

WCAT Decision Number : WCAT-2004-04590-RB
WCAT Decision Date: August 30, 2004
Panel: Paul Petrie, Vice Chair

Introduction

The worker developed a dry cough and chest problems which he attributed to his employment as an x-ray technician. In the decision of September 11, 2000 (the A appeal), the Workers' Compensation Board (Board) adjudicator advised the worker that his claim was accepted for health care benefits only, on the basis of "a temporary aggravation of an underlying cough" as a result of his exposure to irritants at work.

The "B" appeal arises from the rehabilitation consultant's decision of April 25, 2001 which concluded that the worker was not at an undue risk for a permanent functional impairment and no preventative vocational rehabilitation assistance would be provided under the claim.

On August 3, 2001 (the C appeal), the worker was advised that he would not be reimbursed the transportation expenses for travel to medical appointments.

The worker appealed these three decisions to the Workers' Compensation Review Board (Review Board).

Issue(s)

The issues arising in these appeals are:

1. Whether the worker's chronic cough is due to his employment as an x-ray technician;
2. Whether he is entitled to any wage loss benefits under the claim;
3. Whether he is entitled to any vocational rehabilitation benefits under the claim; and
4. Whether he is entitled to transportation expenses for travel to medical exams.

Jurisdiction

These appeals were filed with the Review Board. On March 3, 2003, the Appeal Division and the Review Board were replaced by the Workers' Compensation Appeal Tribunal (WCAT). As these appeals had not been considered by a Review Board panel before that date, they have been decided as WCAT appeals. (See the *Workers Compensation Amendment Act (No. 2), 2002*, section 38.)

Background and Evidence

The worker was employed as an x-ray technician since 1968. In early 2000, he developed an increasingly severe chronic cough which his physician indicated might be due to exposure to chemicals in the workplace. The symptoms became more severe at work and improved when he was away from work.

In his May 23, 2000 application for compensation, the worker indicated his cough was brought on by inhalation of chemicals from the radiography processing equipment. He indicated that the temperature in the dark room exceeded 30 Celsius on some days and the ventilation system was not very efficient. The employer's report of injury indicated the cough appeared to be associated with developing film in the dark room. The employer indicated that it had no objection to the claim being accepted.

A Board occupational hygiene officer evaluated the work site in May 2000 and requested changes to the ventilation system in the dark room. In a conversation with the claims adjudicator on May 18, 2000, the worker indicated he was responsible for processing x-ray films and he would be in and out of the dark room approximately 20 times per day. The worker advised the claims adjudicator that the auto mix feed system for the chemicals emitted fumes. The machine overflow drained into the sink. The worker also indicated there was no respiratory protection equipment available in the dark room. The worker indicated that his symptoms of cough, post nasal drip and shortness of breath were most noticeable when he was at work. The worker advised the claims adjudicator that his symptoms would almost completely clear when he was away from work on the weekends, and then recur when he returned to work.

An August 1, 2000 consultation report from respiratory specialist, Dr. S. Vedal, concluded:

Given the normal methacholine challenge, it is extremely unlikely that he has cough variant asthma related to his workplace exposure. Further, it does not sound like he has typical workplace induced airways disease such as reactive airways dysfunction syndrome or even irritant induced vocal chord dysfunction. He may well have causes for mild cough that are aggravated by irritant exposure in the workplace.

On September 7, 2000 the occupational hygiene officer advised the claims adjudicator that the modifications to the ventilation system recommended in May would begin later in September. The hygiene officer noted that:

- The storage tanks for the chemicals were not locally vented.
- The drain from the developing machine is open.
- The worker had to clean the components of the developing machine regularly.
- Before May there was no respiratory protection.

The hygiene officer concluded:

There has been definitely opportunity for airbourne [sic] contaminate exposure.

The claim was reviewed by a Board occupational health physician on September 8, 2000 who noted that the Board's hygiene officer indicated it was likely the worker had been exposed to irritant chemicals for developing x-rays. The Board's physician concluded that the evidence suggested that the worker "has a cough that is not caused by work, but may be aggravated by exposure to irritants at work."

This opinion led to the claims adjudicator's decision of September 11, 2000 which advised the worker that his claim was accepted for health care benefits only for a work-related aggravation of his underlying chronic cough.

In a follow-up report on September 21, 2000, Dr. Vedal reviewed the worker's peak flow records from August 7 to September 4, 2000 and said:

Peak flow record indicates an acute drop in airflow occurring during midday apparently during the time of his exposures at work. There are no prolonged effects in the evening, no effects that indicate worsening throughout the work week and no effects on the weekend.

