

## Noteworthy Decision Summary

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**Decision:** WCAT-2006-03087    **Panel:** Janice Leroy    **Decision Date:** August 2, 2006

***Permanent Disability Awards – Section 23(3) of the Workers Compensation Act – Permanent Functional Impairment Examination – Reliability of Findings – Entitlement to Award for Loss of Function – Entitlement to Award for Chronic Pain***

This decision is noteworthy because of its discussion of the issues that arise if a worker has a permanent condition accepted under a claim, but the permanent functional impairment (PFI) examination does not provide reliable range of motion findings.

The worker's claim was accepted for a permanent right shoulder condition. The worker was examined for permanent functional impairment by a Disability Awards Medical Advisor (DAMA). Although the DAMA recorded range of motion (ROM) measurements, he said that the measurements were not reliable because of pain-related hesitancy and lack of palpable muscle findings. The DAMA did not consider the findings consistent with the pathology or imaging findings. On that basis, the worker was denied a PFI award under section 23(1) of the *Workers Compensation Act* (Act). The worker sought a review. The review officer granted the worker an award of 2.5% for chronic pain but did not provide an award based on PFI.

The WCAT panel noted that the disability ratings in the Permanent Disability Evaluation Schedule recognize the degree of pain that would typically accompany a specified degree of impairment. However, where there is chronic disproportionate pain that persists six months after an injury and beyond the usual recovery time, an additional award of 2.5% for chronic pain may be made. The panel referred to the protocol used by the Workers' Compensation Board, operating as WorkSafeBC (Board), which involves an initial series of strength tests and observation of the worker for signs of effort. In the worker's case, he did not give full effort.

The panel referred to policy item #38.10 in the *Rehabilitation Services and Claims Manual, Volume I* (RSCM I), which provides that a Board officer is responsible for seeing that necessary examinations and other investigations are carried out in respect to the physical impairment assessment under section 23(1) of the Act. Policy item #97.40 in the RSCM I further states it is the responsibility of the Board officer to classify the disability as a percentage of total. The panel agreed with the Board officer that the PFI examination findings were not reliable and did not accurately reflect full range. However, rather than investigate further, the Board officer simply stated there was no evidence of any measurable permanent impairment from the accepted condition.

The panel did not accept that the worker had full ROM. While it could be argued that reduced range of motion limited by pain is captured by an award for chronic pain, a person can have both pain-restricted range of motion, and chronic pain. In the worker's case, his shoulder condition restricts his range of motion. It is the end range of motion, beyond which pain would be unbearable, that should be used to determine the worker's impairment.

There was little to be gained by a second examination. However, other evidence on the file could be used. The panel reviewed the medical evidence of ROM, and made factual findings about the worker's ROM, which the Board must use to assess the worker's PFI. Given that the



panel had found the worker had objective impairment, the foundation of the chronic pain award was no longer valid and must be revisited by the Board.

**WCAT Decision Number :** WCAT-2006-03087  
**WCAT Decision Date:** August 02, 2006  
**Panel:** Janice A. Leroy, Vice Chair

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## Introduction

In November 2001 the worker, who was 60 years old and had been working as a labourer at a nursery on a seasonal basis since 1991, developed right shoulder pain and weakness. The symptoms had come on gradually over several months. The Workers' Compensation Board (Board) accepted the worker's claim for right shoulder tendonitis.

Despite a number of different treatment modalities, the worker's right shoulder never improved, and in a decision dated October 15, 2004, a Workers' Compensation Appeal Tribunal (WCAT) panel found that the preponderance of evidence was that the worker had a chronic tendinopathy as a result of the work injury, and rejected the Board medical advisor's opinion that the worker's compensable impingement symptoms had resolved. The panel concluded the worker's compensable condition had plateaued as of June 18, 2003, and that he had been left with a chronic tendinopathy. He directed the Board to refer the claim to the Disability Awards Department, to determine the extent of any permanent partial disability entitlement.

In a decision letter dated July 27, 2005, a disability awards officer (DAO) advised that the worker was not entitled to a permanent disability award.

The worker requested a review, and in a Review Division decision dated January 11, 2006, a review officer with the Review Division confirmed the Board's decision that the worker was not entitled to any award for objective impairment, but found that the worker suffered from chronic pain, and awarded a disability pension based on an impairment rating of 2.5% of total disability. The officer also directed the Board to consider whether the worker was entitled to have his pension awarded on a loss of earnings basis.

