

**WCAT Decision Number:** WCAT-2008-02151  
**WCAT Decision Date:** July 18, 2008  
**Panel:** David A. Cox, Vice Chair

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## **Introduction**

The worker appeals from the January 7, 2008 decision of an officer of the Workers' Compensation Board, operating as WorkSafeBC (Board). That decision of the Board's internal Review Division confirmed an earlier decision of a Board officer dated August 17, 2007 not to accept the worker's right wrist condition under either section 5 or section 6 of the *Workers Compensation Act* (Act).

The review officer found that the evidence supported a conclusion that the worker's right hand condition, diagnosed as either a repetitive stress injury or tendonitis, was not the result of her employment activities and that her claim was, therefore, not accepted.

## **Issue(s)**

Did the worker's right hand condition arise out of and in the course of her employment, or was it due to the nature of that employment?

## **Jurisdiction**

This appeal was filed with the Workers' Compensation Appeal Tribunal (WCAT) under section 239(1) of the Act.

WCAT may consider all questions of fact and law arising in an appeal, but is not bound by legal precedent (see section 250(1) of the Act). WCAT must make its decision on the merits and justice of the case, but, in so doing, must apply a policy of the board of directors of the Board that is applicable in the case. WCAT has exclusive jurisdiction to inquire into, hear and determine all those matters and questions of fact, law and discretion arising or required to be determined in an appeal before it (section 254 of the Act).

This is an appeal by way of rehearing, rather than a hearing *de novo* or an appeal on the record. WCAT has jurisdiction to consider new evidence, and to substitute its own decision for the decision under appeal.

## **Background and Evidence**

The worker, an accounting clerk, reported to her physician on February 28, 2007 that she had right wrist pain for three weeks which was worsened with computer mousing.

The physician diagnosed a wrist strain and advised the worker to stay off work and rest. Subsequently, the worker made application to the Board on March 23, 2007, and stated that repeated use of computer equipment had caused her right hand, index finger, thumb, wrist, and forearm symptoms. When contacted by the Board (telephone memorandum of April 18, 2007), the worker disclosed that she had been an accounting clerk for ten years with the same employer. She denied any previous pain or problem in either wrist and stated that her duties involved rotating through functions such as writing, keyboarding, and mousing. The worker denied any change in her work leading up to February 28, 2007. She recalled that, on February 28, 2007, she began to feel pain in her right wrist while performing her work functions, especially keyboarding and mousing.

The worker, on April 26, 2007, completed a pre-site visit questionnaire and stated that excessive use of the mouse, calculator, and numerical pad on the computer, combined with a poor ergonomic workstation, had caused her symptoms. The worker stated she had been in her current position for over nine years. Her job was demanding due to deadlines and the speed required of her on a keyboard calculator/number pad. She stated that six hours of her work shift per day was spent at the keyboard/calculator.

A job site visit was undertaken on August 8, 2007 and, in an August 17, 2007 claim log memo, a Board officer noted that the worker was employed as an accounting clerk who processed expense claims and used a desktop calculator and computer. Fifty percent of the worker's time was spent on the computer, mainly keying in numbers. Twenty percent of the work time was on the desktop calculator and, when the worker processed claims, she would use a calculator. When processing the claim, 50% of the time was spent on the calculator. Each claim took approximately two minutes and, if difficult, it took up to five minutes. Ten percent of the work time was given over to filing and handling papers in file folders. The worker spent 7% of her time placing telephone calls, at five to ten per day. Seven percent of her time was spent photocopying and 5% of her time sending information by facsimile.

The case manager noted that all forces involved in the worker's employment duties were sedentary in nature and that there was no requirement for repetitive wrist, elbow, or finger movements beyond ergonomic guidelines. There were no awkward postures of the fingers, wrist, or elbow, and the work was not unaccustomed.

