WORKERS COMPENSATION COMMISSION

CERTIFICATE OF DETERMINATION

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

Matter Number:	**5792/19**
Applicant:	**Kylie Grundy**
First Respondent:	**Cogri Australia Pty Limited**
Second Respondent:	**Gracie Ward**
Third Respondent:	**Rhys Grundy**
Fourth Respondent:	**Lilah Grundy**
Date of Determination:	**23 March 2020**
Citation:	**[2020] NSWWCC 85**

The Commission determines:

1. Mervyn John Ward (the deceased) died on 14 August 2014 as a result of injury arising out of and in the course of his employment namely a subarachnoid haemorrhage of the basilar artery.

2. The applicant's employment on 13 August 2014 was a substantial contributing factor to the injury in accordance with section 9A of the *Workers Compensation Act 1987* (the 1987 Act) and that employment gave rise to a significantly greater risk of injury than if he had not been employed in work of that nature in accordance with section 9B of the 1987 Act.

3. At the date of his death the following were dependent upon the deceased for support;

    (a) Kylie Grundy, his de facto partner;
    (b) Gracie Ward, their child;
    (c) Rhys Grundy, the son of the applicant, and
    (d) Lilah Grundy, the daughter of the applicant.

4. Amy and Tom Ward the children of the deceased by a previous relationship have waived their right to claim compensation in respect of his death.

5. There was no other person dependent upon the deceased for support at the date of his death.

6. The compensation payable in respect of the death of a worker pursuant to section 25(1)(a) of the 1987 Act is the sum of $510,000.

7. Respondent to pay interest on the death benefit pursuant to section 109 of the *Workplace Injury Management and Workers Compensation Act 1998* at the rate of 3.5% per annum from 3 February 2019 to the date of this decision.

8. Pursuant to section 29 of the 1987 Act apportion that sum as follows;

    (a) $330,000 to Kylie Grundy;
    (b) $100,000 to Gracie Ward;
    (c) $40,000 to Rhys Grundy, and
    (d) $40,000 to Lilah Grundy.

9. Order the respondent to pay compensation as follows:

    (a) the sum of $330,000 to the applicant together with the interest calculated on the death benefit in accordance with my reasons;

    (b) the sum of $100,000 to the NSW Trustee and Guardian to be held on trust for Gracie Ward until she turns 18 years of age;

    (c) the sum of $40,000 to the New South Wales trustee and Guardian to be held on trust for Rhys Grundy until he turns 18 years of age;

    (d) the sum of $40,000 to the New South Wales Trustee and Guardian to be held on trust for Lilah Grundy until she turns 18 years of age, and

    (e) the compensation provided by section 25 (1)(b) in respect of each of the children until the child reaches the age of 21 or ceases to be a student, which ever first occurs.

10. Liberty to apply in respect of the calculation of interest or the mathematics in the above orders.

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

Paul Sweeney
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 PAUL SWEENEY, ARBITRATOR, WORKERS COMPENSATION COMMISSION.

A MacLeod

Ann MacLeod
Acting Senior Dispute Services Officer
As delegate of the Registrar

STATEMENT OF REASONS

INTRODUCTION

1. Mervyn John Ward (the deceased) died at Westmead Hospital on 14 August 2014 as a result of a subarachnoid haemorrhage. His death certificate certifies that aneurysmal disease and hypertension were also causative of his death.

2. Between 28 July 2014 and 13 August 2014, the deceased was employed by Cogri Australia Pty Limited (the respondent) as a skilled labourer. On 13 August 2014, he was required to carry out joint sealing of a concrete floor at a warehouse owned by the Goodman Property Group at Pemulwuy in Western Sydney. While performing his ordinary work, he collapsed and was found unconscious in the early afternoon by employees of the occupants of the premises. He was taken by ambulance to Westmead hospital.

3. At the time of his death, the deceased lived in a de facto relationship with Kylie Grundy (the applicant). The applicant alleges that the death of the deceased resulted from an injury in the course of his employment with the respondent on 13 August 2014.

PROCEDURE BEFORE THE COMMISSION

4. By these proceedings, the applicant claims the compensation payable on the death of a worker pursuant to section 25(1)(a) of the *Workers Compensation Act* 1987 (the 1987 Act) and the weekly compensation prescribed by section 25(1)(b) in respect of the second, third and fourth respondents.

5. The first respondent disputes that the deceased died as a result of employment injury. By its Reply, its disputed liability on the following grounds:

    - Mr Ward did not suffer any injury arising out of or in the course of his employment with the employer as required under section 4 of the 1987 Act.

    - Mr Ward's employment was not a substantial contributing factor to any injury you (sic) may have sustained as required under section 9A of the 1987 Act.

    - Mr Ward's employment was not the main contributing factor to him contracting a disease: section 4(b)(i) of the 1987 Act.

    - Mr Ward's employment was not the main contributing factor to the aggravation, acceleration, exacerbation or deterioration of any disease under section 4(b)(ii) of the 1987 Act.

6. When the matter came on for conciliation and arbitration in the Commission on 18 February 2020, Mr Stockley, of counsel, appeared for the applicant and Ms Hogan, of counsel, appeared for the respondent. I was informed by counsel that the parties were unable to reach any satisfactory resolution of the issues in dispute. I am satisfied that the parties, who were represented by experienced counsel, had ample opportunity to resolve the matter at and prior to the arbitration hearing.

7. As I have stated in several previous decisions, the language of section 25 of the 1987 Act negates the possibility of compromise in death claims. Unless the employer concedes liability, the widow or child of a worker must litigate her/his claim before a Commission arbitrator. There is no possibility of a compromise resolution based upon the widow's prospects of success in the claim. This is regrettable.

8. It was accepted at the arbitration hearing that the respondent had also notified the applicant that the claim was denied by reason of the operation of 9B of the 1987 Act.

