WCAT Decision Number: WCAT-2004-00115-AD
WCAT Decision Date: **January 13, 2004**
Panel: Steven Adamson, Vice Chair

Introduction

This resident care aide noticed bilateral carpal tunnel syndrome (CTS) symptoms in the fall of 1999. In the spring of 2000 she filed a claim with the Workers' Compensation Board (Board) for an occupational wrist disease. In a letter dated May 16, 2000 the Board denied her claim after concluding that it was less than 50 percent likely her bilateral CTS condition was caused or significantly aggravated by her employment activities. The worker appealed this decision to the Workers' Compensation Review Board (Review Board). The Review Board panel allowed her appeal after finding the non-occupational and occupational risk factor evidence was evenly balanced. The employer appealed the Review Board findings to the Workers' Compensation Board Appeal Division (Appeal Division).

Issue(s)

Whether the worker's bilateral CTS condition was due to the nature of her employment activity pursuant to section 6 of the *Workers Compensation Act* (Act).

Jurisdiction and Procedural Matters

This appeal was filed with the Appeal Division. On March 3, 2003, the Appeal Division and the Review Board were replaced by the Workers' Compensation Appeal Tribunal (WCAT). As this appeal has not been considered by an Appeal Division panel before that date, it has been decided as a WCAT appeal. (See the *Workers Compensation Amendment Act (No. 2),* 2002, (Amendment Act) section 39).

My jurisdiction in these appeal proceedings therefore arises under the provisions of Section 91 the Act and section 39 of the Amendment Act.

Under section 250(1) of the Act (as amended on March 3, 2003), WCAT may consider all questions of fact and law arising in an appeal, but is not bound by legal precedent. WCAT must make its decision on the merits and justice of the case, but in doing so, it must apply the policy of the Board's board of directors that is applicable in the case.

Under section 254 of the Act (as amended on March 3, 2003), WCAT has exclusive jurisdiction to inquire into, hear and determine all those matters and questions of fact and law arising or required to be determined in an appeal before it.

This is a rehearing by WCAT.

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The employer is represented by a consultant and the worker is represented by her union. Both representatives provided this panel with useful written submissions. I have considered the need to hold an oral hearing into this appeal and find, with reference to the evidence on file, including the Review Board oral hearing findings, I am able to render a fair and thorough decision without conducting one.

Evidence

A report from the worker's family physician, Dr. Hartwig, for treatment on February 2, 2000, noted the worker had bilateral CTS symptoms, which had onset without any specific incident. In a report from a visit on March 20, 2000 Dr. Hartwig noted the neurologist's report had been reviewed and the worker was diagnosed with bilateral CTS, greater on the left than the right. She was prescribed with splints and was able to continue working.

The worker sent the Board an application dated April 1, 2000. She explained that she did not know when her symptoms began. However, she had worked as a care aide in a long-term care facility for the previous 13 years. There were 34 clients on the floor where she worked. The job involved pushing wheel chairs and pushing and pulling a kitchen cart, which do not move well. The worker noted she also carried coffee pots. She also transferred residents manually and with lifts. Her job involved dressing and undressing residents. The worker also made beds and tidied rooms. Her application form indicated she was 40 years old, stood 5'4" and weighed 200 pounds.

The employer protested the acceptance of the worker's claim in a report dated April 7, 2000. The form noted the worker started her care aide job on March 7, 1990. Attached was a copy of the specific duties and responsibilities associated with the position. Among other things, the job required the worker to assist residents in all aspects of personal hygiene, which included bathing, washing, bowl and bladder care, dressing and caring for teeth, hair, nails and skin. She also had to make beds and assist in maintaining a clean and safe environment for the residents. The worker had to assist with walking and moving residents in wheel chairs. She also had to serve meals and provide feeding assistance where required.

A Board case manager spoke to the worker on April 6, 2000 and her recollection of their conversation appears in a claim log entry dated April 11, 2000. The worker explained that she was fully ambidextrous and wrote equally well with both hands. Before Christmas 1999 she noticed her hands were falling asleep. She awoke with numbness. Her hands also fell asleep while driving. The worker denied involvement in any sports or hobbies. Three years before, however, she used to do needlepoint and embroidery quite extensively. The worker's daughter did the housework at home and her husband did the shopping. The worker prepared the meals.

