the applicant sought to establish, connecting the subject accident to the subsequent rupture of the cerebral aneurysm, I am satisfied that this is an appropriate task for the AMS to determine as an issue of "medical causation".

116. I base this reasoning upon the analysis of the respective roles of the Arbitrator and the AMS to be found in the judgement of Emmett JA in *Bindah v Carter Holt Harvey Wood Products Australia Pty Ltd*[3]

> "[109] However, that is not to say that there is no scope for an approved medical specialist or Appeal Panel to make findings of fact necessary for the performance of the function that they are given under the Management Act[4]. Questions of causation are not foreign to medical disputes within the meaning of that term when used in the Management Act. A medical dispute is a dispute about or a question about any of the matters set out in s 319. Those matters include the degree of permanent impairment of a worker as a result of an injury, and whether any proportion of permanent impairment is due to any previous injury or pre-existing condition or abnormality. The words in bold in relation to each of those matters call for a determination of a causal connection. Thus, the language of causal connection is squarely within the definition of "medical dispute". Having regard to the conclusive effect of s 326, it is desirable to avoid drawing a rigid distinction between jurisdiction to decide issues of liability and jurisdiction to decide medical issues. There is no bright line delineating causation from medical evidence. Issues of causation may well involve disputes between medical experts that must be resolved by an approved medical specialist or by an Appeal Panel (see *Zanardo v Tolevski* [2013] NSWCA 449 at [35])."

117. The applicant asserts that she suffered a brain injury as a result of the subject accident which is alleged to give rise to impairment because it resulted in intracranial haemorrhage and ultimately to rupture of an aneurysm in the basilar artery.

118. I am satisfied with regard to causation that the appropriate line is reached at the point where the Commission decides whether injury to the brain has been established and the AMS has then to decide the consequences of that injury, that is, whether it gave rise to the subsequent haemorrhage and rupture of the aneurysm.

119. Submissions were addressed to the chain of causation involving consideration of whether Mrs Yates suffered headaches following the subject accident and whether those headaches can be identified as related to the subsequent aneurysm. These are, I am satisfied, matters for the AMS to determine when assessing the degree of impairment, if any, that results from the injury.

120. With respect to the issue of whether Mrs Yates suffered an injury to the brain in the course of the subject accident I accept the evidence of Mrs Yates that she lost consciousness as result of the impact of her vehicle with an obstacle in the light of the evidence of the witness, Mr Ross Chapman.

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[3] [2013] NSWSC 1290 at 109 (Meagher JA and Ward JA agreeing).
[4] The 1998 Act.

121. I have reservations about the applicant's recall of events in 2009. She gives a version of the accident which appears different to that expressed by Mr Chapman in that she states that her vehicle moved to the left whereas Mr Chapman states that her vehicle came across in front of his vehicle which would mean the vehicle diverted to the right. Further both Mrs Yates and her husband appear to have confused the events that followed including the allegation of suicide attempts by Mrs Yates.

122. It is clear from the reports of the psychologist and the treating general practitioners that the two suicide attempts predated the subject accident. There is also an issue with Mrs Yates's recall that she had not had similar headaches prior to the subject accident where there is evidence of the general practitioner's notes of reasoning long-standing problems with migraines.

123. The respondent submitted that there was a dispute as to whether Mrs Yates did in fact lose consciousness in the subject accident. Counsel pointed to the evidence in the ambulance notes and the Campbelltown Hospital notes as well as Dr Adler's report stating that there was no loss of consciousness.

124. The source of the Campbelltown Hospital notes may well have been from the ambulance crew. Mrs Yates was conscious when the ambulance crew arrived at the scene. The notes record that she told the ambulance crew that she had not lost consciousness but her mental state at that stage may well have been confused by the trauma suffered.

125. I prefer the evidence of Mr Chapman to the effect that Mrs Yates was unconscious when he approached her vehicle. The likelihood of this is supported by the fact that it was Mr Chapman who located Mrs Yates's mobile phone and telephoned her husband to inform him of the accident. I am satisfied on the balance of probabilities that Mrs Yates did in fact lose consciousness at the point of impact.

126. I have considered the opinion of the AMS. The AMS does not give a reason why he regards the aneurysm as having been present "long before the motor vehicle accident." The AMS refers to the MRI scan of the brain which he states was carried out on 7 February 2007. If the AMS accepted that this was the actual date when the scan was performed then this would explain his positive statement that the aneurysm pre-existed the subject accident.

127. In reaching the conclusion that there was no evidence; "historically or radiologically or on examination establishing a brain injury to have occurred at the time of the motor vehicle accident" the AMS does not appear to have considered the issue of whether Mrs Yates lost consciousness upon impact, but rather addressed the wider question of whether the subject accident is causally related to the subsequent intracranial bleeding.

128. The AMS notes the opinion of Professor Kiernan and agrees that there is no aetiological connection between the rupture of the aneurysm and the subject accident but this does not address the question of whether there was an injurious impact on the brain causing loss of consciousness at the time of the subject accident.

129. Professor Kiernan accepts that it is "likely from the description provided by Mrs Yates that there was a period of loss of consciousness related to the subject accident". He added that there was "no objective evidence of structural abnormality on brain imaging to suggest that Mrs Yates suffered a traumatic brain injury." That latter observation does not account for the loss of consciousness which would appear to flow from the impact due to the mechanism described by Associate Professor Raftos.

130. I accept the opinion of Associate Professor Raftos that loss of consciousness is evidence of injury to the brain in the manner that he describes in detail in his report. I make no finding with respect to whether that injury is causally connected to the subsequent intracranial bleeding, this being a matter for the AMS.

131. Accordingly, I find that:

(a) Mrs Yates became unconscious as a result of force applied to her head by reason of the impact of the motor vehicle that she was driving colliding with an object on 21 May 2010;

(b) That loss of consciousness was due to trauma to the brain caused by the impact and accordingly injury to the brain is established;

(c) the consequences of that injury are a matter for determination by an AMS to whom the medical dispute concerning the assessment of impairment arising from injury to the brain in addition to the agreed injury to the cervical, thoracic and lumbar spine are to be referred.

(d) An injury to the brain as a result of the subject accident on 21 May 2009. Injury having been established it is appropriate that the claim be remitted to the Registrar for referral to an AMS to determine whole person impairment, if any, arising from injury to the brain on 21 May 2009 in addition to the agreed injury to the cervical, thoracic and lumbar spine.