Dr. Vedal concluded that the acuity of the reaction without any residual effects suggested either an irritant effect or an isolated early asthmatic reaction. He indicated that more controlled testing of the worker's exposure would be necessary to provide a more definitive analysis.

On October 8, 2000 the worker's general practitioner indicated that the worker's cough had worsened with a definite work-related pattern. On November 2, 2000 the general practitioner advised the Board that the worker's cough continued to worsen and he had developed a hoarse voice. He advised that the worker was disabled from working due to a severe cough and required evaluation by another respiratory specialist.

The worker was off work from November 1 to November 24, 2000. On November 17, 2000, the worker advised the claims adjudicator that after being away from work, his chest was much improved and his cough had also improved considerably. The worker returned to work in late November. In his report of December 1, 2000, the worker's general practitioner advised that the worker had a recurrence of cough when at work and had cough up blood-tinged sputum. The hospital emergency report indicated the worker had a "burning chest" and diagnosed bronchial inflammation secondary to environmental exposure. The hospital report also suggested the worker had developed sensitivity to dark room chemicals. The worker was cleared to return to work on December 6, 2000.

A January 11, 2001 consultation report from Dr. E.J. Lawson, a respiratory medicine specialist, reported normal pulmonary function testing in late November and no evidence of airway hyperactivity. He noted that the worker's symptoms clearly occur at work and recover when he is away from work. However, he stated:

I am unable to support a claim for occupational induced lung disease at this point in time. He may have chronic upper respiratory tract irritation due to exposure at the workplace. Latex may also play a role and I have not investigated him for this. This issue is beyond my expertise in this area and thus I have referred him to the Occupational Diseases Unit at UBC for further evaluation.

On January 16, 2001, the claims adjudicator advised the worker that the referral to Dr. Lawson was made on a private patient basis and the Board would not pay expenses associated with that visit.

The Board occupational health physician reviewed Dr. Lawson's consultation report and concluded it supported her previous opinion. In the decision of February 27, 2001, the claims adjudicator confirmed the September 11, 2000 decision to accept only the aggravation of the worker's underlying cough.

In late January the worker's general practitioner indicated that the worker's cough had again worsened associated with a voice change. He advised the worker to stop working due to an "occupational related cough." The general practitioner advised the Board that the worker should discontinued work in February and March 2001 as a result of the persisting cough and voice change.

In February 2001, the Board's hygiene officer indicated the modifications to the ventilation system at the workplace had been completed and he was not able to find evidence of chemical contamination entering the work area.

On March 19, 2001, the claims adjudicator reported a discussion with the Board's occupational health physician in which the physician said that the worker was not at risk of developing a permanent functional impairment if he continued at work as an x-ray technician. On the basis of this opinion, the vocational rehabilitation consultant denied preventive vocational rehabilitation assistance in the decision of April 25, 2001. However, in July 2001, the rehabilitation consultant agreed to provide support for some computer upgrading courses. The worker indicated that he did not wish to change his occupation because new digital technology would soon be available that would eliminate chemical exposures at work.

The worker was evaluated by respiratory medicine specialist Dr. S.P. Blackie on April 4, 2001. Dr. Blackie did not perform any testing. He noted that the worker's symptoms of cough, hoarseness and chest pain were precipitated by exposure at work. He indicated there was a developing literature on a condition referred to as dark room disease but said:

The criteria used to make these data this diagnosis are not clear, according to my knowledge. His previous testing has not indicated any airflow obstruction. The only changes have been recorded in his peak flow meter when he has been at work. His symptoms seem to resolve completely when he is away from work.

[reproduced as written]

Dr. Blackie did not recommend any treatment and did not provide a specific diagnosis.

The worker was evaluated on May 22, 2001 by Dr. J.D. Cleland, an ear, nose and throat specialist for throat pain and voice change. He diagnosed an "occupational pharyngodynia" but had no suggestions for treatment.

In the decision of August 3, 2001 the Board denied reimbursement of expenses for the worker's travel to be evaluated by Dr. Blackie and Dr. Cleland.

The worker was evaluated by Dr. R.T. Abboud, a respiratory specialist and professor in the UBC Department of Medicine, on January 24, 2002. Dr. Abboud noted that the worker had been off work since early 2001 because of persistent symptoms. He concluded:

This patient had significant respiratory symptoms while working as an x-ray technician, when he was exposed to glutaraldehyde...I think therefore the possibility of occupational asthma due to glutaraldehyde should be reconsidered in spite of the negative methacholine inhalation challenges observed previously.