The worker appealed the review officer's decision to WCAT. Although notified of the worker's appeal the employer did not file a notice of appearance, or otherwise participate in the appeal.

Prior to the hearing the worker filed new evidence as follows:

- exhibit #1            Ultrasound report dated April 6, 2006
- exhibit #2            Letter from the worker's family physician, Dr. Raupach.

The worker appeared at an oral hearing with his representative and gave affirmed testimony.

### **Issue(s)**

Item #14.30 of the WCAT *Manual of Rules of Practice and Procedure* provides that WCAT has jurisdiction to address any issue determined in the Board decision under appeal, which, in the case of a pension decision, includes the disability rating under section 23(1) of the *Workers Compensation Act* (Act); any explicit decision in relation to loss of earnings under section 23(3) of the Act, and the effective date of the award. However, WCAT will generally restrict its decision to the issues raised by the appellant in his or her notice of appeal and submissions.

The worker raised one issue; whether he is entitled to a permanent disability award for objective impairment. I will restrict my decision to that issue.

### **Jurisdiction**

June 30, 2002 was the effective date for significant changes to the Act as set out in Bill 49, the *Workers Compensation Amendment Act, 2002*. As the worker's injury and the first indication that it would be permanently disabling occurred before that date, the Bill 49 changes do not affect entitlement under this claim. It is governed by the Act and policy as they stood prior to June 30, 2002.

Section 239(1) of the Act states that, with limited exceptions (which do not apply to this appeal), final decisions made by review officers in reviews under section 96.2 may be appealed to WCAT. Section 253(1) provides that WCAT may confirm, vary or cancel the appealed decision or order.

Section 250(2) of the Act obliges WCAT panels to apply applicable policies of the board of directors of the Board in reaching appeal decisions. The policy applicable to this claim is set out in the *Rehabilitation Services and Claims Manual, Volume I* (RSCM I).

### **Background and Evidence**

The Board accepted the worker's claim for a gradual onset of a right shoulder tendonitis, associated with his employment as a seasonal nursery labourer. The worker attended an activity-related soft tissue disorder (ASTD) program in late December 2001, and was discharged on January 25, 2002 as fit to return to work with limitations. The discharge report indicated the worker's shoulder range of motion, measured in degrees, had improved over the course of the program, as follows:

	Intake Dec 28, 2001 Program Physician	Intake Dec 28, 2001 Physiotherapist	Discharge* Jan 23, 2002
Forward flexion	102	100	170
Abduction	97	90	180
Internal rotation	43	45	45
External rotation	70	80	80
Extension	42		

\*Only the physiotherapist recorded discharge measurements

The worker had had a flare-up of symptoms in mid-January 2002. The team said he was fit to commence a graduated return-to-work program, but had no current employment to return to. They recommended the worker be supported with a continuation of wage loss benefits while he worked through a home exercise program.

In a memo dated February 7, 2002, a Board medical advisor said the objective medical findings suggested an ongoing degree of impingement, but the program team thought he was functionally capable of trying a return to work through a graduated return-to-work program. He said that if the worker experienced trouble with this approach, there might be a need for further investigation or a specialist referral.

The Board paid wage loss benefits to February 17, 2002.

In April 2002, Dr. Raupach recommended physiotherapy, saying the worker had objective signs of right shoulder impingement. The Board case manager reopened the claim for health care benefits. In a progress report dated June 4, 2002, Dr. Raupach reported that the worker had returned to work, but had lasted only three-and-one-half hours. He had not been able to continue due to shoulder pain.

The case manager reopened the worker's claim for wage loss effective the week of June 3, 2002. In a clinical care plan memo dated June 20, 2002, a Board medical advisor recorded that a steroid injection into the worker's right shoulder would be reasonable and if the worker's symptoms persisted, further investigations would be warranted.

An MRI on August 14, 2002 was inconclusive for a rotator cuff tear and the radiologist's impression was that the findings suggested a chronic tendinopathy of the supraspinatus tendon.

The worker saw Dr. Torstensen, orthopaedic specialist, on August 15, 2002 in the Visiting Specialists Clinic. Dr. Torstensen diagnosed a supraspinatus tendonitis, and recommended an arthrogram to rule out a rotator cuff tear.