9. It was also ultimately accepted at the arbitration, that the applicant and the second, third and fourth respondents were dependent upon the deceased for support at the date of his death. The second respondent, Gracie Ward, was born on 10 September 2013 and is a daughter of the applicant and the deceased. The third respondent Rhys Grundy was born on 28 March 2009 and is the son of the applicant. The fourth respondent Lilah Grundy was born on 26 December 2010 and is a daughter of the applicant.

Evidence

10. The following documents are in evidence before the commission:

    (a) The Application to Resolve the Dispute and the documents attached;
    (b) the Reply and the documents attached, and
    (c) an Application to Admit Late Documents and the documents attached.

11. There was no objection to any of the material referred to above at the arbitration hearing.

12. Ms Hogan also tendered an email from Amy Ward to the applicant's solicitor or dated 9 January 2020. The email was in response to a letter from Mr Groves bearing date 6 January 2020, by which he enquired whether Amy and Tom Ward, the children of the deceased by an earlier marriage, wished to participate in the proceedings.

13. Ms Ward stated that neither she nor her brother wished to participate in these proceedings. Neither were under a legal disability at the date of the deceased's death. Mr Stockley objected to the tender of the email. He did so because it also contained references to the bodily health of the deceased and members of his family.

14. As the applicant's solicitor had received the email some time ago and had forwarded a copy to the respondent's solicitor, I ruled that it should be admitted into evidence. Obviously, there is a question of the weight to be given to aspects of the document. The email, so far as it is relevant, said this:

    > "Further, we would like to note that our father died of a brain aneurysm. This is a common health condition in his family with multiple family members also suffering from this."

Submissions

15. The submissions of counsel are recorded, and it is unnecessary to repeat each of their arguments in these short reasons. I will refer to the main thrust of counsel's argument in resolving the issues which require determination by the Commission.

16. To understand the way in which the Commission has resolved the dispute, it is necessary to set out aspects of the evidence in the matter. Both the lay and medical evidence relevant to the issues of injury and substantial contributing factor are within a narrow scope. The relevant lay evidence is that of the applicant and of Glenn Powell, the General Manager of the respondent and Michael Burnett, an employee of the respondent, who was working with the deceased on the day of his collapse.

17. The medical opinion evidence directed to the issue of injury and substantial contributing factor is that of Associate Professor John Raftos, on behalf of the applicant and Dr Grant Walker, a neurologist, who has provided reports to the respondent solicitors. What appears below is not intended to be a comprehensive survey of the evidence.

18. By her signed statement dated 25 June 2019, Ms Grundy says that she first met the deceased in 2011 and they commenced to live together in early 2014. She states that during this time the deceased "was always in robust good health." She states that after he commenced work for the respondent he would "come home at night, tired, dirty and worn out but otherwise seemed perfectly well.". She continues that the deceased would:

> "describe how his job required him to operate jackhammers, concrete saws and to break up concrete and then renovate the broken concrete to form smooth floors."

19. The applicant states that the deceased commenced work at the site at Picrite Close, Pemulwuy in the days before his death. She says:

> "The job at Pemulwuy apparently started on Monday, 11 August 2014. I can't recall whether Merv worked on Saturday, 9 August 2014 but he may have. In the week before that, that is the week ending 8 August 2014, Merv may have been undertaking work that required him to do jackhammering and heavy lifting and bending. That was the labouring type of work that was his usual occupation, as I understood it."

20. The applicant states that Dr Philip Arber had been the deceased's doctor for many years and that doctor had performed "blood tests and other investigations", which apparently "disclosed no problems". She also recounts that the applicant's sister had "died from a brain aneurism about nine years prior to" his death. She also states that the deceased never smoked.

21. The applicant records that the deceased had a late start on 13 August 2014. She drove him to Redfern railway station at about 10.30 am, where Michael Burnett picked him up in his vehicle.

22. The applicant says that she received a telephone call from Glenn Powell, the General Manager of the respondent at 1.00 pm on 13 August 2014 advising that the deceased had collapsed at work and had been taken to Westmead Hospital. The applicant attended at the hospital but was sent home at 9.00 pm. She was summoned back to the hospital at 4.00 am on 14 August 2014, where she was informed that the deceased's condition "was hopeless". She consented to withdrawal of life support and the deceased died on the morning of 14 August 2014.

Glenn Powell

23. Mr Powell stated that he employed the deceased as a skilled labourer on 28 July 2014. He observed him to be "fit and healthy, other than having a bit of a limp." He described the work which the deceased was required to perform as follows:

> "Merv's duties involved general labouring, this can involve using a stand-up concrete saw to cut up to 50 mm deep. He would then be required [sic] an electric jackhammer, like a Kango to chip-out the cut concrete. He is then required to mix up mortar/concrete and setting agent before then pouring this into the area of repair, before smoothing out the mixture. He was also involved in removing joint sealant and then injecting new joint sealant. This task is far less labour-intensive than other tasks. Our work is all aimed at fixing lumps, dips and raised joints between slabs of concrete floors so that the floor is smooth and level."

24. Mr Powell described the deceased's work at the Goodman Property Group site at Pemulwuy as follows:

> "Set up barricades for the work area; remove the old sealant by either pulling it out by hand or with the assistance of a knife. At this site the joints were wide and the sealant could be pulled out. They then push in foam, backing rods and then using a corking gun to inject the sealant. It is possible they could've used a drill to mix up the sealant and then just pour the mixture into the joint. The final task is to use a long-handled scraper to remove any excess above the level of the concrete. This is not particularly physical work."

25. Mr Powell states that he received a telephone call from Michael Burnett in the morning or early afternoon of 13 August 2014 during which he was informed that the deceased had collapsed and that an ambulance had been summoned to the property. He states:

> "Michael told me that he was working at one end of the aisle and turned around to see Merv lying on the floor twitching. He said that this was the first he saw of any problem."

Michael Burnett

26. Mr Burnett states that he met the deceased on his first day of work. He was the only person working with him at the Goodman Property Group site at the time he collapsed. He continues:

> "We were performing the same tasks each day that we worked at the DHL site. We were resealing joints between concrete floor slabs. This involved removing the old sealant between the joints, inserting foam backing rods into the joint and then pouring in the new sealant."