The worker stated she had a second job, four to eight hours a week, as a care aide on-call at another facility. She told the case manager she ended this job on

April 3, 2000. The worker regularly swam for exercise. She rarely drank alcohol and used to be a smoker, but quit at Christmas 1999. The worker took beta blocker drugs for high blood pressure, which ran in her family. She also had a history of migraines. The worker took Celebrex, a non-steroidal anti-inflammatory drug used in the treatment of osteoarthritis and rheumatoid arthritis, for her wrists and knees since September 1999. The worker had a total hysterectomy in 1982.

An ergonomic assessment was conducted at the work site on April 20, 2000. An ergonomic intervention report dated April 27, 2000 written by an occupational therapist noted moderate risk factors associated with the care aide work tasks and the diagnosis of bilateral CTS. Generally, the worker was exposed to frequent direct pressure over the median nerve, frequent wrist flexion and extension, and frequent gripping. Occasionally, the worker was exposed to wrist radial and ulnar deviation. Her exposure was bilateral due to her being ambidextrous. The summary noted the work load had increased in the last year; however, the worker was not engaged in unaccustomed work activity that would pose as a potential risk for CTS.

In the background section of the report it was noted that for about a year the floor where she worked had a number of residents waiting for placement in an extended care facility. Caring for these residents increased the work load. Also, about 18 months before the assessment the facility acquired electric move and transfer equipment, which replaced the old manual pump equipment. Apart from these changes the worker reported no other significant changes in her work during the previous two years. The worker noted there were 37 residents on her ward. She had been in this job for 11 years and on the ward in question for four years. She worked a five-day week from 6:00 AM until 2:00 PM with two 15 minute and one one-hour break per shift.

The ergonomic intervention report divided the care aid work into six tasks for the purpose of the analysis. The first task involved washing, toileting and dressing residents each morning. For one hour the worker sponge bathed 13 residents and assisted the majority with dressing. While some residents took verbal direction, others were combative and difficult to physically manage. The worker used moderate force to wheel a cart from room to room while performing this task. Occasionally she gave a patient a full bath. Under “diagnosis specific activity” the report noted the worker frequently used general gripping with low force bilaterally, frequently lifted from knee to waist level bilaterally, and frequently extended her wrist with medium force bilaterally. The worker occasionally performed other movements including bilateral wrist flexion, transfer/slide/manoeuvre, and pushing. There was also occasional wrist contact pressure with medium force bilaterally when performing this task.

The second task reviewed was the transferring and moving of residents. A variety of transfers were noted, which included to and from beds, wheelchairs, “Geri-chairs”, and commodes. Moves identified included taking residents to and from the dining room a minimum of three times a day. The worker was also required to lift a resident up from the floor after a fall. The report noted much of the actual lifting was performed by electric

machine. The demands occurred, however, with the positioning of the resident on and off the machine. The worker also had to push residents up to 100 feet while on a lift and this required significant strength when some individuals weighed up to 230 pounds. It was further noted that Geri-chairs were large recliners on wheels, which were heavy and difficult to manoeuvre. Significant amounts of pushing and pulling force was required to move these residents frequently. The report noted under "diagnosis specific activities" that the worker frequently used power grip bilaterally with medium force while performing the transferring and moving tasks. She also frequently pushed and pulled bilaterally. Occasionally the worker lifted to all levels, sustained wrist contact pressure with medium force bilaterally, flexed and extended her wrist with medium force bilaterally, deviated her wrists greater than nine degrees, and used low force pulp pinch grips and right thumb pushes.

The worker's third task involved serving breakfast for the residents. She cracked and peeled 42 hard-boiled eggs, scooped hot cereal into bowls from a large pot she moved from table to table using a cart and poured tea and coffee. The worker fed one or two of the residents by hand. Diagnosis specific activities included frequent power gripping with medium force bilaterally and frequent pulp pinch with low force bilaterally. The worker occasionally extended and flexed her wrists, engaged in ulnar deviation of both wrists greater than 19 degrees and radial deviation greater than nine degrees. She pushed bilaterally occasionally and sustained low force wrist contact pressure bilaterally.

