WCAT Decision Number: WCAT-2016-00724
WCAT Decision Date: March 10, 2016
Panel: Teresa White, Vice Chair

Introduction

[1] This appeal involves a widow's claim for survivor's benefits relating to the death of her husband (the worker).

[2] The worker died on November 20, 2011 after a sudden collapse. At the time, he and his wife were working as caretakers in an isolated historic lodge surrounded by a large park. While driving in their car to lock the gates late that evening after setting up and then cleaning up after an event at the lodge, the worker began to feel unwell and then collapsed. His wife tried to revive him, and then honked the horn to attract attention, without success. She then ran to a nearby home but no one answered the door. She then drove to a gas station, where emergency services were called. Unfortunately, they were unable to revive the worker. The delay between the worker feeling unwell and the time that help arrived was approximately 45 minutes.

[3] The Workers' Compensation Board, doing business as WorkSafeBC (Board) denied the worker's widow's claim, finding that although the worker's collapse occurred in the course of his employment, it did not arise out of his employment. The worker sought a review by the Review Division. The review officer, in *Review Reference #R0180459*, denied the widow's request for review. The widow now appeals to the Workers' Compensation Appeal Tribunal (WCAT).

[4] The widow is represented by legal counsel. The employer is participating.

[5] I am bound to apply the published policies of the board of directors of the Board, subject to the provisions of section 251 of the *Workers Compensation Act* (Act). The *Rehabilitation Services and Claims Manual, Volume ll* (RSCM ll), contains the published policy applicable to this appeal.

Issue(s)

[6] There are two issues that must be addressed in this appeal:

[7] The first issue is whether the worker's death resulted from a myocardial infarction with fatal arrhythmia (heart attack).

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[8] If the answer to the first issue is yes, the second issue is whether the worker's heart attack arose out of and in the course of his employment. If the answer to the first question is no, the issue becomes whether the worker's sudden death was caused by another condition arising out of and in the course of this employment.

[9] The third issue is if the answer to the second issue is no, is whether the remote location of the workplace of causative significance in the worker's death.

Jurisdiction

[10] Section 239(1) of the Act permits appeals from Review Division decisions to WCAT subject to the exceptions set out in section 239(2) of the Act.

[11] This is a rehearing by WCAT. WCAT reviews the record from previous proceedings and can hear new evidence. WCAT has inquiry power and the discretion to seek further evidence, although it is not obliged to do so. WCAT exercises an independent adjudicative function and has full substitutional authority. WCAT may reweigh the evidence and substitute its decision for the appealed decision or order. WCAT may confirm, vary, or cancel the appealed decision or order.

[12] Because the appellant is the worker's widow, and not the worker, the standard of proof is the balance of probabilities. In that respect, I agree with the reasoning in *WCAT-2014-01133*.

[13] This appeal is proceeding by way of written submissions, which is the method requested by the appellant. I considered item #7.5 of WCAT's *Manual of Rules of Practice and Procedure*, which sets out that WCAT will normally conduct an appeal by written submissions where the issues are largely medical, legal, or policy based and credibility is not an issue. While there are some discrepancies in the evidence, I find they can be resolved based on the written material in the file, without an oral hearing.

Background and Evidence

[14] The worker and his wife were employed as caretakers of a park and lodge. On November 20, 2011 the worker died after a sudden collapse. Although there was no autopsy, the Physician's Medical Certificate of Death states that the immediate cause of death was "possible C.A.D." with "COPD, Peripheral Arterial Disease" and "DM" given as significant conditions contributing to the death but not resulting in the underlying cause.

[15] I understand "C.A.D." to mean coronary artery disease, "COPD" to mean chronic obstructive pulmonary disease, and "D.M. to mean diabetes mellitus.

[16] Another physician's statement of death, dated December 6, 2011 states that the disease or condition directly leading to death was "vasculopathy – myocardial infarction – sudden infarction." The worker also had angina and chronic lung bronchitis. His age and lifestyle (smoker) were also noted. I note this is the only reference to "angina" anywhere in the file. Angina is not noted in the worker's medical records.