A Board medical advisor, in an August 14, 2007 claim log memo to file, set out that a review of the occupational risk factors revealed that there were no occupational risk factors, at or beyond the guideline levels for exposure, to account for hand, thumb, finger, or wrist/forearm musculoskeletal conditions. Therefore, it was the Board medical advisor's opinion that it was less than 50% likely that the worker's employment duties had caused, aggravated, enhanced, or accelerated the worker's right wrist, hand, thumb, finger, or forearm musculoskeletal condition.

The August 17, 2007 decision was then issued, and the worker requested a review of that decision by the Board's internal Review Division. In a submission provided to the Review Division on October 29, 2007, the worker's union representative furnished to the Review Division a 2005 ergonomic study with respect to musculoskeletal disorders of the upper extremity associated with computer work.

The union representative argued that there was evidence of a positive relationship between musculoskeletal symptoms and disorders of the hand, wrist, forearm, and elbow, associated with computer work. The worker's employment duties required extended reach and awkward posture while using a calculator and the worker was also exposed to contact pressure of the right wrist while using the numeric portion of the keyboard. Also, there was a reduction in the worker's symptoms when she was away from the employment activities and an increase in symptoms following a return to her employment. In the union representative's opinion, the worker's occupational exposure had been causatively significant in the development of her condition, as her employment activities were the only activities identified capable of stressing the tissues and tendons affected.

The accident employer was represented at the Review Division by a compensation consultant, who provided to the Review Division a November 30, 2007 submission. That submission supported the opinion of the Board medical advisor and stated that the decision to deny the worker's claim had been correct.

The Review Division then issued the January 7, 2008 decision and the worker appealed to WCAT.

Prior to the oral hearing the worker's union representative furnished to WCAT a document review and work-site analysis report of a registered kinesiologist. The review was based on an analysis of the claim's documents and available literature and was accepted as exhibit #1 at the hearing.

The analysis set out, in part, that a failure to minimize or remove aggravating activities could greatly complicate musculoskeletal disorders. The kinesiologist referred to prior studies which indicated extensive work at a computer workstation was a likely mechanism of injury for a musculoskeletal disorder.

The kinesiologist stated that the amount of force required in the worker's employment were atypically high, which usually corresponded with injury. Excessive static loading in combination with high repetition of data input required the worker to use her calculator for approximately 60% of her workday. In the kinesiologist's opinion, this percentage was abnormally high, and definitely not an ergonomic best practice. It was evident that the worker conducted a large portion of her tasks at the computer workstation with her right upper extremity in an extended position. There was a lack of recovery time and the worker continually applied consistent force on the muscles of her forearm when

inputting data on the calculator and the keyboard for extended periods of time. This, the kinesiologist stated, was a significant cause of the worker's injury. The worker's prolonged computer and calculator use for months and years had played a significant role in leading to the onset of the injury. The most likely scenario, the kinesiologist stated, was of a cumulative trauma disorder which was the result of continued microtrauma without adequate recovery, leading to injury.

The kinesiologist examined the videotaped footage of the worker's job tasks and stated that the worker had conducted these tasks in a poor fashion in that she had been continuously reaching/extending her arm across her desk. This, the kinesiologist stated, was not an effective working posture and added stress to the worker's right wrist and upper extremity.

The kinesiologist noted that the combination of repetition and static loading were high risk factors and the videotaped evidence identified that high frequency/low forces were applied to the anatomical structures of the forearm. It was noted that the worker's speed on a calculator was much faster than an equivalent 45 words per minute on the keyboard. This speed, the kinesiologist stated, added strain on the worker's right upper extremity due to increased velocity of finger flexion movements.

The worker's awkward reaching posture used to input data into her calculator, many hours of work at the computer workstation and the fact that she did not have sufficient time to recover between tasks, were likely causes of her injury.

The worker's role as an accounting clerk was almost exclusively driven by keyboarding and calculator tasks. The kinesiologist referred to ergonomic studies which stated that in situations where computer work with high mouse volumes were demonstrated, there was a high probability for upper limb musculoskeletal disorders. These studies showed that there was evidence of a positive relationship between the musculoskeletal symptoms and disorders of the hand, wrist, forearm, and elbow, and computer work.

