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Updated: April 2018

## ACTIVITY-RELATED SOFT TISSUE DISORDERS

Please read the factsheet *Occupational Diseases: An Introduction* for basic information about workers' compensation for occupational diseases.

### What is an activity-related soft tissue disorder?

Activity-related soft tissue disorder (ASTD) is a term used to describe a variety of medical conditions affecting muscles, tendons and/or ligaments, resulting from repetitive movements or exposure to mechanical vibrations. ASTDs are also known as repetitive strain injuries (RSIs), repetitive motion disorders, and accumulative trauma disorders.

These disorders usually involve discomfort or persistent pain in soft tissues of the arms or legs. They may also involve numbness, tingling, sharp pains, and muscle weakness, and they often begin with fatigue and discomfort related to movement.

### Can I receive compensation if I have an ASTD?

You can get workers' compensation for your ASTD if it was due to the nature of your employment. However, this does not mean that employment-related factors must be the sole or even the main factor. Compensation should be paid where employment-related factors significantly contribute to causing or aggravating an ASTD.

Your claim may be considered as an injury or an occupational disease, depending on the circumstances. Generally, if your symptoms arise over the course of a single workday, your claim will be considered as an injury. If they arise gradually over a longer period of time, your claim will be considered as an occupational disease.



For more information:

Website: [gov.bc.ca/workersadvisers](http://gov.bc.ca/workersadvisers)

Lower Mainland/Fraser Valley/Kootenays: 1-800-663-4261  
Northern & Central Interior: 1-800-663-6695  
Vancouver Island: 1-800-661-4066

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### How will WorkSafeBC investigate my claim?

WorkSafeBC will probably send you a lengthy questionnaire to fill out. It asks about your job and the details of your employment activities. Take the time to fill this questionnaire out carefully. The information you give will be important to WorkSafeBC's decision about whether your ASTD is due to the nature of your employment.

WorkSafeBC will often conduct a “Job Site Visit.” A Case Manager will attend your place of employment with you and an employer representative in order to get a better idea of your workspace and employment activities. Quite often this will be recorded on video. The Case Manager will view the performance of your employment activities performed by you, or a coworker if you cannot do so. It is very important that the Job Site Visit is performed in an accurate and complete way, so you should speak up if you see any errors or omissions.

Next, the Case Manager will usually request a medical opinion from a WorkSafeBC doctor as to whether or not your workplace factors significantly contributed to causing or aggravating an ASTD. The Case Manager will then give you a written decision based on the doctor's opinion.

### What is the legal test for determining if my ASTD is due to my employment?

The *Workers Compensation Act* and WorkSafeBC regulations divide ASTDs into three categories:

- ASTDs listed in Schedule 1 of the *Workers Compensation Act*
- ASTDs that are not listed in Schedule 1, but are recognized by Regulation as occupational; and
- ASTDs that have not previously been recognized as occupational.

#### 1. *ASTDs listed in Schedule 1*

Schedule 1 of the *Workers Compensation Act* recognizes five ASTDs as occupational diseases when they occur under certain employment conditions. They are:

- Knee Bursitis,
- Shoulder bursitis,
- Hand-wrist tendinopathy,
- Shoulder tendinopathy, and
- Hand-arm vibration syndrome.

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Schedule 1 specifies what type of industry or process you must be employed in for WorkSafeBC to presume that the ASTD is occupational. If you have one of these disorders, and you are employed in the type of process or industry listed, then WorkSafeBC will presume that your disease is due to your employment, unless proven otherwise.

Below is information about what kinds of employment meet the requirements of Schedule 1.

### Bursitis

13(1) Knee bursitis (inflammation of the prepatellar, suprapatellar, or superficial infrapatellar bursa).	Where there is repeated jarring impact against, or where there are significant periods of kneeling on, the involved bursa (knee).
13(2) Shoulder bursitis (inflammation of the subacromial or subdeltoid bursa)	Where there is frequently repeated or sustained abduction or flexion of the shoulder joint greater than 60 degrees and where such activity represents a significant component of the employment.