[17] The worker and his wife's duties included managing the lodge – setting up and taking down for events and meetings and closing/opening the two park gates at night and in the morning. They swept the sidewalks and kept the lodge area clean. There was also a large in ground pool attached to the lodge that the worker offered to clean.

[18] On November 19, 2011, the worker cleaned the pool by himself so it would be clean for an event the next day. The worker's widow estimated that it took three hours and was strenuous in nature in that there were leaves in the pool which had to be removed by skimmer pole before he could vacuum it. It was cold that day (-2 degrees Celsius). After he finished cleaning the pool, the worker lay down, stating he was tired. He did not make any other complaints. The worker's wife noted that his hands were very cold and she blew on them to warm them.

[19] I note that the case manager's July 16, 2012 notes of a conversation with the worker's widow state it was 2 degrees Celsius. Other information in the file confirms that the temperature was -2.

[20] The next day (the date of death) there was an event booked at the lodge. The couple started preparing at about 9 am. The worker did not make any complaints to his wife about cardiac symptoms, and her evidence is that he did not seem restricted or impaired.

[21] There were about 60 guests at the event. The couple had approximately 15 minutes between a ceremony and the reception to set up 7 to 8 tables for the reception. Once the reception was done, they would clean up and put the chairs and tables away. While waiting for the reception to be over (10:00 pm), the couple watched television in their living quarters. Later evidence provided by the worker's widow states that he was also kept busy with jobs related to the event, including replenishing the firewood and lighting the fire in the lodge.

[22] The Board case manager took a history from the worker's widow on July 16, 2012. The memorandum on the file regarding that history states, in part:

> **Worker's Medical:** [The worker's widow] advised her spouse was in good physical health prior to his death. He was 6'1" and weighed 190 pounds. He did not have a history of cardiac complaints or treatment. He took a baby aspirin per day "because it was good for you" and did not know his family medical history as he was adopted. He smoked about a pack of cigarettes per day since age 16.

> **Strenuous Activity:** The worker was not involved in what [the worker's widow] would describe as strenuous activity just prior to the onset of symptoms. He had been lying on the couch and then got up to stack some chairs, and then got into a car to drive to the gate. However the day before he had been involved in unaccustomed strenuous activity for three hours to clean the leaves out of the pool.

[23] After the event was over, the couple started stacking chairs and putting the tables away. The worker used a dolly to move some chairs. At approximately 10:30 pm, they left in the car to lock the gates.

[24] Initially, the Board denied the claim, having decided that the worker was not entitled to workers' compensation coverage, based on information from the employer, the contract between the employer and worker's wife (the worker was not a stated party to the contract), and other factors. This decision was ultimately reversed by WCAT (see *WCAT-2014-01133*).

[25] The worker's family physician Dr. E.J. Pauls wrote a September 23, 2013 letter that was submitted in the previous WCAT proceedings. Dr. Pauls first saw the worker on January 30, 2006. At that time, the worker was approximately 6 feet tall and weighed 230 lbs. He had chronic peripheral vascular disease and vasculopathy that had led to a corrective right leg iliac bypass angioplasty in 1997. A chest x-ray showed chronic obstructive lung disease (COPD). Dr. Pauls said that he became aware of a number of issues relating to the work the worker and his wife were doing. These included:

- Issues in relation to the worker smoking on the premises, in particular whether it was allowed.
- The condition of the residence, including the bathroom. Numerous requests to change these things were not responded to.
- The worker had an extreme work ethic which added to job stress.
- The worker demonstrated peripheral vascular vasoconstrictive Raynaud's phenomena which made cleaning the pool overwhelmingly difficult on a cold day.

[26] Dr. Pauls' conclusion was that there were numerous factors of extreme stress, cold weather, and a cascade of working conditions that interfaces that contributed to the end cascade of events and the worker's death.

[27] A July 22, 2007 chest x-ray reported that the worker's lungs were overinflated consistent with COPD.

[28] The proof of death statement prepared for an insurer by Dr. Pauls indicates that acute situational reactive stressors was a significant condition contributing to the worker's death, but not related to the disease or condition causing death.