27. The witness states that they used a Stanley knife, screwdriver, a generator for power and a drill which was used to mix the sealant. On this job it was easy to remove the old sealant. He continues:

> "We were not required to perform any cutting of concrete or digging out of concrete on this particular job. Inserting the backing rods simply involved pushing the rods into the joint by hand. Then we made up the sealant mixture in a bucket and stirred this with a drill and a stirring attachment. We then poured the mixture into the joint."

28. Mr Burnett said that the sealant was made up in batches of about one litre each of two different kinds of liquid. There was, therefore, two litres of sealant poured into a joint. Each liquid was decanted out of a small metal drum, which held approximately 20 litres of product. He said the drums had a handle and are lifted off the utility and then placed on a pallet jack to move into the work area. He states that the "drums do not have taps at the bottom. Instead we just unscrew the cap on the top and lift a drum pouring the required quantity."

29. The witness cannot remember whether the deceased collapsed before or after lunch. He estimates he was 40 metres from him when he collapsed. They were both working in the same aisle, he was filling one joint and the deceased had "walked to the other end of the aisle to prepare that joint for resealing". He says that he looked up and saw the deceased lying on the floor and two employees of DHL standing over him.

Dr Raftos

30. Dr Raftos accepted that the deceased had died as a result of a subarachnoid haemorrhage consequent upon an intracranial aneurysm. He expressed the opinion that the majority of intracranial aneurysms were saccular or berry aneurysms in which a structural aberration in the arterial wall allows an asymmetrical blooming of the wall. He postulated that certain factors were associated with an increased risk of rupture of the wall. These were:

    - younger age.
    - aneurysm size of 5 mm or larger,
    - location on the anterior or posterior communication arteries (ACA, PCA), and
    - presence of more than one aneurysm.

31. Dr Raftos referred to a recent study which identified eight immediate triggers for aneurysm rupture including the drinking of coffee or cola, emotional response including startle and anger; and a range of physical activities including nose-blowing, straining for defecation, sexual intercourse and vigorous physical exercise.

32. Doctor Raftos then addressed the examples set out in section 9A, in accordance with the instructions of the applicant's solicitors. I set out the questions and answers in full below.

    (a) ***the time and place of the injury;***

    The fatal rupture of Mr Ward's basilar artery aneurysm occurred while he was at work for Cogri Australia, performing duties that involved heavy physical exertion.

    (b) ***the nature of the work performed and the particular tasks of that work;***

    The nature of the work that Mr Ward was required to perform for Cogri Australia, that is grinding concrete floors, cutting sections of concrete, repairing the concrete with mortar mix, repairing joints between concrete floor slabs, mixing concrete, and pouring and smoothing concrete into areas of repair along with the use of heavy machinery including jack hammers, concrete cutting saws, and concrete drills, involved the type of heavy physical exertion that is recognised to be an accepted trigger for the rupture of cerebral berry aneurysms. It would be reasonable therefore to say that Mr Ward's employment with Cogri Australia, from on or about 28 July 2014 to the date of his injury of 13 August 2014, was a substantial contributing factor to the injury, that is the fatal rupture of the basilar artery aneurysm.

    (c) ***the duration of the employment;***

    Each episode of heavy physical exertion is a trigger for cerebral berry aneurysm rupture. The duration of Mr Ward's employment with Cogri Australia is not as important as the fact that he was required to perform heavy physical exertion every day while at work.

    (d) ***the probability that the injury or a similar injury would have happened anyway, at about the same time or at the same stage of the worker's life, if he had not been at work or had not worked in that employment;***

    The annual likelihood that Mr Ward's basilar artery aneurysm would rupture spontaneously was between about 0.7% and 1.6%. On that basis there is a reasonable likelihood that Mr Ward may have achieved an average lifespan (of between 70 and 80 years) in the absence of the factors that are known to trigger aneurysm rupture.

(e) ***the worker's state of health before the injury and the existence of any hereditary risks;***

The evidence indicates that Mr Ward was well immediately before the basilar artery ruptured. His medical history included anxiety and depression, alcohol misuse, and hypertension. The evidence of his doctors and his partner is that these conditions were under control at the time of his death.

(f) ***the worker's lifestyle and his or her activities outside the workplace;***

Mr Ward had been known to drink alcohol excessively, but the evidence of his doctors and his partner indicates that, in the years before his death, he was drinking alcohol in a safe range.

33. After answering these questions, Dr Raftos expressed the following opinion:

> "Vigorous physical exercise is an accepted trigger for the rupture of cerebral berry aneurysms. It would be reasonable therefore to say that Mr Ward's employment with Cogri Australia from on or about 28 July 2014 to the date of his injury on 13 August 2014 by way of the heavy physical work that he was required to perform, was a substantial contributing factor to the injury, that is fatal rupture of the basilar artery aneurysm."

34. By a second report dated 30 August 2019, Professor Raftos considered the reports of Dr Grant Walker, a neurologist retained by the respondent, dated 21 March 2019 and 2 April 2019. He stated that there was nothing in Dr Walker's reports which would cause him to alter his opinion. He referred to two papers, one by *Anderson et al* published in *Stroke* for the Australasian Cooperative Research on Subarachnoid Haemorrhage Study Group, which concluded:

> "Moderate to extreme physical exertion tripled the risk of SAH … these data suggest that heavy physical activity may trigger SAH."

35. He also referred to a later paper by *Vlak et al,* in the same journal, which contained the following:

> "Previously, a case-crossover study on trigger factors for SAH showed a 2.7-fold increase in the risk of aneurysmal rupture in the two hours after moderate to extreme physical exercise ..., which is comparable with the RR of 2.4 we found. However, another case-crossover study showed a 15-fold increase of SAH in the minutes after vigorous to extreme physical exercise. The risk of rupture is possibly the highest in the first 15 minutes and subsides in time thereafter."