An arthrogram on September 18, 2002 showed no evidence of a tear.

In a follow-up report dated October 10, 2002, Dr. Torstensen recommended steroid injections into the worker's shoulder.

In a clinical care plan memo dated October 17, 2000, a Board medical advisor said an injection had been booked. He said that if there was no response to the injection, it would be likely that the worker had reached maximal medical improvement. He said that in all likelihood, given the results to date, the worker was likely to have a permanent functional impairment.

The cortisone shoulder injection on October 22, 2002 resulted in severe right shoulder pain and a loss of mobility. In a clinical care plan memo dated November 21, 2002, a Board medical advisor said that unless Dr. Torstensen recommended a treatment that would have a reasonable chance of altering the worker's function, it appeared the worker had reached plateau, and had been left with permanent impairment. He said the typical limitations associated with this type of problem were inability to perform frequent or constant work at shoulder level or overhead, and heavy pushing, pulling or lifting.

In a report dated December 3, 2002, Dr. Torstensen noted the worker had markedly positive impingement signs, and said the next treatment would be an acromioplasty and subacromial decompression. He referred the worker for a second opinion.

In a consult report dated December 5, 2002, Dr. Parfitt, orthopaedic surgeon, reported that the worker guarded his right shoulder throughout all motions. His parascapular muscles on the right were very slightly decreased. He had normal passive range of motion, though it was hard to achieve due to guarding. Dr. Parfitt agreed with the diagnosis of supraspinatus tendonitis, and said this should be confirmed with repeat injections. He said the worker should probably change his job to one with less shoulder activity.

In a claim log memo dated January 30, 2003, a Board medical advisor reviewed the medical evidence, including extensive chart notes from Dr. Raupach, and noted there had been several occasions when the worker had not been entirely compliant with his hypothyroidism medication. The advisor said this had resulted in a number of incidents where thyroid stimulating hormone levels had been elevated.

The medical advisor said there appeared to have been a pre-existing impingement of the worker's right shoulder from either a congenital or degenerative condition. He said

that chronic swelling would not be related to work activities, but to the general aging process. He said the pre-existing condition was moderate, partially worsened by the hypothyroidism. He referred to medical literature regarding hypothyroidism which concluded that approximately 20% of patients continue to be hypothyroid, even with treatment. He said that the worker's hypothyroidism had persisted despite treatment and had prolonged his recovery. Further, he said, the hypothyroidism would have caused the pre-existing condition to become chronically symptomatic regardless of work activity. He said the worker's compensable right shoulder symptoms had resolved, and that a likely decompression surgery would be directed against a "complex interaction" between the hypothyroidism, pre-existing impingement and the aging process. The Board medical advisor stated that the work-related tendonitis had resolved without a permanent functional impairment, and there had been no aggravation of the pre-existing condition.

The case manager then ended the worker's wage loss and health care benefits as of February 6, 2003. In support of his request for a review of that decision, the worker filed a letter from Dr. Raupach dated August 11, 2003, in which Dr. Raupach said that the worker's ongoing right shoulder pain and restricted mobility were a direct result of the compensable injury and not "wear and tear" as suggested by the Board. The Review Division confirmed the Board's decision.

In support of his appeal of that decision to WCAT, the worker filed a package of medical materials to update the worker's medical history, which included the following documents:

- 1 Dr. Raupach's chart notes for June 26, August 7 and August 18, 2003.

The June report describes ongoing right shoulder pain, with tenderness over the lateral, anterior aspect, and pain with abduction greater than 60 degrees, with some muscle wasting.

The August reports describe ongoing right shoulder pain and stiffness, with forward flexion at 30 degrees, and a diagnosis of possible rotator cuff tear and frozen shoulder. In light of the difficulties the worker was having, Dr. Raupach felt it was appropriate to get another orthopaedic opinion.

- 2 Consult report from Dr. Chan, family physician certified in acupuncture, dated June 18, 2003. Dr. Chan said he had done four acupuncture treatments on the worker regarding his entrapment syndrome and wasting of the supraspinatus and infraspinatus muscles. The worker had achieved some pain relief and some gain in range of motion, but "he definitely does have an entrapment problem between 90 and 100 degrees." With the humerus externally rotated, he could fully abduct his right arm. Dr. Chan said that he was willing to continue to treat the pain, but the worker would benefit

from surgery.