[29] Dr. Shelly Perlman, Board medical advisor was asked for an opinion regarding the worker's death. Dr. Perlman is a specialist in internal medicine. Her responses to two questions are set out below. Dr. Perlman did not refer to or cite any medical/scientific articles in support of her opinion. It states:

> 1. Would [the worker's] work activities of cleaning the pool the day prior have triggered an earlier than anticipated MI?
>
>   The presumed cause of death for this case is from acute myocardial infarction. Myocardial infarction is the end result of a chronic disease of atherosclerosis as described above. This chronic disease takes years to develop and does not happen acutely. The worker had a number of personal risk factors for development of atherosclerosis including his age, male sex, impaired fasting blood sugar and smoking. While the worker did complete an exceptional task of cleaning the pool the day before his myocardial infarction, this task would appear to not be out of keeping, in terms of workload, with his other variable tasks of managing the lodge. The clinical record reveals that the worker did not suffer any symptoms as a direct result of the exceptional task of cleaning the pool. Rather, the acute medical event did not transpire until over 24 hours after the exceptional task.
>
>   Based on the nature of the development of atherosclerosis, I have difficulty relating his work activity to the development of the acute myocardial infarction. Rather, in my opinion, it so happened to have occurred while working, but not as result or consequence of the acute work/tasks.
>
> 2. Did the worker's work location (isolated park that was ½ hour to get to emergency services) make a difference for the worker living through the MI?
>
>   The story is unusual. There was a significant delay. The wife and worker did not carry a cell phone and the wife had some difficulties getting help. This delayed the worker getting medical attention which delayed the resuscitation effort. It is possible that this could have made a difference for the worker living through the MI. Having said that, the clinical picture is compatible with a life-threatening arrythymia (sudden cardiac arrest) and the outcome may well have been the same regardless of the time to emergency care. A review of the current literature for survival of out-hospital cardiac arrest remains poor despite our ACLS and emergency response team protocols. Therefore, I am not convinced that it would have made any difference for the worker.

[30] The worker's widow obtained a February 6, 2015 medical-legal opinion from Dr. Simon Rabkin, a cardiologist. Dr. Rabkin is a specialist in internal medicine and cardiology. I have reviewed the letter written by legal counsel retaining Dr. Rabkin, and Dr. Rabkin's report. I am satisfied that Dr. Rabkin had a full understanding of the facts and circumstances leading up to the worker's death. This included the worker carrying 75 pound containers filled with garbage or recyclables, mopping floors, stacking chairs, and lifting tables immediately before leaving with his wife to lock the gates. The worker's widow described the worker as out of breath and perspiring while he was doing these tasks.

[31] Dr. Rabkin noted that the worker had risk factors for myocardial infarction in the form of established vascular disease, hypertension, and diabetes. However, I note that Dr. Pauls has stated that the worker did not actually have diabetes but was being watched given his circumstances and blood sugar results. I do not find that Dr. Rabkin mentioning diabetes undermines his opinion on causation, because diabetes in a condition related to the worker rather than the work circumstances that preceded the heart attack.

[32] Dr. Rabkin stated that the worker was engaged in excess physical activity on the evening of his death. He said that studies have shown that episodic physical activity was associated with an increased risk of heart attacks with a relative risk of 3.45. This means that individuals after episodic physical activity were 3.45 times more likely to have a myocardial infarction than an individual who was not engaged in such activity. Studies found that the hazard extended for one to two hours after the physical activity.

[33] Dr. Rabkin referred to "vulnerable plaques." An atherosclerotic narrowed coronary artery can because vulnerable to the initiation of total occlusion (and therefore a heart attack) if it becomes disturbed or ruptured. Forces such as increases in arterial pressure and heart rate can transform an atherosclerotic plaque into a plaque rupture and heart attack. These increases can occur with excessive physical exertion. There may also be other mechanisms linking excessive physical activity and myocardial infarction.