The forth task involved a clean up following breakfast. The worker cleared and wiped tables using a cart. The cart was then wheeled a short distance to a rack. The dishes were then sorted from the cart into bins on the rack. The rack was then wheeled, requiring moderate force, to the elevator and then from the elevator to the kitchen across three floor mats. Diagnosis specific activities included frequent general gripping with low force bilaterally and frequent power gripping with medium force bilaterally. The worker also frequently lifted less than five pounds bilateral from and to all levels. She also frequently pushed bilaterally. Occasionally she experienced bilateral wrist contact pressure with medium force and bilateral wrist extension with low force.

The fifth task identified involved moving residents' laundry downstairs during her dish rack trip. Five to seven bags were handled per shift. Bags were looped with drawstrings onto the cart and once at the kitchen she walked 20 feet with the bags to the laundry room. Once there she picked up clean laundry for her trip back upstairs. The report noted this task involved frequent wrist extension with low force bilaterally. Occasionally the worker carried bilaterally, extended her wrist with medium force, pushed, power gripped with medium force, lifted from waist to shoulder, and experienced radial deviation and wrist contact pressure with medium force bilaterally.

The sixth task involved making beds and cleaning up after residents. The worker wheeled beds out to make them. She operated hand cranks to adjust the height of the head or foot as part of the process. The worker then proceeded to make up the beds.

It was noted that she made two or three beds with bedridden residents still in them. These residents had to be manoeuvred to place sheets under them. The worker used a mop to clean up after residents who spilled things or suffered leaks with incontinence. Diagnosis specific activities included constant general gripping with low force bilaterally and frequent wrist flexion and extension with medium force bilaterally. Occasionally, the worker engaged in a transfer/slide/manoeuvre, sustained low force wrist contact pressure bilaterally, power gripped with low force, engaged in low force right wrist ulnar deviation greater than 19 degrees and pushed/pulled bilaterally.

The Board case manager attended the site visit and wrote a memorandum to file dated April 4, 2000 outlining her impression of the care aide job demands. It was noted that the worker stated she used to embroider, but had not done any since November 1999. The worker's director told the case manager the worker was heavily involved in this activity in the past right up until recently. The worker stated she only did needlepoint at work on her breaks because her husband did not like her doing it at home. The case manager deferred to the ergonomic intervention report regarding the at-work activities. In addition she commented on the fact that, in her view, the work was quite varied and there was not any one specific task that was repeated in great quantity.

The case manager set out her decision to deny the worker's claim in a May 16, 2000 log entry. She did so without seeking a medical opinion from a Board medical advisor. The case manager found the work in question was varied and in the low to moderate risk range. Added to this, the worker was accustomed to her job after ten plus years performing the same tasks. It was noted that electric lifts were introduced some 14 to 16 months before and this reduced the risk associated with transferring residents. After referring to the existence of non-occupational risk factors, specifically her needlepoint hobby, the case manager concluded the worker's bilateral CTS condition was neither caused nor significantly aggravated by her care aide duties. A letter dated May 15, 2000 informed the worker her claim was denied. In the letter the case manager outlined the worker's job duties involved moderate risk factors for the development of bilateral CTS. However, the work in question was accustomed. Non-occupational risk factors included the worker's age, height/weight ratio and recent needle point crafts hobby. The Board concluded the evidence indicated a less than 50 percent probability that the worker's CTS was caused or significantly aggravated by work activities. The worker appealed this decision to the Review Board.

At the Review Board oral hearing held on November 8, 2002 the worker testified that she used to do needlepoint, but no longer did it. Her last project, a Christmas card insert, was undertaken three years before. She no longer did cross stitching as her vision was not as clear now. The worker noted her second job was that of a companion working 4 to 8 hours a week. She assisted individuals with walking and shopping. The worker did not do lifting in this job and did not consider it to be heavy work.