- 3 Consult reports from Dr. Krywulak, orthopaedic surgeon, dated October 27, 2003, December 1, 2003, and March 4, 2003, and a medical-legal letter dated March 8, 2003.

In October 2003, the worker had mild muscle wasting posteriorly. Active forward elevation was limited to 90 degrees, but passively he could achieve 180 degrees with difficulty. The worker had very little rotator cuff strength. The anterior acromial area was tender to touch. The AC joint was not tender. He had “profoundly positive” impingement signs.

Dr. Krywulak said the worker had a very painful rotator cuff tendinopathy and or tear, and a repeat MRI was needed, as the previous one had been of poor quality due to patient movement. He ordered an ultrasound, which came back suggestive of rotator cuff tendonitis but not a discrete tear.

In December 2003, Dr. Krywulak said that at that point they should follow the worker expectantly, and see if time would help. The worker was not keen on surgery.

In March 2004, the worker reported having had good times and bad times with his shoulder. Whenever it began to feel better, he would become active and it would occasionally flare up. Dr. Krywulak said that overall, the worker did not currently have enough symptoms or disability to warrant surgery. He said the worker was aware that it could take months to years for his condition to fully resolve.

In his March 8, 2004 medical-legal letter Dr. Krywulak said the worker’s injury was related to the repetitive labour that he performed in his duties at the tree nursery, and it was quite probable that the shoulder problem was related to both chronic overuse and a few specific incidents of injury secondary to heavy work, “that are well documented.” He said the worker had enough impairment that heavy labouring work would be difficult, if not impossible for him.

- 4 A November 19, 2004 report from Dr. Raupach to the Ministry of Human Resources, saying the worker had severe right shoulder pain; it was frozen, and he was unable to do physical work.

At the WCAT hearing on September 21, 2004, the worker testified that he had first been diagnosed with hyperthyroidism in 1995 or 1996. He had been on medication for that condition ever since, but his doctor had adjusted the level several times. However, his dosage had not been changed in the last five or six years. He advised that he was



largely compliant with his medication, only having missed taking it on occasion. He said that none of the orthopaedic specialists he had visited felt that there was any relationship between his tendonitis and his hyperthyroidism.

The worker testified that he had had no prior problems with his shoulder until November 2001, and denied any tendonitis in other parts of his body. He had worked at the nursery doing hard physical work for over ten years. Although he had had many ailments associated with the physical work, he had usually recovered quickly, but after November 2001 he knew right away that something was wrong with his shoulder. He described pain in his shoulder and in the rotator cuff area. From the beginning he thought it was more than tendonitis.

At the previous WCAT hearing the worker's representative submitted that the overwhelming preponderance of the evidence continued to support the worker's claim. He said the Board's view of the significance of the hypothyroidism was based on a "new theory" of the Board medical advisor, but this theory did not explain why the worker had had no prior problems with his shoulder, and had had no treatment for tendonitis in any other parts of his body. He said it was more than coincidence that these symptoms appeared in the right shoulder. He pointed out that the worker had had a continuity of complaints and treatment from the initiation of his injury, and his ongoing problems were well-documented by both Board medical advisors and treating physicians. The evidence was, the adviser stated, that the worker continued to show no improvement and little weight should have been given to the Board medical advisor's speculation regarding the hypothyroidism.

In his decision of October 15, 2004, the WCAT panel rejected the Board medical advisor's opinion regarding the worker's hypothyroidism and its effect upon his right shoulder tendonitis, saying it was speculative, and not compelling in the determination of the worker's continued disablement. He pointed out that the orthopaedic specialists who had examined the worker had been aware of his hypothyroidism, yet had not connected the condition to the symptomatic tendonitis. He found there was insufficient evidence to support that the worker had been non-compliant with his regimen of thyroid medication. He further observed that the specialists' opinions did not support the Board medical advisor's supposition that the worker had had pre-existing impingement. He said the preponderance of medical evidence supported that the worker had a chronic tendinopathy as a result of the work injury. He thus found that the Board medical advisor's opinion that the worker's compensable impingement symptoms had resolved was faulty.