### Tendinopathy

14(1) Hand-wrist tendinopathy	<p>Where there is use of the affected tendon(s) to perform a task or series of tasks that involves any two of the following:</p> <ul style="list-style-type: none"> <li>(1) frequently repeated motions or muscle contractions that place strain on the affected tendon(s);</li> <li>(2) significant flexion, extension, ulnar deviation or radial deviation of the affected hand or wrist;</li> <li>(3) forceful exertion of the muscles utilized in handling or moving tools or other objects with the affected hand or wrist;</li> </ul> <p>and where such activity represents a significant component of the employment.</p>
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14(2) Shoulder tendinopathy	Where there is frequently repeated or sustained abduction or flexion of the shoulder joint greater than 60 degrees and where such activity represents a significant component of the employment.
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### Hand-arm Vibration Syndrome

Hand/arm vibration syndrome (HAVS) is a vascular disturbance of the hand and arm. It is also called Reynaud's phenomenon or white finger disease.

Schedule 1 says these are accepted as occupational diseases when your employment involves at least 1,000 hours of exposure to tools or equipment which cause the transfer of significant vibration to the hand or arm of the worker.

If you have one of the conditions in Schedule 1, but your employment does not meet the requirements of Schedule 1, WorkSafeBC will not *presume* that your condition is due to your employment. However, WorkSafeBC may still accept your claim using the test as for ASTDs recognized by regulation as occupational. For more information, see below.

### ***2. ASTDs recognized by Regulation as Occupational***

In addition to the ASTDs listed in Schedule 1, the following ASTDs have been recognized by Regulation as diseases often caused by employment:

- Bursitis (other those mentioned in Schedule 1),
- Carpal tunnel syndrome,
- Cubital tunnel syndrome,
- Disablement by vibrations,
- Hypothenar Hammer Syndrome,
- Plantar Fasciitis,
- Radial tunnel syndrome,
- Tendinopathy (other than the forms of tendinopathy mentioned in item 14 of Schedule 1 of the Act), including:
  - Epicondylopathy, lateral and medial,

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- Stenosing Tenosynovitis (Trigger Finger), and
- Thoracic Outlet Syndrome.

If you have a disease in this category, there must be evidence to show that it is at least as likely as not that employment factors significantly contributed to causing or aggravating your condition in order to get workers' compensation. WorkSafeBC will **not presume** it is due to your employment, as in the case of ASTDs listed in Schedule 1.

### 3. *ASTDs not previously recognized as occupational*

In some cases, you may have an ASTD that has not previously been recognized by WorkSafeBC as an occupational disease. You may still file a claim. You will have to provide medical evidence to support that employment-related factors significantly contributed to causing or aggravating your ASTD.

#### **How does WorkSafeBC decide an ASTD is due to my employment?**

Except when a Schedule 1 presumption applies, WorkSafeBC will examine your responses to the questionnaire, the Job Site Visit, and the medical documentation in order to determine whether your ASTD is due to the nature of your employment. In so doing, they will assess what *risk factors* are present in your case. These are factors that medical research has shown are connected to ASTDs. A risk factor can be related to the mechanical aspects of your job, such as vibration, or the physical motions you perform, such as repetitive flexing of a joint. WorkSafeBC will also look at any risk factors related to your general health or previous medical history and activities outside of your employment.

WorkSafeBC will examine the magnitude or intensity of the risk factor, its impact on the specific part of the body affected by the ASTD, the length of time you were exposed to the risk factor, and the time allowed for the muscles to rest. WorkSafeBC will then determine whether it is likely that employment activities significantly contributed to causing or aggravating the disorder.

Usually, the most important physical risk factors are the intensity, duration, and frequency of repetition, force, awkward posture and vibration. These and other risk factors are defined as follows:

- **Cold Temperature:** cold may have direct damaging effects on the tissue through vascular constriction and other mechanisms.
- **Cognitive Demands:** the amount of mental effort required, which can increase muscle tension.
- **Dose:** the level of intensity of a risk factor over a specific duration.