[34] In regard to the remote location, Dr. Rabkin stated that he believed this contributed to the worker's death. He said it is generally accepted that the time lag from the onset of out of hospital arrest to the time of initiation of cardiopulmonary resuscitation is an important contributor to survival after out of hospital arrest. Dr. Rabkin referred to a study showing that without treatment (CPR, defibrillator shock, or definitive care), the decline in survival rate is approximately 5.5% per minute. The worker did not receive CPR until 55 minutes after onset. Dr. Rabkin's opinion was that this long delay contributed to the worker's death.

[35] Dr. Rabkin expressed surprise the employer did not make provisions to ensure effective communication through cell phone access or other communication devices to emergency services. Cell phone reception was reportedly poor in the park. Further, the worker and his wife did not receive training to perform CPR, despite the remote location and its use for public functions. In addition, there was no automatic defibrillator on site.

[36] Dr. Pauls provided a further opinion dated February 11, 2015. He suggested that the worker fell victim to a "perfect storm". The strenuous activity, state of mind, and urgent need to complete tasks were all factors.

[37] Dr. Rabkin referred to a number of research articles in his opinion. The citations for these articles can be found in the endnote to this decision.[i]

[38] In the WCAT proceedings, the worker's widow submitted that the review officer erred in a number of ways:

- By preferring evidence from the worker's widow from statements to the case manager rather than sworn statutory declaration evidence.
- By failing to consider whether the statements could be read harmoniously with the statutory declaration evidence.
- By substituting her own medical lay opinion as to the cause of the worker's death without any supporting evidence and contrary to the evidence from Drs. Rabkin and Pauls.
- Failing to consider whether the worker's employment activities could be a cause, rather than the sole cause.
- Classifying Dr. Rabkin's opinion as merely speculative.

[39] The employer submitted that it continued to support the Board's decision that the worker's disease and death were not due to the nature of his employment, nor did they arise out of and in the course of his employment.

Analysis

The first issue is whether the worker's death resulted from a myocardial infarction and fatal arrhythmia.

[40] Given the lack of an autopsy establishing the cause of death, there is some uncertainty as to the cause. There appears to be no doubt the worker had peripheral arterial disease and COPD. The proof of death prepared by Dr. Pauls for an insurance company states the cause was "vasculopathy – myocardial infarction." Dr. Pauls did not give that cause on the official Physician's Statement of Cause of Death, indicating "possible C.A.D." with "COPD, Peripheral Arterial Disease" and "DM."

[41] All of the medical opinions on the file and submitted in this appeal indicate that the likely cause of death was a myocardial infarction with a fatal arrhythmia.

[42] Dr. Rabkin's report states that the most frequent cause of out of hospital cardiac arrest is myocardial infarction. Other causes include cardiac arrhythmia in people with heart disease such as heart failure or scars in the heart from old myocardial infarction(s), blood clots to the lung (pulmonary embolism, blood electrolyte abnormalities or large stroke. Given the frequency of the known causes of out of hospital cardiac arrest, he concluded that it was "reasonable" to conclude that a myocardial infarction and fatal cardiac arrhythmia was the cause. The Board medical adviser Dr. Perlman also concluded this was the presumed cause of death.

[43] Thus, it is possible that some other cause was responsible for the worker's death. However, given the medical opinion on file, I find it is more likely than not that the worker died because of a fatal cardiac arrhythmia caused by a myocardial infarction.

The second issue is whether the worker's myocardial infarction that resulted in his death arose out of and in the course of the worker's employment.

[44] Coronary artery disease or myocardial infarction are not designated as occupational diseases. However, there is published policy in the RSCM II regarding heart disease. Policy item #30.70 provides:

> **30.70 Heart Conditions**
>
> Heart-related conditions which arise out of and in the course of a person's employment and which are attributed to a specific event or cause or to a series of specific events or causes are generally treated as personal injuries. They are therefore adjudicated in accordance with the policies set out in Chapter 3. If the heart-related condition of a worker is one involving a gradual onset and is not attributed to a specific event or cause or to a series of events or causes, the claim will be adjudicated under section 6 of the *Act*. (See Items C3-16.00, *Pre-Existing Conditions or Diseases*).