The panel noted that the worker's right shoulder problems had continued beyond February 6, 2003 and persisted despite acupuncture treatment in June 2003. By December 2003 Dr. Krywulak felt that time alone would heal his problem. The panel found that the worker's tendinopathy condition was plateaued as of the last of his acupuncture treatments, on June 18, 2003, and directed the Board to refer the worker

to Disability Awards to determine the extent of any permanent partial disability entitlement.

At a team meeting held after receipt of the WCAT decision to determine the worker's eligibility for vocational rehabilitation, a Board medical adviser confirmed the worker had not recovered from the effects of his injury, and would be at risk of increasing any permanent functional impairment if he were to return to his pre-injury employment. He said the worker should avoid frequently repetitive forward flexion over 60 degrees and abduction over 60 degrees, and avoid heavy lifting.

The case manager referred the claim to Disability Awards, saying right shoulder tendonitis was accepted as a permanent condition, but the claim was not accepted for pre-existing right shoulder impingement condition and hypothyroidism.

The DAO referred the worker to a disability awards medical advisor (DAMA) for a permanent functional impairment evaluation (PFIE). In the referral memo the DAO recited that the claim was accepted for right shoulder tendonitis and not accepted for right shoulder impingement condition and hypothyroidism.

The worker attended a PFIE on July 6, 2005. In his report of that date the DAMA recorded the worker's advice that he had constant pain diffusely around his right shoulder, which tended to become worse as the day progressed. It occasionally radiated into the area of his scapula and upper arm. Trying to raise his arm or reach away from his body was painful and he avoided those movements. Reaching forward was less problematic and he had been able to work at strawberry picking. Any repetitive use of his right arm made his shoulder pain worse. He could carry up to 5 kg if he held the object close to his body. He could pour a coffee pot with his right hand, but had trouble lifting a cup or glass to his mouth. He could use a keyboard but kept it at lap height. More than a few minutes of handwriting exacerbated his shoulder pain. He could tolerate about one hour of driving.

On examination the worker held his right arm close to his body. Use or movement of the right arm evinced moans and pain behaviour. Strength and resisted motion testing were limited by pain-related hesitancy and giving way, resistance to movement and lack of muscular effort.

The worker held his right shoulder about 1 cm lower than his left. There was decreased muscle bulk throughout the rotator cuff muscle groups as well as the deltoid muscle on the right. There was tenderness to light touch. The worker was able to get his left thumb to T7 posteriorly and the dorsum of his left hand to his occiput, but barely moved his right hand past his thigh in either direction.

The DAMA recorded the following range of motion measurements, in degrees:

	Right	Left
Forward flexion	75	155
Extension	35	55
Abduction	50	170
Adduction	50	55
External rotation with arm at the side	60	90
External rotation with arm in 90 degrees of abduction		90
Internal rotation with arm in 90 degrees of abduction		70

The DAMA commented that the range of motion findings was not reliable because of pain-related hesitancy and lack of palpable muscular effort, and they were not consistent with the pathology or imaging findings. He said there was muscle wasting around the right shoulder girdle, but there were no other additional factors. He commented that he had been unable to find any evidence in the material available to him suggesting prior problems with the right shoulder.

In his pension review memo dated July 27, 2005, the DAO reviewed the PFIE report, and said the examination had “not confirmed the presence of any significant, legitimate residual impairment resulting from the right shoulder tendonitis accepted under this claim.” The officer wrote:

As a result, although [the worker] has some mild wasting of the rotator cuff muscles and deltoid muscles on the right, there is no evidence of any measurable permanent impairment resulting from the accepted condition of right shoulder tendonitis. Therefore, there is no entitlement to a permanent functional impairment award.

The DAO then issued the pension decision letter of July 27, 2005 under appeal, denying a permanent functional impairment award.

The worker returned to Dr. Chan in September 2005. Dr. Chan reported that the worker was having difficulty even taking his shirt off. Active range in abduction was only 60 to 70 degrees, but passively Dr. Chan could get it to 169 degrees, although with pain. Dr. Chan said the worker continued with rotator cuff entrapment syndrome.