The kinesiologist concluded that the epidemiologic literature supported an association between the worker's right wrist strain and her computer work.

The worker had performed highly repetitive work which required her to extend her wrist for lengthy periods of time. Utilizing the computer mouse on the same side of the numerical pad of the keyboard was, the kinesiologist stated, detrimental. Operating computer tasks in that manner would cause additional difficulties. The kinesiologist stated that the worker's upper right extremity injuries were 50% or more likely to be attributable to her work as an accounting clerk.

An oral hearing was held on July 4, 2008. The worker attended and was represented by her union. The accident employer was represented by a compensation consultant.

The worker, in response to her representative's questions, stated that she had been an accounting clerk for two years with no prior wrist or arm symptoms. She stated that in 2004 she was involved in a motor vehicle accident where she had injuries to her back and shoulder. However, she lost no time from work due to those injuries.

The worker explained the scope of her employment duties included processing expense claims, leave forms, and billings, accounts reconciliation, and hospitality benefits plans.

The worker stated that her work fluctuated, dependant upon a monthly schedule. For instance, expense claims and leave forms were processed at the end of the month.

She estimated that probably 30% of her workday was spent on a computer and another 45% was spent performing calculator work. This work was performed while sitting in her workstation. She stated that calculator work would increase near the end of the month and sometimes it took up 70 to 80% of her workday. She also answered telephones, photocopied, and filed.

She recalled that she had first noted symptoms on February 28, 2007 while getting ready for month's end. She said the pain was directly in her wrist and she found it difficult to scroll a mouse or to work with Excel documents. She then notified a member of the office safety committee and her workstation was changed on March 14, 2007.

The worker stated that the pictures which were taken during the Board's job site visit were accurate with respect to portraying her workstation as it was prior to the change made in her workstation. The worker explained that in the old workstation setup, she had to reach across a table to use the calculator. With the change, that calculator was moved closer to her and her keyboard was moved to the middle of the table. However, even with the change at her workstation, there did not seem to be any positive reduction in the worker's symptoms and near the end of March 2007, her doctor took her off work. Her doctor explained to the worker at that time that she would send the paperwork to the Board in order for the worker to establish a claim.

The worker stated that when she went off work, she had wrist pain and swelling as well as a swollen forefinger and thumb, and pain in her forearm radiating up to her elbow.

The worker stated she undertook over 40 physiotherapy visits but at first, the physiotherapist's treatment was hindered by the fact that she had swelling. The worker did not feel that the physiotherapy treatments were productive and pursued acupuncture and massage therapy. She stated that those treatments were helpful and she returned to work in April 2007. By that time, she stated, her wrist pain had calmed down and she was ready to attempt a graduated return to work. However, no duties were directly taken off her desk and the worker found that her symptoms worsened. By early May 2007 the worker's physician had reduced her hours of work, but the worker

still stated that scrolling the mouse was difficult for her and any forefinger or thumb use elicited more pain. The worker, at that point was applying ice to her wrist at work and using a splint.

She described that in the old workstation she was not able to rest her arms on her chair while using the mouse and she also had to reach in order to use the calculator. She demonstrated reaching her arm across her body while fully extended and raised.

The worker explained that near the end of May 2007 her pain had increased and her physician took her off work once more. She stated that the rest reduced the swelling. She continued with physiotherapy, massage therapy, and acupuncture treatments.

The worker explained that prior to her injury, she would use her home computer for one-half hour at a time, five times per week. Once her symptoms arose, however, she stated it became too painful to use her computer and she could not even write without feeling pain.

She explained that most of her activity at work was done with her right hand, especially the use of the mouse, calculator, and numeric keypad on her computer. The worker denied any symptoms on her left side.

In mid-July 2007 the worker returned to work doing less keying, as was recommended by her doctor. She stated that she spent no more than 20 minutes keyboarding at a time and now broke up her calculator work into smaller chunks. Because of the change in her workstation, the worker no longer had an extended reach to access her calculator. She stated her condition had improved, but she still noticed it. The worker believed that her condition was work related as once she was away from work, her symptoms had improved.