[45] Policy item #C3-12.00 provides, in part:

> 4. Heart Conditions
>
> a. Physiological changes of the heart attributed to a specific event or cause, or to a series of specific events or causes are classified as injuries.
> b. Physiological changes of the heart involving a gradual onset and not attributed to a specific event or cause, or to a series of specific events or causes, are classified as diseases.

[46] I find that the worker's heart attack is being attributed to a series of specific events or causes and therefore is adjudicated as an injury.

[47] It is clear that the worker had a pre-existing deteriorating condition or disease in the form of atherosclerosis. He also had a number of risk factors for heart disease, such as smoking. Policy item #C3-16.00 states, in part:

> **B. Pre-Existing Deteriorating Condition or Disease**
>
> If a worker's pre-existing condition or disease is a deteriorating condition or disease, the medical evidence is examined to determine whether or not, at the time of the injury or death, the pre-existing deteriorating condition or disease was at a critical point at which it was likely to result in a manifest disability.
>
> If the injury or death is one that the worker would have sustained whether at work, at home, or elsewhere, regardless of the employment activity, then the employment was not of causative significance, and the injury or death is considered to have resulted from the pre-existing deteriorating condition or disease and is not compensable.
>
> On the other hand, if the injury or death is one that the worker would not have sustained for months or years, but for the exceptional strain or circumstance of the employment activity, then the employment is of causative significance, and the injury or death may be compensable.
>
> An example may help to illustrate the distinction. If the evidence shows that a worker has a pre-existing deteriorating heart condition, which could result in a heart attack at any time, an employment activity such as walking up one flight of stairs to his or her office would not mean that the employment activity was of causative significance in a resulting heart attack. On the other hand, if the worker was at the bottom-end of moving a 300-pound load up a flight of stairs, and the load slipped, causing the worker fright and strain, that strain or circumstance may mean that the employment activity was of causative significance and the resulting heart attack arose out of and in the course of the employment.
>
> In all cases, the medical and factual evidence is considered together, in order to determine the causative significance of the pre-existing deteriorating condition or disease, and the employment activity or situation, in the resulting injury or death.

[48] There is no question that the worker had a pre-existing deteriorating condition, in the form of vascular disease in the form of atherosclerosis. I must therefore consider the factual and medical evidence together in order to determine the causative significance of the pre-existing deteriorating condition and the employment activity.

[49] There is nothing in law and policy that states a heart attack must occur immediately in conjunction with a strain in order for an employment activity to have causative significance. Dr. Perlman does not appear to have a full understanding of the extent of the worker's activities in the hour preceding his myocardial infarction. Although she was aware that the worker stacked chairs and tables, there is no mention of the worker having to climb stairs carrying heavy garbage containers, using a dolly to move chairs, or any other strenuous activity except cleaning the pool the day before. Dr. Perlman specifically noted that the worker did not have his heart attack until more than 24 hours after his work cleaning the pool the previous day. Presumably this is because the case manager asked only about cleaning the pool and whether that could have triggered the heart attack.

[50] As noted above, Dr. Rabkin set out a clear understanding of the worker's job and the tasks he completed in the hours before his heart attack. I accept that the worker was performing strenuous activity, which included climbing up and down stairs carrying heavy bags of garbage and recycling, moving chairs and tables, mopping floors, and cleaning bathrooms. The time lines involved illustrate the time pressure the worker and his wife were under in this regard.

[51] Dr. Rabkin is a cardiologist. As such, he is an expert in heart disease. Dr. Perlman is trained in internal medicine, but there is no suggestion that she specializes in cardiology. Dr. Pauls was the worker's primary care physician and as such was very familiar with the worker's condition.

[52] I agree with the worker's widow's submissions the widow's earlier statements are not truly inconsistent with her later sworn statutory declaration. Rather, the worker's wife adds information. Her earlier statements did not provide details relating to tasks such as carrying the garbage and mopping vigorously. I do not accept that the worker's widow was embellishing her testimony or had forgotten what the worker was doing in the hours before his heart attack. The descriptions of the activities in the statutory declaration make sense to me as tasks that would be necessary in order to clean the lodge after the event. In addition, it is understandable that the worker's widow would have emotional difficulty recalling the events of that night.