In support of his appeal to the Review Division, the worker filed a medical-legal letter from Dr. Raupach, dated September 22, 2005. Dr. Raupach said it was his strong medical opinion that the worker has a permanent disability relating to his work injury. He said he had seen the worker on 22 occasions since 2002, and he had had very consistent complaints and findings related to his right shoulder. He said the worker was

consistently tender over the anterior and lateral aspects of his right shoulder. Mobility was as follows:

	Right (degrees)
Forward flexion	90 with pain at 60
Extension	Minimal - less than 10
Abduction	45
Adduction	
External rotation with arm at the side	
External rotation with arm in 90 degrees of abduction	20
Internal rotation with arm in 90 degrees of abduction	Minimal - less than 10

Dr. Raupach said he disagreed with the PFIE physician's claim of inconsistencies or lack of effort. He said the worker had had severe shoulder pain and limitation of mobility, and this had been absolutely consistent; findings had been reproducible with each visit. He said the worker had constant right shoulder pain, and was being very stoic about it.

An ultrasound on April 6, 2006, exhibit #1, revealed a full thickness partial tear of the supraspinatus tendon.

In his letter of June 19, 2006, exhibit #2, Dr. Raupach said the worker sustained a right rotator cuff tear in the 2001 work injury, which was then aggravated by the nature of his work. He said that in his opinion, the worker's ongoing right shoulder pain and extremely restricted mobility all relate back to the original work injury.

At the hearing the worker explained that he lives with a constant dull pain in his shoulder, and has done since the injury. He has learned what motions and activities cause the pain to flare up to an intolerable level, and tries to avoid them. He said that at the PFIE, he moved his arm to the point at which his pain was about to become sharp, and was reluctant to move it further, due to anticipated pain and the flare-up he would have had to withstand.

The worker's representative said that in view of Dr. Raupach's letter of September 22, 2005, in which he said the worker's presentation and findings had been consistent over his 22 visits since 2002, and the other medical evidence on file, it is evident that the worker has ongoing organic pathology that severely limits his shoulder range of motion, regardless of his pain and consequent guarding. He said that neither the PFIE physician nor the DAO appreciated the extent or severity of the underlying pathology, and submitted that I should accept the PFIE range of motion measurements as reliable indicators of the degree of permanent impairment in the worker's shoulder, and failing that, direct that the worker undergo a fresh PFIE.

## Reasons and Findings

The injury and first indication that it would be permanently disabling occurred prior to the June 30, 2002 transition date for the Bill 49 amendments, so the changes introduced by that legislation do not apply to this claim. It is governed by the provisions of the Act and applicable policy as they stood immediately prior to the transition date. Although I have used the present tense below in explaining the applicable legislation and policy, much of the legislation and policy was substantially changed as of June 30, 2002.

Section 23(1) of the Act provides that where permanent partial disability results from a compensable injury, the impairment of earning capacity for pension purposes must be estimated from the nature and degree of the injury, or in other words, from the degree of physical impairment.

Section 23(2) of the Act authorizes the Board to compile a rating schedule of impairments of earning capacity, to serve as a guide when determining the compensation payable in permanent disability cases. The Board has adopted the Permanent Disability Evaluation Schedule (PDES) at Appendix 4 to the RSCM I as the rating schedule. The PDES attributes a percentage of total disability (where quadriplegia is rated at 100%) to each of the specified disablements. The specified disabilities are proxies. For example, reduced mobility is the proxy measure for the disability associated with any number of impairments to joints and the spine.

In general the disability ratings set out in the PDES recognize the degree of pain and other subjective discomfort that would typically accompany the specified degree of impairment. However, in cases where an individual suffers a degree of pain that is significantly greater than what would be reasonably expected from the objective impairment, which persists six months after an injury and beyond the usual recovery time for such an injury, the DAO may make a separate section 23(1) award for chronic pain, equal to 2.5% of total disability, in addition to the award for objective permanent impairment.

As it cannot be objectively determined whether a claimant is giving full effort in range of motion testing, the Board has established a standard protocol for measuring range of motion and other proxy values that are used in the PDES, which includes checks for reliability of the data obtained. The protocol involves an initial series of strength tests of the finger and other joints unrelated to the injured joint, in which effort is electronically charted. These tests are repeated several times and the consistency of effort is measured. The DAMA or clinician also observes the claimant while he or she is performing the tests to assess whether there are objective signs of effort, such as recruitment of secondary muscles, whitening of the skin, and increases in heart rate. If the degree of variation in results between repetitions of the same tests, and the DAMA's observations indicate the claimant has given consistent and apparently full

effort on the unrelated tests, the results from the range of motion and other proxy values are typically accepted as reliable and are used to determine the degree of impairment.