In response to the accident employer's representative's questions, the worker stated that in the approximately two years at the same workstation, there had been no significant changes in her duties. She stated that her shoulder and neck were treated as a result of the motor vehicle accident but by the time she reported symptoms in her wrist in February 2007, she stopped that treatment.

The worker agreed with the accident employer's representative that the report from the Board's on-site visit was correct. However, she stated it was difficult for her to place a specific time on the amount of keyboarding or calculator work she did per day as her demand fluctuated. She also explained that when her job station had been rearranged, she was also provided with a new mouse and she no longer needed to scroll. She stated that of all of her job duties, mousing was the most aggravating.

The worker agreed that six hours of her work shift would have been taken up with keyboarding and using a calculator. She stated that at most, she would use the

calculator or keyboard consecutively for five minutes at a time. The length of time spent was dependant upon what tasks she was performing. Her photocopying was done all at one time and faxing was infrequent. She agreed that she took five to ten telephone calls per day, which averaged two minutes per call. These calls were interspersed throughout her workday.

The worker explained that she had been at the same desk for two years with no change in duties. Although some of her duties would increase because of month-end requirements, she agreed that she was not unaccustomed to the tasks that she performed.

The worker stated she had not been referred to a specialist and that blood tests ordered by her physician had been negative for systemic illness.

The worker stated that she could remain at her desk consecutively without a break for up to two hours. The situation fluctuated with the demands of her workplace.

In submission, the worker's representative pointed to documents on the claim file such as to the pre-site visit questionnaire and the physician's reports, which, he stated, correlated the worker's consistent complaints with calculator and computer usage.

With reference to exhibit #1, the worker's representative pointed out the kinesiologist's opinions with respect to force, static loading, awkward posture, and the literature reviews.

This opinion, the worker's representative stated, documented excessive exposure to awkward reaching motions which had precipitated the worker's wrist injury.

It was important to note that the worker's symptoms also were reduced when she was away from work and increased when she returned.

With reference to policy item #27.20 of the *Rehabilitation Services and Claims Manual, Volume II* (RSCM II), the worker's representative stated that the worker's employment need only be a significant cause of the wrist symptoms. The videotaped and photographic evidence from the job site visit clearly showed the worker's wrist in extension while using the keyboard and calculator. Although the review officer and the Board medical advisor both felt that there were insufficient risk factors to meet the Board's guidelines, the representative stated that these guidelines were not policy. The worker's physician believed the worker's condition was work related, and no other non-occupational factors had been identified. Awkward, repetitive factors associated with the workplace had been clearly identified that were causatively significant in the development of the wrist injury. The worker's employment activities were the only identified activities which would have been responsible for that injury.

The accident employer's representative stated that although the worker remained at her workstation throughout her workday, there were breaks in between her job tasks. With respect to consecutive work, the representative pointed to an October 1, 2001 progress report of the attending physician which identified that the worker was not supposed to keyboard for over 30 minutes at a time. However, the employer's representative stated, there was no continual use of a calculator or a keyboard for 30 minutes at a time.

In the employer's representative's opinion, the Board assessment was correct, and the Board medical advisor's opinion was in accordance with existing Board policy. She stated that the process in adjudication was to follow that policy, and in order to accept the worker's claim, there had to be a level of exposure to risk factors. The Board's policy with respect to the diagnosis of tendonitis was that there must be sufficient risk factors in order to accept the claim. In the present claim, the employer's representative stated, that threshold had not been met.

In rebuttal, the worker's representative stated that although at maximum the worker would perform one task for five minutes consecutively, she spent two hours continuously at her workstation where she was exposed to static loading, reaching, and awkward postures.