36. Dr Raftos expressed the opinion that the theory that physical exertion may trigger rupture of a berry aneurysm causing haemorrhage is well established. The mechanism by which this would occur is a transient increase in the blood pressure induced by exertion. He noted that the material forwarded to him suggested that the deceased was removing old sealant by pulling it out by hand or with the assistance of a knife and putting in foam backing rods and using a cork gun to inject the sealing. He hypothesised that:

> "The exertion involved in pulling sealant out from between slabs of concrete is not insignificant. It involves tensing the abdominal muscles and holding the breath which increases the intra-abdominal and intra-thoracic pressure and so causes a transient increase in the blood pressure in the cerebral arteries of the type that has been identified in the studies above as a trigger for SAH. There is therefore an anatomical and physiological explanation that indicates how Mr Ward's work at the time triggered a rupture of a cerebral aneurysm causing SAH. This goes along with the evidence of the studies above that show an increase of up to 15-fold in the incidence of SAH in the minutes following moderate to vigorous exertion."

The evidence of Dr Walker

37. Dr Walker provided reports of 21 March 2019, 2 April 2019 and 26 November 2019. By his primary report, Dr Walker expressed the opinion that an intracranial aneurysm was neither a personal injury nor a disease. He stated:

> "Berry aneurisms are thought to be a congenital problem, whether they be present at early or whether the defect in the arterial wall will be present at birth. The incidence increases as the person ages and some are familial."

On the assumption that the deceased suffered a personal injury, the doctor is of the view that his employment "had nothing to do with his subarachnoid haemorrhage."

38. Dr Walker was asked to address section 9B of the 1987 Act. He accepted that a subarachnoid haemorrhage was a "stroke", but he did not accept that the stroke was caused by injury or another external factor. He regarded the stroke as "being random". He did not consider that the work performed by the deceased gave rise to a significantly greater risk of him suffering injury.

39. By a report of 2 April 2019, Dr Walker denied that the deceased's employment "was a substantial contributing factor" or "the main contributing factor to his aneurism bursting". He stated there was no evidence that a particular job would make a worker more susceptible to the bursting of an aneurism. By the third of his reports, Dr Walker criticised the epidemiological studies relied upon by Dr Raftos. He noted that one of the studies reported that "drinking coffee was more likely to cause a subarachnoid haemorrhage than vigorous physical exercise (10.6% vs. 7.9%)." He made the similar observation of the study by *Anderson et al.* He said that the study demonstrated that:

> "there was an association between 'moderate to extreme exertion' in the preceding two hours. This was present in 19% of the patients studied, however, 81% were either asleep or sitting or undertaking light activity. Of the group undergoing moderate to heavy exertion, there were more people gardening, defecating, singing, angry, shopping or doing household chores (27) than there was actually involved in work of any sort (10)."

He continued:

> "it is stating the obvious that Mr Ward was involved in heavy physical activity, as strenuous, if not more so, in the two years that led up to his subarachnoid haemorrhage. It is also stating the obvious that there are hundreds of thousands of people throughout Australia doing heavier physical work every day than Mr Ward was engaged in who don't of course have subarachnoid haemorrhages."

Discussion and findings

40. The Commission is familiar with the concept of an aneurysm. The factual and legal consequences of death or incapacity resulting from the rupture of an aneurysm has occupied a good deal of judicial time in the former Compensation Court and on appeal prior to the decision of the High Court in *Darren Zickar v MGH plastic industries Pty Ltd* (1996) 187 CLR 310 (Zickar).

41. The reasoning of the Privy Council in *Slazenger's (Australia) Pty Ltd v Ivy Phyllis Eileen Burnett* [1951] AC 13 dictated that the terms "injury" and "disease", which appear in the definition of "injury" in both the *Workers Compensation Act 1926* and in the 1987 Act were *mutually exclusive* (my italics). This reasoning was applied by the High Court in *Darling Island Stevedoring and Lighterage Co Ltd v Hussey* (1959) 102 CLR 482 and in *Hockey v Yelland* (1984) 157 CLR 124 (*Hockey*), although it was subject to judicial and extra-judicial criticism, notably by Sr Garfield Barwick, on the basis that it was illogical and inconsistent with earlier Australian authority.

42. The steps in the reasoning which lead to the conclusion are set out in the judgment in *Hockey*. They are:

> "1. Diseases and their consequences are added to the categories of 'injury' covered by par (a) where the particular disease is contracted 'in the course of employment and to which the employment was a contributing factor' or 'where the employment was a contributing factor' to the consequence.
>
> 2. Diseases and their consequences are not otherwise included in the definition.
>
> 3. Hence a consequence solely of a progressive autogenous disease is not an 'injury'."

43. As an aneurysm was generally considered by medical practitioners, and often described by the medical evidence adduced in the cases, as a progressive disease, it could not fall within paragraph (a) of the definition of injury. If the rupture of the aneurysm causing haemorrhage was the "culmination or climax of a progressive disease", it could not be characterised as an "injury". Rather, it was a disease for the purposes of the various state compensation acts.

44. Diseases were covered exclusively by the provisions now found in sub-pars (I) and (II) of section 4(b) of the 1987 Act. Hence, the worker had to prove a relevant causal nexus between the haemorrhage and the employment in order to obtain compensation. It was insufficient that the haemorrhage occurred in the course of his employment. Anomalously, haemorrhages which were not the end product of an aneurysm, were often treated as falling within paragraph (a) of the definition of injury. They were injuries simpliciter.

45. In *Zickar*, the High Court, by majority, concluded that while an aneurysm may be an autogenous disease, the rupture causing haemorrhage could be separately characterised as an injury. Toohey, McHugh and Gummow JJ said this:

> "it may be accepted that the aneurism was an autogenous disease, but the appellants claim to personal injury within par (a) is based on the rupture which occurred. From Dr Stening's evidence, it is clear that the rupture of the aneurism was not inevitable and further that the rupture may have been minor, allowing the appellant, after treatment, to return to his previous occupation stop if there was no rupture there would be no event answering the description of personal injury and the appellant would be driven to rely upon par (B) of the definition. But there was such an event and the presence of the disease does not preclude reliance upon the event as a personal injury."