The worker thought the ergonomic assessment was a good snapshot of her care aide work duties on the ward where she worked most of the week. She thought, however, it

had missed some relevant information concerning the use of her wrists. The worker pointed out that using electric lifts involved pushing, pulling, reaching and twisting with both hands to connect residents up to the lift. In her opinion, her hands were not neutral during this procedure. Further, the worker noted she used a lifting belt to move residents. This seatbelt like device was wrapped around each of her hands to get a good grip as she moves the residents. She also noted the assessor did not see her pushing around any Geri-chairs. These clumsy recliner type chairs required gripping and pushing down on the back to bring the foot portion up and move the chair. Moving the chair required flexed wrists with fingers pointing up. The worker also noted wheelchair movement was hampered by the lack of foot rests. Residents in the chair were pulled backwards or had the front wheels popped up to prevent dangling legs from getting underneath the chair as it was wheeled forward. The worker noted the laundry bags weighed five to seven pounds and filled five to seven larger bags, which had to be placed on a cart. Moving the cart required a great deal of effort. Finally, the worker stated that cranking up and down the ends of the residents' beds involved pulling out the crank with one hand and resting the other hand on the bed for support.

The worker stated she first noticed her symptoms in the fall of 1999. Her right hand was worse than her left. Her symptoms were worse in the afternoon and she changed her hand use to cope with the pain. The worker had undergone carpal tunnel release surgery bilaterally and was improved so long as she wore her splints.

The Review Board noted the employer's arguments regarding Board policy concerning CTS claims. In particular, the panel noted the employer's reference to the occurrence of CTS in the general population often without obvious cause. It was also noted that an adjudication of CTS requires an inquiry into onset and specific hand use where bilateral CTS is being claimed. The employer also noted that bilateral CTS often occurs with systemic illnesses. The Review Board noted the worker's non-occupational risk factors included age, height and weight. It was also noted that the work activities in question involved forceful flexion of the wrists when using lifting belts and while performing other duties. The panel found the disputed possibilities were evenly balanced and decided the appeal in favour of the worker pursuant to section 99 of the Act. The employer appealed this decision to the Appeal Division.

Submissions

In a July 24, 2003 written submission the employer's representative argued the Review Board panel decision erred as it failed to directly apply the policy in item #27.32 of the *Rehabilitation Services and Claims Manual, Volume 1* (RSCM), which pertains to CTS claims. The representative summarized the policy item's reference to specific occupational and non-occupational risk factors associated with the development of CTS. It was then argued the weight of the evidence did not support a conclusion that job activities caused the worker's bilateral CTS condition. With regard to work the representative noted the activities were varied and residents were lifted by electrical means. At the time of her claim, it was argued this work was accustomed. After

reviewing the ergonomic intervention report's conclusions regarding the demands associated with the various tasks the employer's representative argued it was clear the work activities did not involve high repetition associated with high force, prolonged flexed postures of the wrist, high repetition associated with cold temperatures or the use of handheld vibrating tools. The employer argued the bilateral nature of the worker's CTS suggested it was non-compensable. Further the worker was accustomed at the time of her claim with nothing unusual occurring. The employer argued the use of item #97.10 of the RSCM was inappropriate as other more relevant Board policy should have been followed. Additionally, it was argued that the possibilities were not evenly balanced as the Review Board panel failed to properly weigh the evidence per the guidelines in item #27.32 of the RSCM.

The worker's representative provided a written submission dated August 25, 2003. The representative noted the policy in item #27.32 refers to the many causes of CTS, which are both occupational and non-occupational. Further, the Board is directed in this policy item to refer to section 99 of the Act and decide in favour of the worker where there are competing possibilities with evenly balanced evidential support. The representative asked this panel to consider the worker's equal use of her hands because she is ambidextrous and to draw no non-occupational cause implication from this fact. The representative argued evidence exists on file indicating work causation. This is found in the ergonomic intervention report as well as the worker's testimony at the Review Board oral hearing. The worker's representative argued the Review Board panel was aware of the worker's non-occupational risk factors and found the disputed possibilities were evenly balanced. The panel correctly applied section 99 of the Act and found in favour of the worker. It was submitted that this panel should uphold the Review Board findings.

The employer's representative replied with a written submission dated September 4, 2003. The employer strongly disagreed with the union's assertion that the possibilities were evenly balanced regarding the occupational versus non-occupational cause of the worker's CTS condition. The employer argued there was simply no evidence on file to support a conclusion that the work activities in question would lead to CTS. Further, the Review Board's conclusion was reached on the basis of an incomplete review of the evidence and policy requirement for the adjudication of CTS claims.