The representative pointed out that the kinesiologist in exhibit #1, had reached different conclusions from those of the case manager and Board medical advisor. In the worker's representative's opinion, the case manager's assessment was flawed, and the professional credentials of the case manager were not in the same category as the kinesiologist. The Board medical advisor's opinion was, therefore, not consistent with the proper facts. The analysis of the kinesiologist supported an association between the worker's employment activities and the resultant wrist injury.

### **Findings and Reasons**

A Board medical advisor provided a working diagnosis of right wrist tendonitis. The preferred diagnosis of the attending physician was a right wrist strain. The worker and her representative have approached the diagnosis as a repetitive strain injury.

Policy item #27.35 of the RSCM II provides that claims for unspecified musculoskeletal disorders should be determined on their merits. The policy sets out that there must be a determination as to whether the worker suffers from an activity-related soft tissue disorder, particularly when there has been a broad diagnosis.

Under the circumstances of this claim, I accept the working diagnosis of the BMA and accordingly, I find the review officer's adjudication under section 6 of the Act, was appropriate. The worker has not claimed a sudden strain was responsible for her right

wrist/thumb symptoms and described a progressive onset, culminating in late February 2007. I therefore concur with the review officer's analysis that an adjudication lies under section 6 of the Act and not section 5.

Section 6(1) of the Act provides that when a worker suffers from an occupational disease and is disabled from working full wages and the disease is due to the nature of the employment, compensation is payable.

Section 6(3) of the Act provides that certain occupational diseases may be caused by employment in specific processes or industries as contained in Schedule B of the Act. Schedule B recognizes that hand/wrist tendonitis is an occupational disease where the affected tendon is used to perform tasks combining any two of the following:

1. Frequently repeated motions or muscle contractions that strain the affected tendon(s);
2. Significant flexion, extension, ulnar and radial deviation of the affected hand/wrist, or
3. Forceful exertion of the muscles utilized in handling or using tools or other objects with the affected hand or wrist.

These activities must represent a significant component of the worker's employment.

Occupational disease claims are first considered under section 6(3) of the Act. This section of the Act entitles the worker to a presumption that their disease, if listed in Schedule B, is work related. To allow a presumption, the Board must be satisfied that the required motions, postures, and forces are present in the employment activity to warrant a conclusion that the occupational disease is work caused. If the condition is not listed in Schedule B, or if the requirements of Schedule B have not been met, the claim is considered under section 6(1) of the Act and the worker is entitled to compensation when the employment activities are shown to have caused the occupational disease.

Policy item #27.12 of the RSCM II sets out guiding principles when interpreting terms in Schedule B in connection with a hand/wrist tendonitis. The policy provides that in determining whether a particular work task involves "frequently repeated" movements or muscle contractions, consideration is given to such matters as the frequency of the work cycle compared to the amount of time where the affected muscle/tendon groups are able to return to a relaxed or resting state. The policy also states that other activities must be examined in the work cycle to determine whether stress has been placed on the affected muscle/tendon groups and whether the activities are repetitive in nature.

A worker who performs the same work task again and again without interruption or rest between, the policy states, is likely to perform "frequently repeated motions or muscle contractions." These are tasks that are repeated at least once every 30 seconds or

ones that are repeated and where at least 50% of the work cycle is spent performing the same motions or muscle contractions and where the affected muscle/tendon groups have less than 50% of the work cycle to return to a relaxed or a resting state.

Where there are tasks that involve lower work cycle frequencies or greater periods of recovery time than referred to, it will require the exercise of judgement based on the circumstances of the individual claim.

Significant flexion, extension, ulnar, or radial deviation is explained as tasks that require moving or holding the hand or wrist in greater than 25 degrees of flexion or extension, or in 10 degrees of ulnar or radial deviation.

Forceful exertion occurs when the muscles and tendons are loaded to a significant proportion of a maximum mechanical limit of those tissues. In considering whether there has been a forceful exertion of the muscles, consideration is given to such matters as the weight of the tool or work object, the manner in which the tool or work object is moved, speed at which the tool is moved, the amount of friction that exists between the tool and the worker's hand, and whether tools or work objects are handled using a pinch or a power grip. The policy recognizes that a pinch grip exerts more force on the tendons of the thumb and fingers. Also considered is whether sustained force must be applied and whether there is exposure to vibration.