46. The judges quoted with approval the decision and the reasoning of the Appeal Division of the Supreme Court of Victoria in *Accident Compensation Commission v McIntosh* [1991] 2 VR 253 at 262, where Murphy J said this:

> "if the rupture is due to blood pressure, arteriosclerosis, arteriovenous malformation, or any other congenital or diagnostic aetiology, it is nonetheless a rupture, something quite distinct from the defect, disorder or morbid condition which enables it to occur."

47. In this case, the applicant alleges that the deceased suffered injury on 13 August 2004 when he "sustained a rupture of a cerebral basilar artery aneurysm with an associated sub-arachnoid haemorrhage."

48. There is really no dispute that the deceased died as a result of a sub-arachnoid haemorrhage which caused brain death. Dr Raftos describes the aneurysm in this case as a berry aneurysm. He provides a description of the origin and course of such an aneurysm.

49. In *Zickar*, Dr Stening, a neurosurgeon, described such an aneurysm in similar terms:

> "The weakness of the blood vessel wall balloons out [so] that it assumes the shape of a berry, and as it balloons out the rounded part of the swelling becomes thinner and thinner until finally the pressure of the blood behind it - what usually happens is that amount of blood leaks from the blood vessel into the fluid surrounding the brain which causes immediate intense headache and often immediately loss of consciousness. In the fortunate people the bloods clotting mechanisms stop that lead from progressing, and there is if you like, a stay of execution, but eventually that blood clotting mechanism breaks down and then there is a major rupture which is usually fatal."

50. During the conciliation conference, the respondent conceded that the deceased had suffered injury in the course of his employment namely a sub-arachnoid haemorrhage of the basilar artery. Accordingly, the remaining liability issues for determination are the application of sections 9A and 9B of the 1987 Act.

Substantial contributing factor

51. Section 9A (1) of the 1987 Act is as follows:

> "No compensation is payable under this Act in respect of an injury (other than a disease injury) unless the employment concerned was a substantial contributing factor to the injury"

52. The phrase substantial contributing factor has recently been considered by the NSW Court of Appeal in two significant cases: *Badawi v Nexon Asia Pacific Pty Limited t/as Commander Australia Pty Limited* (2009) NSWCA 324 (*Badawi*) and *Da Ros v Qantas Airways Limited* (2010) NSWCA 89 (*Da Ros*) (28 April 2010). The precise ratio (or the binding "seriously considered dicta") in *Badawi* is difficult to ascertain. As the head note provides a useful guide to the operations of section 9A, I reproduce it, in part, below:

> "1. The tests for an injury 'arising out of' employment under ss 4 and 9 and for employment being a 'substantial contributing factor' under s 9A must be considered separately. It is not sufficient to find that injury arose out of employment and to therefore conclude that the employment concerned was a substantial contributing factor to the injury.

2. The meaning of an injury 'arising out of' employment for the purpose of ss 4 and 9 is settled. An injury arises out of employment if the fact that the claimant was employed in the particular job caused, or to some material extent contributed to the injury. The phrase involves a causative element and is to be inferred from the facts as a matter of common sense.

3. The phrase 'substantial contributing factor' in s 9A also involves a causative element. It is a different or added requirement to the 'arising out of' employment limb of ss 4 and 9, however the causal connection required for s 9A is not less stringent than that found in s 9. *Mercer v ANZ Banking Group* [2000] NSWCA 138; 48 NSWLR 740 not followed.

4. For employment to be a 'substantial contributing factor' to the injury for the purposes of s 9A the causal connection must be 'real and of substance'. The language of the section is not to be confused with interpretations such as 'large', 'weighty' or 'predominant'. *Mercer v ANZ Banking Group* [2000] NSWCA 138; 48 NSWLR 740 not followed.

5. 'Employment' for the purposes of s 9A is the same 'employment' that is under consideration in ss 4 and 9: [91]

6. In determining whether worker's employment was a substantial contributing factor the matters specified in s 9A(2) must be taken into account to the extent that they are relevant.

7. Section 9A(2)(b) directs attention to the nature of the work performed and the particular tasks of that work and not to what the employee was doing at the actual time of the injury. It is an incorrect approach to consider some other activity other than the employment that had preceded the injury and then seek a linkage with the employment from the standpoint of that preceding activity."

53. In *Badawi*, the plurality endorsed the reasoning of the judges in *Dayton v Coles Supermarkets PL* [2001] NSWCA 153 (1 June 2001). In that case Meagher JA stated the following:

> "Many judges have spent a great deal of time and difficulty analysing and pondering the meaning of the word 'substantial'. But this word is a plain English word which is understood by anyone who is not a judge. Nor had the endless judicial lucubrations on the word contributed to anyone's understanding of it. And nobody in their senses would regard a cause which could be correctly categorised as very 'minor' as 'substantial'."

54. Davies AJA, who was in a more analytical mood, said this:

> "Likewise, in their context and particularly having regard to the list of factors specified in s 9A(2), the words 'substantial contributing factor' require that compensation be paid only when the employment can be said to have contributed to the injury in a manner that is real and of substance. The section intends to exclude those many instances where, as a result of legal theory and extension of thought, liability has been found in cases where, as a matter of practical reality, the contribution which the employment has made to the injury has little substance.

> So interpreted, the section appears to me to have a clearer and more appropriate application than if the word 'substantial' were use in a sense of words such as 'serious', 'weighty', 'important', 'sizable' or 'large', terms to which the trial judge referred. The word 'substantial' may be used appropriately in a range of circumstances. A matter which is large or weighty is also substantial. However, a matter maybe substantial without necessarily being large or weighty. In s 9A, it is sufficient that the contribution be substantial."