In this case the worker did not give full effort. Strength and resisted motion testing were limited by pain-related hesitancy and giving way, resistance to movement and lack of muscular effort, such that the DAMA could not present his findings as reliable indicators of true range of motion.

Item #38.10 of the RSCM I provides that the DAO is responsible for seeing that the necessary examinations and other investigations are carried out with respect to the physical impairment assessment under section 23(1), and item #97.40 provides that it is the responsibility of the DAO to classify the disability as a percentage of total disability. And item #96.30 provides that although the PFIE is not the only medical evidence that the DAO may use, it will usually be the primary input. So if, as here, the PFIE evaluation results do not provide sufficiently reliable evidence of the degree of impairment from which to reach a fair and informed conclusion on the issue, the DAO still has to determine the degree of disability; he or she must find another way to determine impairment. The determination cannot be made arbitrarily; it has to be based on evidence. In such circumstances the DAO must look to other available evidence, or obtain new evidence, that will allow and support a determination of the degree of impairment and disability.

The DAO did not accept the range of motion findings from the PFIE as reliable indicators of the worker's impairment, noting the worker had not given full effort. I agree with the DAO on that point. Range of motion figures that are to be used for the purposes of determining permanent functional impairment must accurately reflect full range, rather than the range beyond which a flare-up will likely occur.

However, rather than investigate whether there might be other evidence from which to estimate the worker's right shoulder range of motion as of June 18, 2003, the DAO simply stated that there was no evidence of any measurable permanent impairment resulting from the accepted condition of right shoulder tendonitis, and denied an award. In other words, the DAO concluded the worker had full range of motion.

I do not accept that the worker had full range of motion. The WCAT panel found that the work injury had left the worker with a chronic tendinopathy and impingement syndrome. It was those conditions that plateaued as of June 18, 2003, and it was for assessment of the impairment related to those conditions that the panel directed referral to Disability Awards. Dr. Raupach stated in his letter of September 22, 2005, and it is evident from the claim file, that the worker has, since his injury, consistently demonstrated reduced range of motion (particularly in abduction and forward flexion), and impingement syndrome. No medical practitioner has, at any point, suggested that the worker's ongoing condition does not constitute an impairment. The worker has

decreased muscle bulk throughout his rotator cuff muscle groups and in the deltoid muscles on the right. I find it is likely that the worker has significant, non-pain-related reduction in right shoulder range of motion. I note also that the WCAT panel found that there was little evidence to support any pre-existing impingement condition. The DAMA echoed that comment, and there was no right shoulder wasting at the time of injury.

It could be argued that reduced range of motion that is limited by pain is captured by an award for chronic pain. However, a person can have both pain-restricted range of motion, and chronic pain. As set out in chapter 18 of the American Medical Association *Guides to the Evaluation of Permanent Impairment*, Fifth Edition, there are few conditions that actually prevent people from working by mechanical failure. "Rather, people are incapacitated by a variety of unbearable sensations when they try to work." I infer from this that there are few conditions that actually prevent people from demonstrating full range of motion by mechanical failure. Rather, range is reduced by a variety of unbearable sensations when they try to take the joint through full range. That is, the tendinopathy and co-existing impingement restrict the worker's range of motion, and thus function, by causing unbearable pain beyond the limits of his range. It is that end range, beyond which the pain would be unbearable, that should be used to determine the worker's impairment.

To the degree possible, the determination of impairment ratings ought to be a transparent and objective process, and wherever possible the award should be based on the proxy measures set out in the PDES. We cannot use the range of motion measurements from the PFIE. And there is little to be gained by arranging for a second PFIE, as it is unlikely the worker's presentation and effort would be any different the second time around. His condition has not changed; he continues with pain-related hesitancy, and is still reluctant to move his shoulder beyond the point that will produce a flare-up.

Another place to look for reliable range of motion measurements is the medical file, which contains measurements by various physicians and clinicians over the course of the claim, some of which were taken close to the plateau date and before the worker was diagnosed with frozen shoulder. Measurements are not available for all planes, and it is not clear that the various physicians and clinicians were measuring range in the same manner. However those measurements, as flawed as they might be, amount to the best available evidence of the worker's actual range of motion.

On June 18, 2003, Dr. Chan reported the worker definitely had an entrapment problem between 90 degrees and 100 degrees of abduction.