Dr. Abboud recommended further work site specific testing. However, the Board occupational health physician indicated she was not in favour of the proposed testing “as it would not be conclusive”.

Dr. Blackie provided a medical-legal opinion dated May 12, 2004. He stated:

If he is no longer exposed to fumes at work and continues to have symptoms, I would suggest that these symptoms are unlikely to resolve. The drop in his flow rates during workdays is consistent with a significant occupational exposure. In the absence of other identified precipitating factors, it is reasonable to assume that these symptoms arose out of his workplace exposure.

At the oral hearing on May 31, 2004, the worker testified:

- He had no chest problem or chronic cough prior to the onset of symptoms in early 2000.
- The tests carried out by Dr. Lawson on November 27, 2000 were done when he had been away from exposure at work and his symptoms had improved.
- Hospital patients with low immune system problems complained about dealing with him because of his chronic cough.
- He followed his physician’s advice to stop working in November 2000 and in March 2001. As a result of following his physician’s advice he exhausted his sick leave benefits.
- A chemical-free digital radiography system was introduced in October 2002 and he was able to return to work at that time.
- He has developed a sensitization to certain deodorants and perfumes. He also has nasal symptoms and some residual cough.

Submissions

The worker is represented by his union, the Health Sciences Association. The worker submits that the chronic cough was caused by work, not aggravated by it. He seeks wage loss benefits from March 2001 to October 2002. The worker also seeks reimbursement for expenses for the specialist’s appointments arranged by his general practitioner. The worker submits that he has ongoing symptoms that should be assessed for permanent functional impairment.

The worker's representative submitted 12 articles from the medical literature documenting the association between exposure to chemical fumes in radiology departments and respiratory symptoms. The literature indicates that radiology film processing chemicals contain a range of toxic and reactive agents in the developer and fixer solutions, including:

- Glutaraldehyde
- Hydroquinone
- Diethyleneglycol
- Sodium sulphite
- Potassium hydroxide
- Ammonium thiosulphate
- Aluminium chloride
- Sulphur dioxide
- Formaldehyde

The literature indicates that the x-ray film processing technology changed in the 1980s resulting in increased use of glutaraldehyde to offset softening of the film emulsion. Following the increased use of glutaraldehyde, radiographers reported a range of symptoms including:

- Severe headaches
- Sore throat, hoarseness
- Sinus problems
- Shortness of breath
- Chest pails

An article by M. Gordon in the *Journal Radiography* (53:85-89 (1987)) "Reactions to chemical fumes in radiology departments" – attributed irritant symptoms among radiographers to exposure to chemical fumes in the dark room and concluded "that the addition of glutaraldehyde in the developer solution and the emission of formaldehyde fumes from the mixture of chemicals have created another hazard."

An article in the *American Journal of Industrial Medicine* (43:132-141(2003)) by Moira Chan-Yeung et al. details the results of a study of radiographers in British Columbia using physiotherapists as a control group. The prevalence of non-specific bronchial hyper responsiveness was three times higher than that of physiotherapists. Reports of inadequate ventilation, frequent detection of the odour of x-ray processing chemicals and cleaning up spills were highly associated with respiratory symptoms among radiographers.

A number of studies have identified the low molecular weight chemical glutaraldehyde, as one of the most common etiological agents for occupational asthma (for example see Di Stefano et al. "Occupational asthma due to glutaraldehyde" in *Archives of Chest Disease* (53:50-55 (1998))).

Decision and Reasons

Section 6 of the *Workers Compensation Act* (Act) provides for payment of compensation where a worker is disabled from earning full wages as a result of an occupational disease due to the nature of the worker's employment. Occupational diseases are established through Schedule B of the Act and by regulation of general application (see policy item #26.03 *Rehabilitation Services and Claims Manual, Volume I* (RSCM I)).

Policy item #26.04 provides for recognition of a disease by order dealing with a specific case if the merits and justice of an individual claim warrant its recognition as an occupational disease.

Policy items #29.00 - #29.50 provide adjudicative guidance and direction for consideration of claims involving respiratory diseases. Policy item #29.20 provides adjudicative guidance for asthma claims and states:

In the case of a compensable asthma or a reaction of the respiratory tract to a substance with irritating or inflammatory properties, temporary disability benefits are payable until the temporary disability ends or until the worker's symptoms become stabilized. Where the worker's symptoms do not entirely resolve and he or she is left with a permanent impairment of the respiratory system, a disability award may be granted.