55. Of course, section 9A requires that the employment contribute to the relevant injury. That is not conceded in this case. It is, therefore, necessary to first consider this issue.

56. As indicated above, only Dr Raftos and Dr Walker address this issue. I appreciate that proof of injury or substantial contributing factor is not entirely dependent upon the medical evidence. The relationship between employment and aneurysm, however, is peculiarly a matter for specialist opinion. Unfortunately, there is a vast chasm between the opinions of the doctors. When considering the aetiology of an aneurysm, Dr Walker implicates constitutional and familiar factors. He says that the incidence increases with age. Dr Raftos, on the other hand, concentrates on factors which may cause an aneurysm to rupture.

57. It is true, as Ms Hogan submitted, that there are important differences in the way Dr Raftos formulated his opinion between his first and second reports. By his first report, he asserted that the deceased's employment with the respondent throughout the entire period between 28 July 2014 and 13 August 2014, during which he undoubtedly formed heaving physical work, "was a substantial contributing factor to the injury".

58. By his report of 30 August 2019, he considered the quite different question of causal nexus in the context of "the work that Mr Ward was performing immediately prior to his collapse with SAH". He described that work by incorporating a passage from Glen Powell's statement into his report.

59. It is impossible to accept Dr Raftos' opinion that the arduous physical work performed by the deceased in the days and weeks before he collapsed had a material role to play in the rupture of his aneurysm. There is no explanation in the doctor's evidence of the agency or mechanism by which work performed days or weeks before the deceased's collapse caused or contributed to the rupture. It is not supported by the epidemiological research, which he referred to in his report and it is rebutted by the opinion of Dr Walker. The applicant does not rely on this opinion in any event. The Application asserts an injury on 13 August 2014, and not as a result of the arduous nature of the deceased's work over the period of his employment with the respondent.

60. By his second report, Dr Raftos expresses the opinion that the work performed by the deceased, prior to his collapse on 13 August 2014, triggered the rupture of his aneurysm. It is this change of emphasis, which was criticised by the respondent. One interpretation of the doctor's distinctly different formulations of the mechanism of injury is that he was eager to express an opinion favourable to his client. However, it would be inappropriate to so find when the doctor has not been cross-examined or otherwise given the opportunity to address the argument.

61. It is, therefore, necessary to consider Dr Raftos' revised hypothesis as to the mechanism by which the deceased's work contributed to the rupture of his aneurysm. It appears to be soundly based on a reasonably accurate assumption as to the nature of the deceased's work. The passage from the statement of Mr Powell, which the doctor quotes, accurately reflects the physical activity performed by the deceased before his collapse at work. That passage states that the deceased:

> "set up barricades for the work area; remove the old sealant by either pulling it out by hand or with the assistance of a knife. At this site the joints were wide and the sealant could be pulled out. They then push in foam backing rods and then using a caulking gun to inject the sealant. It is possible they could have used a drill to mix up the sealant and then just pour the mixture into the joint. The final task is to use a long handled scrapper to remove any excess above the level of the concrete. This is not particularly physical work."

62. Dr Raftos analyses the nature of the deceased's employment on the morning of his collapse as described by Mr Carroll and concludes that it was capable of increasing "intra-abdominal and intrathoracic pressure" causing increase in the blood pressure in the cerebral arteries." It is his opinion that this type of physical exertion caused a transient increase in blood pressure, which, in turn, causes an aneurysmal rupture. The opinion is partially based upon the two articles in the journal *Stroke*, which I have referred to above. They suggest that sudden and short increases in blood pressure *may* be associated with aneurysmal rupture.

63. At the arbitration hearing, Ms Hogan submitted that the evidence did not establish that the deceased was performing "moderate to extreme physical exertion in the period preceding his collapse at work on the 13th of August 2014". There is some force in that argument.

64. Certainly, it was not heavy work. But attempting to classify it as moderate or light work may be beside the point. It is evident from the discussion in the medical evidence that "moderate" physical activity can include a broad range of activity including carrying out certain bodily functions. "Moderate" physical activity in the context of the discussion in this case signifies activity that can raise blood pressure sufficient to cause a rupture of an aneurysm.

65. Patently, Dr Raftos is of the opinion that the type of activity performed by the deceased on the day of his collapse was "moderate physical activity". The doctor clearly had access to the material in the respondent's factual report including the statements of Mr Powell and Mr Burnett. He argues that the "exertion involved in pulling out the sealant is not insignificant". The doctor specifically states that this physical activity is likely to cause an increase in blood pressure sufficient to precipitate a rupture of the basilar artery aneurysm.

66. The proposition that the postures adopted by the deceased in removing sealant was capable of significantly increasing blood pressure is not self-evident. But it was not directly challenged by Ms Hogan at the arbitration hearing. More importantly, it is not directly contradicted by Dr Walker in his report. This is yet another case in which an independent medical expert (IME) for one party offers a specific hypothesis for the cause of an injury, which the other party's IME, either deliberately or by oversight fails to address. The competing medical theories pass like ships in the night.

67. That is not to say that Dr Walker accepts Dr Raftos' view. He clearly does not. I can understand his criticism of the epidemiological evidence. If moderate physical activity involving gardening, defecating, singing, shopping and household chores then many of the incidence of ordinary life may have that effect. However, that does not detract from Dr Raftos' argument that exertion may increase blood pressure and precipitate a rupture.

68. Similarly, Dr Walker's observation that more people in the epidemiological studies suffered rupture of aneurysm gardening, defecating, singing, angry, shopping or doing household chores than performing work, does not detract from the applicant's case on this issue. It is perfectly consistent with Dr Raftos' theory that moderate physical activity can raise blood pressure and that raised blood pressure can trigger a rupture of a berry aneurysm.

