



Workplace Safety and Insurance  
**Appeals Tribunal**

**Tribunal d'appel** de la sécurité professionnelle  
et de l'assurance contre les accidents du travail

---

# Fibromyalgia Syndrome

Discussion paper prepared for

The Workplace Safety and Insurance Appeals Tribunal

February 2003

Prepared by:

Dr. Duncan A. Gordon

Professor of Medicine, University of Toronto  
Division of Rheumatology, University Health Network

With foreword provided by:

Dr. Anthony Weinberg

Professor, University of Ottawa, Faculty of Medicine  
Chief Division of Internal Medicine,  
University of Ottawa and The Ottawa Hospital

Dr. Duncan A. Gordon is a graduate of the Faculty of Medicine of the University of Toronto. He did post-graduate training in internal medicine at the University of Toronto and at McGill University in Montreal. He also did post-graduate training in Rheumatology and Immunology at the University of Rochester, New York. He was granted his fellowship in internal medicine (rheumatology) in 1960. He was the first Chief Examiner for certification in rheumatology from 1972 to 1974. He has been the long time editor of *The Journal of Rheumatology*, a Canadian based international scientific publication. He was on the McMaster University faculty from 1974 to 1976. He joined the University of Toronto faculty in 1976 and holds the rank of Professor of Medicine. His clinical and research interests are in rheumatology. He has published extensively in that area. His clinical appointment is Senior Rheumatologist at the Toronto Western Hospital, University Health Network. Dr. Gordon has been an assessor for the Tribunal since 1988.

WSIAT literature search reviewed by Dr. A. Weinberg in 2013, who is of the opinion that this paper still provides a balanced overview of the medical knowledge in this area.

This medical discussion paper will be useful to those seeking general information about the medical issue involved. It is intended to provide a broad and general overview of a medical topic that is frequently considered in Tribunal appeals.

Each medical discussion paper is written by a recognized expert in the field, who has been recommended by the Tribunal's medical counsellors. Each author is asked to present a balanced view of the current medical knowledge on the topic. Discussion papers are not peer reviewed. They are written to be understood by lay individuals.

Discussion papers do not necessarily represent the views of the Tribunal. A vice-chair or panel may consider and rely on the medical information provided in the discussion paper, but the Tribunal is not bound by an opinion expressed in a discussion paper in any particular case. Every Tribunal decision must be based on the facts of the particular appeal. Tribunal adjudicators recognize that it is always open to the parties to an appeal to rely on or to distinguish a medical discussion paper, and to challenge it with alternative evidence: see *Kamara v. Ontario (Workplace Safety and Insurance Appeals Tribunal)* [2009] O.J. No. 2080 (Ont Div Court).

## FIBROMYALGIA - AN OVERVIEW

Prepared for The Workplace Safety and Insurance Appeals Tribunal  
December 2002

Anthony Weinberg MB., FRCP., FRPC(C)  
Professor, University of Ottawa, Faculty of Medicine  
Chief Division of Internal Medicine,  
University of Ottawa and The Ottawa Hospital.

Fibromyalgia is one of a series of *symptom defined conditions* which include such entities as the Chronic Fatigue Syndrome, Irritable Bowel Syndrome and Idiopathic Environmental Illness. They frequently co-exist in the same patient though they may not occur simultaneously. They have no defining pathology and differ only in their description. In a number of instances the definitions have been codified in order to provide a basis for further study as to etiology and management. These conditions are more common in subjects with prior history of depression though coincident depression is not necessarily found. Sleep disturbance is almost always present as a common thread especially in those with substantial overlap between the various syndromes. They have no known cause and there are no reliable data establishing events/exposures in the workplace with the development of Fibromyalgia or evidence that the condition occurs with greater than expected frequency in specific working environments.

## FIBROMYALGIA SYNDROME

Prepared for The Workplace Safety and Insurance Appeals Tribunal  
February 2003

Dr. Duncan A. Gordon  
Professor of Medicine, University of Toronto  
Division of Rheumatology, University Health Network

### Definition

Fibromyalgia (FM) is one form of chronic pain disorder affecting the musculoskeletal soft tissues of the body. It is not a type of arthritis or joint disease and for that reason is termed a non-articular rheumatic condition. The chief symptom of FM is the presence of widespread pain associated with a lowered pain threshold resulting in painful tenderness affecting specific musculoskeletal sites detectable on pressure or palpation. These specific sites known as “tender points” (Figures 1 and 2) are recorded by the examiner as present or absent. If present, they may be compared to standard control sites located at a distance from the tender points. It is characteristic that patients diagnosed with FM for the first time are usually unaware of the presence of these tender points. However, FM is not a diagnosis of exclusion; it may also occur in patients with many other types of rheumatic disease such as rheumatoid arthritis (RA), lupus, or osteoarthritis.