[53] The one point where there does appear to be some discrepancy is that the worker's widow told the case manager she and her husband were watching TV in their residence while the event reception took place. In her statutory declaration, she stated they were kept busy with meeting needs related to the reception. I find that while they were watching TV for part of the time, they had to attend to various needs such as wood for the fireplace and relighting the fire in the lodge during the reception. Again, the events of later that night would have been very distressing, and it is not surprising that the worker's widow's recall of earlier events may have been affected by her husband's death, and as such difficult to recall in detail on every occasion.

[54] That leads to an analysis of whether these activities were "exceptional."

[55] I am somewhat puzzled by the evidence that the worker was "jogging" and rushing while performing the clean up duties. There does not appear to any specific reason given why he had to rush, although it is apparent that the lodge was the site of many recreational activities, including an "open house" on Sundays. It was also late in the evening when the reception was over, and it is conceivable that the worker and his wife wanted to get things cleaned up as quickly as possible before retiring for the evening. Taking the evidence as a whole, I accept that the worker and his wife were hurrying to do the cleanup and wanted or needed to have it done before the next morning.

[56] The evidence is that there had not been many events such as the one on the night of worker's death in the past months. The work required to set up the ceremony and the reception, and to clean up, were strenuous in the sense that they required lifting and moving of chairs and tables. There was also some urgency in setting up the reception after the ceremony. Given the time of year (November), the outside temperatures, and the remote location I consider it more likely that not that most of the 60 guests were waiting inside the lodge while the reception was set up. This would have added to the pressure of the situation.

[57] I find the level of physical exertion required was exceptional. The worker's activities on site when there was no large event in the lodge appear to be much less strenuous (with the exception of cleaning the pool, particularly on a very cold day). They required activities such as sweeping, locking the gates, garden maintenance and other lighter activities that did not require heavy lifting and carrying, or going up and down stairs numerous times in a short period of time carrying heavy objects. The event added an additional level of activity, and meant a very long working day (from 9 am to late in the evening). The worker and his wife were not finished their working day when they left to lock the gates. Additionally, the evidence shows that there had not been a similar event at the lodge for some time. The worker and his wife were not setting up and taking down such large events on a daily or even weekly basis. Their contract indicates that the activities in relation to the event were not part of the regular remuneration, but rather were remunerated separately. The activity required was unaccustomed.

[58] The example given in policy is that of a worker who was the bottom-end of moving a 300-pound load up a flight of stairs, and the load slipped, causing the worker fright and strain. Policy states that the strain or circumstance may mean that the employment activity was of causative significance and the resulting heart attack arose out of and in the course of the employment.

[59] In the worker's case, there was no sudden strain or circumstance. However, Dr. Rabkin makes it clear that there is a potential increased risk of a heart attack for one or two hours after exceptional exertion.

[60] It is clear from the evidence that the worker had a pre-existing, non-compensable deteriorating condition. However, on the date of death the worker was engaged in exceptional activities and was responsible in part for the success of an important event. I find that although there was not a "sudden strain," the worker was under pressure to prepare the lodge, setup heavy tables and chairs, reconfigure the set up in a short time, and then clean up late in the evening. He had a very long day of activities with heavy exertion interspersed.

[61] I find that the worker's myocardial infarction and fatal arrhythmia arose out of and in the course of his employment on November 20, 2011 and his death is compensable.

The third issue is if the answer to the second issue is no, is whether the remote location of the workplace of causative significance in the worker's death.

[62] As I have found that the worker's death arose out of and in the course of his employment, it is not necessary to consider this issue.

Conclusion

[63] I allow the appeal and vary the Review Division decision. The worker's death from a myocardial infarction and fatal arrhythmia arose out of and in the course of his employment.

[64] I can find no request for reimbursement of expenses in the appeal. However, it was reasonable for the worker's widow to obtain opinions from Dr. Rabkin and Dr. Pauls. In the event expenses were incurred, I order the Board to reimburse the worker's widow based on the Board's BCMA fee schedule for a medical-legal opinion for Dr. Rabkin, and a medical-legal report for Dr. Pauls.

Teresa White
Vice Chair

TW/as

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