A significant component of the employment is described to mean that the worker has been exposed for sufficiently long enough that it is biologically possible that the hand/wrist tendonitis had resulted from the work activities. Employment activities that have involved minimal or trivial use of the hand/wrist do not amount to a significant component of the employment.

I find that the worker's circumstances do not meet the requirements for the presumption of work causation contained at section 6(3) of the Act.

I am not satisfied that the worker was exposed to frequent, awkward postures of the wrist sufficient to satisfy the guidelines of the Board in order to meet Schedule B of the Act. Although the worker was required to use frequent repeated motions of her affected wrist, they were not performed at a rate of one time every 30 seconds, as is set out in the guidelines. There were interruptions in her work cycle where other tasks were undertaken and although she might have been required to stay at her desk for up to two hours consecutively, her mouse and calculator activities fluctuated within the confines of whatever project she was involved in. Also, I am not convinced forceful exertion or sustained force was used on a consistent basis.

Although the worker will not be provided the presumption contained at section 6(3) of the Act, section 6(1) must be considered.

Policy item #27.20 of the RSCM II, in claims where no presumption applies, provides that an assessment of risk factors related to the employment will normally be the most important consideration. However, it is not the only consideration and in the investigation of a claim for tendonitis, it is incumbent upon the Board to seek evidence of both occupational and non-occupational exposure to risk factors relative to the causation of the disorder. The compensability of the claim depends upon whether or not the employment activities played a significant role in producing the inflammatory disorder. The occupational exposure need not be the sole or even the predominant cause, it simply needs to have been a significant cause.

There is insufficient evidence of a non-occupational cause for the worker's right wrist tendonitis. It is notable that there is a correlation between the worker's employment tasks and an uptake in her symptoms. When she stopped computer/calculator work, her symptoms abated. When she resumed these activities, they recurred. I concur with the opinion of the kinesiologist (exhibit #1) that a significant factor in the development of the tendonitis was the cumulative action of the worker extending her right arm across her desk in an awkward posture in order to use the calculator or computer mouse. There were varied estimations with respect to the percentage of the worker's employment taken up by computer/calculator work tasks. I accept the worker's oral testimony that six hours of her work shift would be taken up with these activities. A significant component of the worker's employment, up to six hours per shift, was taken up with computer/calculator-based job tasks where her right upper extremity would be stressed. The poor ergonomic set up of her workstation was a major contributing factor.

Policy item #27.40 of the RSCM II cites the presence or absence of some risk factors will suggest occupational causation while the presence or absence of others will suggest non-occupational causation. The decision on any individual claim can only be a judgement one makes by weighing the evidence for and against work-relatedness.

As outlined in policy, it is not necessary that the employment be the most significant factor in the development of the tendonitis. It is sufficient that the employment was a significant contributing factor. I am satisfied that poor ergonomic work factors of the workstation were a significant contributing factor to the commencement of the worker's tendonitis symptoms. The resultant right wrist stressors were causally significant in the development of the worker's right wrist symptoms in late February 2007. The right wrist tendonitis was therefore due to the nature of her employment.

**Conclusion**

The worker's appeal is allowed. The January 7, 2008 decision of the Review Division is varied. I find that the worker suffered a right wrist tendonitis due to the nature of her employment. I leave it up to the Board to determine the compensation benefits which arise from my decision.

The worker is entitled, in accordance with the *Workers Compensation Act Appeal Regulation* section 7(1) to be reimbursed one-half day's wages in order to attend the oral hearing.

The worker or her union is also entitled to be reimbursed the expense of providing exhibit #1. I find it was reasonable for the worker to have obtained exhibit #1 to address the issues arising in her appeal. Any reimbursement will be with respect to the Board's existing tariff agreement or guidelines for kinesiologists.

I make no further order regarding expenses of this appeal.

David A. Cox  
Vice Chair

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