Reasons and Findings

A worker is entitled to compensation for an occupational disease under section 6(1) of the Act if the disease is due to the nature of the worker's employment. CTS is designated as an occupational disease by regulation of general application.

RSCM policy #27.32 outlines guidelines for adjudicating CTS claims. The policy states that CTS occurs in the general population, often with no obvious cause. There are

many causes of median nerve compression, both occupational and non-occupational. The policy sets out the following risk factors relevant to the adjudication of CTS claims:

> … work activities utilizing the hand/wrist that involve high repetition associated with high force, prolonged flexed postures of the wrist, high repetition associated with cold temperatures, or the use of hand-held vibrating tools are more likely to be associated with increased risk for carpal tunnel syndrome.
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> Non-work-related risk factors include diseases or conditions which may contribute to reducing the size of the carpal canal including diabetes mellitus, rheumatoid arthritis, thyroid disease, gout, ganglion formation, and other non-rheumatic inflammatory diseases. … Other factors for which there is some evidence, at times conflicting, include hysterectomy, excision of both ovaries, age at menopause, obesity and estrogen imbalances. … The existence of such non-work-related factors does not reduce the importance of the nature of the employment activities. See #27.40.
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> … where the worker was occupationally performing frequent, repetitive and forceful movements of the hand/wrist, including gripping, (particularly if unaccustomed) that are reasonably capable of stressing the tissues of the hand/arm affected by carpal tunnel syndrome, and in the absence of evidence suggesting a non-occupational cause for the worker's condition, a strong likelihood of work causation will exist. These factors are not preconditions to the acceptance of a claim for carpal tunnel syndrome nor are they the only factors which may be relevant.
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> Consideration should be given to whether the condition is bilateral (involving both wrists) and whether both became symptomatic at the same or different times, in light of the degree to which each hand/wrist is utilized in carrying out the employment activities. As both hands may not perform identical activities and are therefore subject to different risk factors, a work-related carpal tunnel syndrome may be more likely to be unilateral. Carpal tunnel syndrome due to systemic illness is more likely to be bilateral. Consideration should also be given to whether the symptoms of carpal tunnel syndrome improve with rest (stopping work) or whether they continue to progress or worsen. The latter may suggest a non-occupational cause.
>
> Each claim must be determined according to its own merits. If the evidence in a particular claim indicates that there are factors suggesting both an occupational and non-occupational cause for the carpal tunnel syndrome, the decision on the claim can only be a judgment one makes in the particular circumstances by weighing the evidence for and against an

employment relationship. Section 99 of the Act will apply if the possibilities for which there is evidential support are evenly balanced.

After reviewing the evidence on file and the parties' submissions I am satisfied there is sufficient evidence to conclude the worker had bilateral CTS. Dr. Hartwig noted the condition was greater on the left side than the right. The worker told the ergonomic assessor the condition was not worse in either hand. I find sufficient evidence to conclude the worker's CTS was somewhat greater on the left.

I have considered the evidence regarding non-occupational risk factors, which may contribute to the reduction in size of both the worker's carpal tunnels. First, I note the worker told the case manager she was taking Celebrex for her wrists and knees since September 1999. This drug is a non-steroidal anti-inflammatory treatment for osteoarthritis and rheumatoid arthritis. With this in mind I find the worker's commencement of Celebrex at the relevant time in September 1999 provides evidence of an inflammatory disease, which may have impacted on her carpal tunnels.

The worker also reported a height of 5'4" and a weight of 200 pounds at the time of her application. Obesity is noted as providing some evidence of non-occupational risk in item #27.32 of the RSCM. The Cecil Textbook of Medicine, 18th edition, volume 2, edited by James B. Wyngaarden, M.D. and Lloyd H. Smith, Jr., M.D., 1988, W. B. Saunders Company, at Volume 2, (F. Xavier Pi-Sunyer), lists the grades of obesity as defined by body mass index as follows (at page 1220):

		Body Mass Index
Grade 0	=	less than 25
Grade I	=	25-29.9
Grade II	=	30-40
Grade III	=	more than 40