On June 26, 2003, Dr. Raupach reported the worker had pain with abduction greater than 60 degrees, and some muscle wasting.

On August 18, 2003 Dr. Raupach reported the worker's right shoulder was very stiff that day, with abduction and forward flexion at only 30 degrees.

On October 27, 2003, Dr. Krywulak reported active forward elevation to 90 degrees and passively to 180 degrees with difficulty.

The above measurements recorded by Drs. Chan, Raupach, and Krywulak, are set out below, in degrees:

	June 18	June 26	Aug 18	Oct 27
Forward flexion			30	90
Extension				
Abduction	90 - 100	60	30	
Adduction				
External rotation with arm at the side				
External rotation with arm in 90 degrees of abduction				
Internal rotation with arm in 90 degrees of abduction				

The abduction measurement taken closest to the plateau date was that which Dr. Chan recorded on the plateau date, 90 degrees to 100 degrees. We need precise measurements, so I accept the mid-point measurement of 95 degrees as the actual range for abduction.

The flexion measurement taken closest to the plateau date was that which Dr. Raupach recorded on August 18, 2003. However, at that point the worker had had a recent flare-up. I will accept as most representative the 90-degree measurement that Dr. Krywulak recorded on October 27, 2003.

The worker demonstrated no significant reduction in adduction at the PFIE, and no physician or clinician has ever commented on reduced adduction, so I find he had no significant reduction in that plane at plateau, and accept the measurement from the PFIE for that plane.

We have no alternative measurement for extension or internal or external rotation at any time proximate to the plateau date. Though the worker was discharged from the ASTD clinic in January 2002, 18 months prior to plateau, and his function was maximized at that point, that report includes the only measurement taken of internal rotation, and the intake report to the program includes the only alternative measurement of extension. The team did not measure extension at discharge, presumably because it had not been



significantly reduced at intake. External rotation did not change over the course of the program.

The ASTD program measurements form the best available evidence of the worker's post-injury range of motion in internal and external rotation and extension, apart from the PFIE, which is unreliable. Those measurements may overstate functional range as of the plateau date, but in the circumstances, I accept the 45 degrees of internal rotation recorded at discharge, the 80 degrees of external rotation recorded at that intake and discharge, and the 42 degrees of extension measured at intake, as the most reliable indicators of range in those planes at plateau.

I find, therefore, that the worker's impairment ought to be based on the following range of motion measurements for the right shoulder, as compared to the left shoulder range of motion measurements recorded at the PFIE.

	Right	Left
Forward flexion	90	155
Extension	42	55
Abduction	95	170
Adduction	50	55
External rotation	80	90
Internal rotation	45	70

These range of motion figures are significantly higher than those Dr. Raupach spoke of in his letter of September 22, 2005. This merely reflects that Dr. Raupach was measuring the pain-guarded restriction, whereas these figures reflect, to the degree possible, the worker's maximum range without guarding; the range beyond which pain would be unbearable. Further, Dr. Raupach did not stipulate the dates when his figures were obtained.

The ratings set out in the PDES include the physical effects that would typically accompany impairment in the physical ability being measured. If a joint has limited range, and thus is not being fully used, one would expect a certain degree of wasting in the surrounding musculature. The DAMA remarked that there was such wasting, but did not indicate that it was extreme. Accordingly, I find that the rating associated with the reduced range of motion in the worker's right shoulder accounts for the muscle wasting recorded at the PFIE.

The issue of whether the tear seen on the April 2006 ultrasound is related to the work injury is not before me. What is mine to decide is the degree of impairment associated with the worker's right shoulder as of the plateau date. I have done that, and the rating would be the same whether the restriction in range was due to tendinopathy and associated impingement alone, or whether there was a co-existing supraspinatus tear.

**Conclusion**

The appeal is allowed. The review officer's decision is varied. The claim is referred back to the Board to assess a permanent functional impairment award based on the range of motion measurements set forth above.

The review officer made a chronic pain award based on the understanding that there was no objective impairment. As I have found that the worker has objective impairment, the foundation on which the review officer made the chronic pain award is no longer valid. The Board will now have to investigate and consider whether the worker suffers from disproportionate chronic pain.

*Expenses*

The Board shall reimburse the worker's travel expenses to attend the hearing, at the rates set out in the Board's tariff.

Janice A. Leroy  
Vice Chair

JAL/jkw