As noted by respiratory specialist Dr. Abboud, the evidence suggests that the worker appeared to have upper airway symptoms with irritation due to glutaraldehyde exposure rather than actual asthma. I find, from the available evidence in this case, that the worker experienced a reaction of the respiratory tract to the irritant and inflammatory effects of glutaraldehyde, and possibly other chemicals, in the Radiology Department. The Board's hygiene officer documented evidence of significant exposure and said that there was a definite basis for air borne contaminant exposure in this case.

The evidence consistently shows that these symptoms developed after exposure at work and subsided somewhat when the worker was away from the workplace.

I find that there is sufficient evidence to recognize the worker's condition as an occupational disease in the circumstances of this specific case. There is no alternate explanation for the worker's symptoms established by the medical specialists in this case.

I also find that the worker was temporarily partially disabled from his employment as of October 2000 on the basis of the general practitioner's report of increased respiratory symptoms. The worker is entitled to full wage loss benefits for the periods of confirmed disability. In particular, the worker is entitled to wage loss benefits for the period he was off work in November 2000. The evidence shows that the worker continued to be temporarily partially disabled when he returned to work in late November 2000 and required treatment at the hospital emergency in early December 2000 for increased symptoms. The evidence indicates that the worker persisted at work even though he had significant ongoing symptoms. His physician strongly recommended that the worker stop working in January 2001. However he persisted at work until March when he finally left work because of worsening symptoms. The worker is entitled to further temporary partial disability benefits as of the date he was off work in March 2001 until such time as the Board determines that the worker's respiratory symptoms had resolved or stabilized. The duration of benefits and the possible consideration of permanent functional impairment are left to the claims adjudicator to determine on the basis of the available evidence.

Policy item #86.30 RSCM I provides for preventative rehabilitation where a worker can return to his old job, but has been medically deemed to be at undue risk of permanent disability due to vulnerability. The worker indicated to the rehabilitation consultant that he did not wish to pursue an alternate occupation and preferred to await planned technological changes at work to eliminate chemical exposure. The rehabilitation consultant did provide some computer training to prepare the worker for the new technology when introduced. At the oral hearing the worker did not request any further rehabilitation benefits. In the circumstances, I can see no basis to recommend vocational rehabilitation assistance beyond that offered by the rehabilitation consultant.

Under section 21 of the Act, the Board is responsible for the cost of health care benefits including treatment by recognized health care professionals. Policy item # 73.10 RSCM I provides that the Board may pay for medical examinations or consultations on an investigative basis. Policy item # 82.10 RSCM I authorizes the Board to provide the cost of transportation where a worker travels to a medical exam or treatment, where the appointment has been previously approved by the Board or is subsequently paid for by the Board. I find that the expenses associated with the worker's assessment by Dr. Lawson are acceptable under this claim. That referral was made by the worker's general practitioner for assessment regarding treatment options and was reasonable in the circumstances of this case. The Board's decision to deny those expenses occurred after the worker had followed his physician's advice to see Dr. Lawson. I also allow the expenses for the examinations by Dr. Blackie and Dr. Cleland. Dr. Cleland saw the

worker for the throat irritation now accepted under the claim. Dr. Blackie provided the first indication of a direct link between the worker's occupation and the chronic cough and chest symptoms. I consider these examinations reasonably necessary to investigate the worker's condition, now recognized as an occupational disease.

I find Dr. Blackie's May 2004 medical-legal opinion helpful in this case and I accept the cost associated with that opinion in accordance with the established Board tariff. The worker is also entitled to travel costs to attend the oral hearing.

Conclusion

I vary the Board's decision regarding acceptance of the claim on an aggravation basis. I find that the respiratory irritation was due to the nature of the worker's employment and is acceptable as an occupational disease in the circumstances of this specific case. The worker's appeal on this issue is allowed.

I find that the respiratory irritation was temporarily disabling for the periods he was away from work in November and December 2000 and again after the worker stopped working in 2001 on his doctor's advice. I vary the claims adjudicator's decision on this issue and allow the worker's appeal.

I vary the decision to deny expenses related to the medical examinations by Dr. Lawson, Dr. Blackie and Dr. Cleland. The worker's appeal on this issue is allowed.

I confirm the vocational rehabilitation consultant's decision regarding vocational rehabilitation assistance. The worker's appeal on that issue is denied.

Paul Petrie
Vice Chair

PP/ml/cd