Conn's Current Therapy 1997, edited by Robert E. Rakel, M.D., W. B Saunders Company, rates the risks of obesity as follows (Table 3, page 566):

Class	Risk	Body Mass Index
0	very low	20 - 27
1	low	25 - 30
2	moderate	30 - 35
3	high	35 - 40
4	very high	above 40

The Merck Manual, 17th edition, deals with obesity at pages 58-62 (section 1 Nutritional Disorders, chapter 5 obesity). The Merck Manual is accessible on the internet at

http://www.merck.com/pubs/mmanual/. It defines obesity as the excessive accumulation of body fat. It notes:

> Traditionally, obesity has been defined as a body weight of > 30% above ideal or desirable weight on standard height-weight tables (see Table 1-5). Now, it is usually defined in terms of the body mass index (BMI)--weight (in kilograms) divided by the square of the height (in meters).

I have applied the above body mass index formula to the worker's height and weight and arrived at a body mass index of approximately 34. I find she was, therefore, moderately obese.

I also note the worker told the case manager she had hysterectomy in 1982 and find this fact is somewhat of an indicator of non-occupational risk under item #27.32 of the RSCM.

Another non-occupational indicator listed in item #27.32 is a consideration of whether the worker's condition is bilateral and, with that, a review of the use of both hands. There is no doubt the worker's condition is bilateral. However, in this case the evidence indicates she is completely ambidextrous. This is borne out in the ergonomic intervention reports' record of both hands being used for almost all of the activities listed. Having considered this non-occupational risk factor in the context of this claim I find it provides little evidence of non-occupational risk. I note, however, that bilateral CTS due to a systemic illness is more likely to be bilateral. There is some evidence of the worker having an inflammatory arthritis condition and the occurrence of bilateral CTS with that might be seen as a non-occupational risk factor.

I have also considered the worker's needle point and embroidery hobby as a non-occupational risk factor. After reviewing the evidence on file I find there is some evidence the worker was conducting some of this extra-curricular activity during the time of the onset of her condition in the fall of 1999. This finding is based on the worker's statement, as recorded in the Review Board findings, that three years before the hearing in November 2002 she did a Christmas card insert project. As with my analysis to follow regarding occupational activities, I find it necessary to refer to the policy in item #27.32 of the RSCM for guidance regarding what kind of motions generate risk. Without having the benefit of an ergonomic assessment of this activity, I believe it is possible to find the sewing activity in question did not involve the kind of force contemplated as necessary in item #27.32 of the RSCM for the onset of CTS. Further, I find insufficient evidence on file to indicate this activity involved the kind of prolonged flexed postures of the wrist listed in the policy. On balance, I find insufficient evidence on file to conclude the worker's sewing activity involved any non-occupational risk for the development of CTS.

I have also considered the occupational risk factors associated with the development of the worker's bilateral CTS. I note the occupational therapist who wrote the ergonomic

intervention report concluded in the summary that she found moderate risk factors associated with the worker's care aide job tasks. The report noted in particular that the worker was exposed frequently to direct pressure over the median nerve, frequently extended and flexed her wrists and frequently gripped. She also discussed some occasional relevant wrist postures. In reviewing the task specific analysis in the ergonomic intervention report I find there is evidence of the worker frequently performing relevant hand/wrist movements bilaterally with medium force. While her duties appear to include a wide variety of tasks, I find much of the work placed stress on the hand/wrist. Without any opinion to the contrary, I rely on the ergonomic assessor's opinion regarding the existence of moderate occupational risk factors associated with the worker's development of bilateral CTS. I do note, however, the worker was accustomed to her care aide duties at the time of her condition occurred.

Taking both the worker's occupational and non-occupational risk factors into consideration I find there are factors suggesting both an occupational and non-occupational cause of the worker's bilateral CTS condition. Using my judgment in this particular circumstance I find the evidence for and against an employment relationship is evenly balanced. As such, section 99 of the Act applies and I find in favour of the worker.

Conclusion

The employer's appeal is denied. The worker's bilateral CTS condition was due to the nature of her employment activities pursuant to section 6 of the Act. Accordingly, the Review Board findings are confirmed pursuant to section 253(1) of the Act. No costs or expenses are allowed in this appeal.

Steven Adamson
Vice Chair

SA/lco