69. It not being inherently implausible or contradicted by medical evidence, I conclude that I should accept Dr Raftos' opinion that the deceased's posture in removing sealant from the concrete joins caused an increase in his blood pressure and triggered a rupture of a basilar artery. While it is not decisive, I note there have been many cases before the Commission, over many years, where the evidence asserted that increased blood pressure has contributed to a cardiovascular or cerebrovascular incident, particularly in the presence of hypertension. It would follow that the deceased's death arose out of his employment, although it is not strictly necessary to make such a finding. It also follows that Dr Walker's opinion that the deceased's death was random must be rejected.

SUBSTANTIAL CONTRIBUTING FACTOR

70. In accordance with the instruction in *Badawi*, it is imperative that the Commission consider the examples stated in section 9A(2) ,when determining whether employment is a substantial contributing factor to an injury. I do so compendiously below. I think it is fair to say that neither party addressed all the examples in detail at the arbitration hearing.

71. I note that in his initial report, Dr Raftos responds to the matters raised in s 9A (2). His answers, however, are of little assistance as they are predicated on his assumption that the deceased suffered injury by reason of the performance of heavy work throughout his employment with the respondent. I have stated that I do not accept the doctor's opinion on this issue. While the deceased undoubtedly performed heavy work during his employment with the respondent, he was not performing it in the hours before he collapsed.

(a) The time and place of injury - it is uncontroversial that the deceased suffered injury at his place of employment, probably around 1.00 pm.

(b) The nature of the work performed and the particular task of that work; the evidence establishes that the deceased performed arduous physical work for the respondent including grinding concrete floors, cutting sections of concrete, mixing concrete and pouring concrete. On the day of his collapse, the deceased commenced work at 11.00 am. In the period before his collapse, he was removing the sealant in concrete joins preparatory to resealing the joins. The work is described by both of the respondent's witnesses.

(c) The duration of the employment - the deceased was only employed by the respondent for a fortnight. As the claim is one for an injury, I doubt that this matter is material to whether the employment was a substantial contributing factor to the injury.

(d) The worker's state of health before the injury and the existence of any hereditary risks -

- undoubtedly the deceased suffered from a berry aneurysm for some time before his death. There is evidence to support Dr Walker's contention that the aneurysm was familial. The applicant says that the deceased's sister died of an aneurysm. Amy Ward, his daughter, asserts, in the contentious email referred to above, that other members of the deceased family had died of an aneurysm. I appreciate that Ms Ward was alienated from the deceased at time of his death. I doubt, however, that this would cause her to make a false allegation in respect of his health. On the other hand, the role of aneurysms in causing death is complex and one could not reach an unequivocal conclusion that this evidence is important in explaining the death of the deceased in the absence of medical evidence specifically addressing the point.

- While the deceased died of a subarachnoid haemorrhage, both the pre-existing aneurysmal disease and hypertension are stated in his death certificate to be causative of his death. The aneurysmal disease was present for years. There is no record of the deceased's blood pressure in the years leading up to his death.

- It seems probable that the aneurysmal disease gradually increased as the deceased aged as Dr Walker opined and that caused thinning of the basilar arterial wall.

- At surgery, it was found that the deceased had a second aneurysm in the anterior communicating artery, another factor which is relevant to the likelihood of haemorrhage.

(e) The worker's lifestyle and his or her activities outside the workplace - the material before the Commission establishes a lengthy history of alcohol abuse by the deceased. Ms Hogan submitted that the medical evidence established that this continued until, at least 2012. I think that is correct. The uncontradicted evidence, however, is that the deceased had reduced his alcohol intake in the two years prior to his death. Liver damage was identified by his general practitioner in 2013 but it is not obvious that this has any significant relationship with his aneurysm.

(f) The probability that the injury or a similar injury would have happened anyway at about the same time -

- Dr Raftos asserts that in the absence of factors which are known to trigger aneurysm rupture the deceased may have achieved "an average lifespan." It is difficult to understand this assertion in the context of the case. The deceased clearly suffered from aneurysmal disease at two sites and hypertension, which would render him susceptible to rupture of the arterial wall.

- As Ms Hogan submitted the evidence from the two short studies suggest that a wide range of physical activities can elevate blood pressure and trigger a rupture including drinking coffee, cola defecating, micturition, sneezing quitters or a sudden emotional shock.

- On the other hand, the applicant was performing work which could increase his blood pressure for several hours on 13 August 2014, whereas many of the physical activities referred to above are of short duration. One can infer that the work activity repeatedly raised the applicant's blood pressure throughout the course of the day.

72. Mr Stockley submitted that:

> "in the face of Professor Raftos's explanation as to what has happened the requisite causal connection on any statutory test that is applied would be made out, that is that the employment was a substantial contributing factor to the injury being the rupture of the aneurysm."

I am not sure that the determination of the section 9A issue is quite so straightforward. In dealing with sections 9A and 9B, Ms Hogan submitted that:

> "There seems to be no account taken by Professor Raftos of what the listed cause of death was where it was noted that there was aneurysmal disease and hypertension and that's an example as at page 272 in the hospital notes. These are factors relevant when considering 9A because it's relevant to his health beforehand and his lifestyle beforehand and I've spoken about the alcohol issue in that regard."

73. I have noted this aspect of the case in dealing with section 9A (2) above. I have already stated that Dr Raftos' responses to the section 9A(2) examples are unhelpful and largely irrelevant. They do not adequately address the existence of the underlying disease process suffered by the deceased. It is plausible they may be explained on the basis that the deceased's work exposed him to a continuous risk of aneurysmal rupture, as Mr Stockley suggested. But this is not entirely clear.

74. Nonetheless, after considering the section 9A (2) examples, I am left with the distinct impression that the applicant's work was a real and substantial cause of the rupture of the aneurysm in his basilar artery. While there were many pre-existing and predisposing factors at play, it is really speculative to conclude that the injury would have occurred at or about the same time if not for the work performed by the applicant on the day of his collapse. Accordingly, on the medical evidence in this case, I conclude that the applicant's employment was a substantial contributing factor to the injury.