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- **Duration:** the length of time a worker is exposed to a particular risk factor.
  - **Ergonomics:** poorly designed work stations or tasks.
  - **Force:** the physical effort a worker must exert to perform a particular movement or activity.
  - **Frequency:** the number of repetitions of a complete sequence of tasks or movements of a process occurring per unit of time during a work cycle.
  - **Grip Type:** the posture of the hand required for a worker to grasp an object to perform a particular movement or activity. Different types of grips require the application of different force levels.
  - **Local Contact Stresses:** the results from physical pressure between body tissues and objects in the work environment such as tools, machinery, and products.
  - **Magnitude:** the degree of exposure to a noted risk factor.
  - **Posture:** refers to postures that are awkward. Postures are awkward when joints are held at or near the end of range of motion or muscle tension is required to hold the posture without movement.
  - **Repetition:** the cyclical use of the same body tissues either as a repeated motion or as a repeated muscular effort without movement. Consideration is given to the:
    - work cycle;
    - work period; and
    - work-recovery (rest) cycle.
  - **Static Load:** sustain a given level of muscle force/exertion for a duration of time, against gravity or against some other external force.
  - **Task Variability:** the degree to which the task remains unchanged thus causing loading of the same tissues in the same way
  - **Unaccustomed Activity:** Tissues not being acclimatized to the activities performed.
  - **Work Cycle:** an exertion period and a recovery (or smaller exertion) period necessary to complete one sequence of a task, before the sequence is repeated.
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- **Work Recovery (Rest) Cycle:** the availability and distribution of breaks in a particular activity to allow the tissue to return to a resting state for recovery.

When assessing whether one of the above noted employment-related risk factors significantly contributed to causing or aggravating a worker's ASTD, WorkSafeBC considers:

- the location of the anatomical structure affected (e.g. the elbow);
- the risk factors involved in the worker's employment activities;
- the muscle groups, tendons and joints involved in performing the worker's employment activities; and
- whether there is a biologically plausible connection between the employment activities and the development of the ASTD.

Certain aspects of your general health may also be risk factors, such as

- age,
- weight,
- gender,
- previous medical history (including having similar disorders in the past, or having a history of smoking),
- inflammatory disorders (rheumatoid arthritis, ankylosing spondylitis, systemic sclerosis, polymyositis, colitis, etc.), and
- diabetes mellitus.

### How do risk factors affect claims for specific ASTDs?

The relative importance of risk factors may depend on what disorder you have. As noted above, repetition, force, posture and vibration are usually most significant. However, WorkSafeBC weighs risk factors for certain specific ASTDs as follows:

#### *Epicondylitis*

WorkSafeBC is likely to accept claims where your employment involves performing frequent, repetitive, forceful, and unaccustomed movements of the wrist, including gripping, which puts stress on the inflamed tissues of the arms.

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### Carpal tunnel syndrome

The kinds of employment activities most likely to be accepted with carpal tunnel syndrome are those that require: highly repetitive motions of the hand or wrist; use of high force; prolonged wrist flexion (where the palm is held toward the inside of the forearm); highly repetitive motions in cold temperatures; or the use of hand-held vibrating tools. WorkSafeBC will also consider your age, general health and relevant medical history when assessing this disease. Generally, it is more likely that WorkSafeBC will accept the relationship between employment activities and carpal tunnel syndrome where the carpal tunnel syndrome is only found in one wrist, than where it is found in both wrists at the same time.

### Other peripheral nerve disorders

Disorders such as cubital tunnel syndrome, radial tunnel syndrome, and thoracic outlet syndrome may be caused or aggravated by repetitive employment activities. They all typically result in numbness, tingling, pain, and weakness of the arms and hands.

### **What should I do if my claim is denied?**

If you disagree with WorkSafeBC's decision to deny your claim, you can request a review by the Review Division. You have **90 days** from the date of the decision to request the review. If you disagree with the Review Division decision, you have **30 days** to file an appeal to the Workers' Compensation Appeal Tribunal.

Generally, it is essential to have new evidence to present to the Review Division. You should first, go through

- the ASTD questionnaire,
- the Job Site Visit Report and video, and
- the clinical opinion,

and write up a summary of any errors and omissions you find, especially regarding any of the risk factors noted above. Then, prepare a complete and detailed job description incorporating your corrections.

Once you have this evidence in hand, you should take the WorkSafeBC documents and video along with your summary and your detailed job description to your family doctor or specialist. You should ask him or her if he or she can provide a supportive written medical opinion.

If your doctor thinks that it is at least as likely as not that employment-related risk factors significantly contributed to causing or aggravating your ASTD, you should ask him or her to provide a written medical

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opinion. This opinion should make it clear that he or she has reviewed the documentation, and is familiar with the nature of your employment activities. Your doctor should provide specific and detailed reasons why he or she believes these employment activities were a factor in the development of your condition. If you have an ASTD that is not often accepted by WorkSafeBC, medical or scientific studies about the nature of the problem and employment activities would also help support your claim. However, such studies on their own without your doctor's support are not likely to be enough.

Then you can submit this opinion together with your statement correcting any errors or omissions to the appeal body.