Section 9B

75. Section 9B of the 1987 Act is as follows:

> "No compensation is payable under this Act in respect of an injury that consists of, is caused by, results in or is associated with a heart attack injury or stroke injury unless the nature of the employment concerned gave rise to a significantly greater risk of the worker suffering the injury than had the worker not been employed in employment of that nature."

76. It was accepted by the parties that this was "a stroke case", which attracted the operation of section 9B of the 1987 Act. The parties referred to the discussion of that section by Senior Arbitrator Snell, as he then was, in *Da Silva v Secretary, Department of Finance, Services and Innovation* [2015] NSWWCC 279 (*Da Silva*) and to the presidential decision of *Renew God's Program Pty Ltd v Kim* [2019] NSWWCCPD 45 (30 August 2019). These cases hold that the test in section 9B requires that the relevant risk in the employment concerned be "significantly greater" than the risk "had the worker not been employed in employment of that nature". In *De Silva*, Arbitrator Snell concluded that satisfaction of this test required a risk in the employment concerned that was greater, in a way that was "important; of consequence".

77. Dr Walker has specifically denied that the deceased's employment gave rise to any greater risk of injury than had he not been employed in employment of that nature. He assumed, probably incorrectly, that the deceased was performing "heavy physical activity" in the period leading up to his death. He observed that "there are hundreds of thousands of people throughout Australia doing heavier physical work every day then Mr Ward was engaged in who don't of course have subarachnoid haemorrhages."
78. This observation of Dr Walker is quite puzzling. It is difficult to understand why performance of heavy physical work without mishap by a large group of largely healthy workers is in any way relevant to the determination of the issues in this case. The essential issue is the effect of work on an employee an underlying disease.

79. While Dr Walker's criticism of the studies relied upon by Dr Raftos is pertinent, it must be borne in mind that one of those studies demonstrates a substantially increased risk of subarachnoid haemorrhage in the period immediately following moderate to heavy exercise. To reiterate raised blood pressure may cause a rupture of an aneurysm. This is, of course, the issue that Dr Walker fails to directly confront. Once again, I have found his evidence of little assistance on this issue.

80. Accepting the opinion of Dr Raftos, the applicant performed work in the hours leading up to his stroke which repeatedly caused elevation of his blood pressure. This was not an isolated instance, as is the case with many of the activities referred to in the studies that occur occasionally throughout the course of the day or less regularly. It is logical to infer in those circumstances that the performance of the work gave rise to a significantly increased risk of rupture of the aneurysm.

81. I accept that the applicant had an underlying disease process which may ultimately have led to a haemorrhage of the aneurysm. The injury in this case, however, is the haemorrhage. It occurred at work, in circumstances where the applicant was performing activity that substantially contributed to its occurrence. The nature of the work significantly increased the risk of the worker suffering the injury than had the worker not been employed in employment of that nature. To use the language of the section, the nature of the employment gave rise to a significantly greater risk of the worker suffering the injury.

82. It follows, that I find for the applicant on the liability issues that were contested at the arbitration hearing.

Apportionment

83. The benefit payable in respect of the death of the deceased is the sum of $510,000. At the arbitration hearing, Mr Stockley made a formal submission that the whole of the death benefit should be paid to the applicant. While payment of a substantial proportion of the death benefit to the widow/partner of the deceased, who has the care of children, has obvious attractions, I doubt that it would be appropriate to take that course of action.

84. Clearly, the children of the applicant have a right to receive some portion of the death benefit. They were undoubtedly partially dependent upon the deceased at the date of death. They were also dependent upon the applicant.

85. The position of Rhys and Lila is different to that of Gracie. Obviously, Gracie is younger than the applicant's children by a previous relationship. It is also important in my opinion that she was a child of the deceased and had the unqualified legal right to look to him for support. On the other hand, Rhys and Lila had the benefit of child maintenance paid by their father to the applicant. It is probable that the applicant would retain a right to the maintenance indefinitely. It is equally probable that she would have applied it in respect of the children. It is also likely that they will be able to look to their father for assistance as they grow older.

86. In these circumstances, there is no correspondence in the dependency of the children on the deceased at the date of his death. While it does not approach the likely magnitude of the applicant on the deceased, it must be more substantial than the other children. Doing the best I can, on the basis of the relatively scant evidence, I propose to apportion the death benefit pursuant to section 29 of the 1987 Act as follows;

    (a) $330,000 to the applicant;
    (b) $40,000 to Rhys;
    (c) $40,000 to Lilah, and
    (d) $100,000 to Gracie.

87. Obviously, it will be necessary to order that the monies apportioned to the children to be paid to the NSW Trustee and Guardian to be held on trust until they reach 18 years of age.

88. The evidence before the commission enables me to find that there was no other person dependent upon the deceased for support at the date of his death.

Interest

89. At the arbitration hearing, Mr Stockley sought interest pursuant to section 109 of the *Workplace Injury Management Act 1998* (the 1998 Act). It seems to me that it is appropriate to permit a claim for interest in the circumstances of the case. Mr Stockley argued that interest should run from the date on which a claim for compensation was made on the respondent by the applicant's former solicitors in a letter of 11 September 2014. There is, however, no suggestion that the claim was accompanied by medical evidence which made out a prima facie case of causal nexus between the applicant's employment and his death. There was no such evidence until the applicant's current solicitors obtained the report of Dr Raftos dated 18 January 2019.

90. On 13 February 2019, the report of Dr Raftos was served upon the respondent's insurer as part of an application for review of the prior determination to decline liability. Before that time the applicant had no basis, to commence proceedings for compensation in the Commission. If she did, the proceedings could not have been maintained.

91. Bearing in mind, the quite specific scheme for payment of interest in section 109 of the 1998 Act, I have concluded that it is appropriate that interest runs from 13 February 2019 to the date of this decision. It is likely that all or part of the money, would have been invested in bank accounts during this period. In the circumstances, I determine that 3.5% per annum is an appropriate rate of interest on the death benefit. It is convenient that interest on the whole of the compensation in respect of the death of the deceased be paid to the applicant. I propose to give liberty to apply in respect of this issue.