Some physicians may choose not to use the term FM for this kind of chronic pain, but Wolfe states that the “syndrome is not changed by what we call it”. He also noted that it is the symptoms of FM that are disabling, not the number of tender points. Nevertheless, the severity of symptoms is usually reflected in the degree of site-specific tenderness. FM has been recognized as a discrete syndrome by the World Health Organization “as a cause of invalidity and early retirement”. The recommendations of a consensus report on FM also examined it as a cause of disability. And a further report noted that FM is no different in the work or compensation setting than the clinic.

### Associated conditions

The widespread pain and fatigue typical of FM may be seen in about 20% of patients with conditions such as RA or lupus. And the diagnosis of FM may be overlooked when it coexists with other forms of arthritis. When this happens the patient’s problem may be incorrectly ascribed to their RA or

lupus. A positive ANA (antinuclear antibody) test suggestive of a connective tissue disorder may direct attention away from the patient's real FM problem. FM also overlaps with the related clinical entities of chronic fatigue syndrome, sleep disorders and psychological problems. (Figure 3) A number of infectious and post-viral syndromes have been associated with chronic fatigue, but in most cases an infectious cause is never discovered. Primary sleep disorders that may be associated with FM include: alpha electroencephalographic arousal disturbances, sleep apnea, and sleep-related periodic involuntary limb movement disorders. Interrupted sleep may also be seen in other rheumatic conditions such as RA or osteoarthritis, with or without coexisting FM.

Poor memory and cognitive dysfunction in patients with FM may be associated with evidence of prolonged stage 1 sleep. This sleep impairment is associated with chronic fatigue and a lower accuracy in the performance of complex cognitive tasks. The modified Center for Disease Control 1994 criteria for chronic fatigue syndrome are based on 6 months of unexplained fatigue, including impairment of short-term memory or concentration, unrefreshing sleep, post-exertional fatigue, muscle pain, joint pain without joint swelling, new headaches, sore throat and tender cervical or axillary lymph nodes. The Oxford definition does not require any symptoms other than fatigue and cognitive impairment. The presence of a primary psychiatric disorder is a diagnostic exclusion. About one-third of patients with FM meet criteria for diagnosis of chronic fatigue syndrome.

Psychological depression is more common in patients with FM than in healthy controls or patients with RA. About 25% of patients with FM have current depression and about 50% have a history of it. Whether the psychological distress of FM reflects underlying psychopathology is uncertain. Case-control studies in patients with FM show a higher prevalence of depression as well as sexual and physical abuse, drug dependency and eating disorders prior to the onset of their FM.

Myofascial pain syndromes, unlike FM, are not general but regional, based on the detection of painful *trigger* points rather than *tender* points. Unlike FM, patients with myofascial pain syndromes do not ordinarily show chronic fatigue, sleep disorders or psychological depression, unless complicating FM supervenes.

## Controversy

The value of the FM concept for diagnosis and treatment has been questioned by observers reporting that myalgia and tender points are so

common in the community that calling FM a separate entity that reflects social problems and maladjustment is questionable. Hadler claims that the criteria are too “unreliable” and possibly harmful, promoting dependency and somatization by persons disaffected with their work. Some have claimed that FM represents a functional disorder of a broken urban society that has been embraced by a medicolegal industry of lawyers seeking compensation benefits for their clients with FM. In contrast, White and Thompson at the University of Western Ontario have documented that FM was surprisingly common in a rural community of Amish farmers insulated from normal urban stresses without any medicolegal pressures for compensation.

Concern has also been raised by the perception that, because FM is basically defined by self-reported criteria it lacks objectivity. Block has suggested that “generalized rheumatism” would be a better term than FM because the American College of Rheumatology (ACR) criteria over-emphasized the presence of tender points. His concept of general rheumatism included FM, chronic fatigue and post-viral syndromes.

## Symptoms

Chronic widespread musculoskeletal pain and tender points are the diagnostic clinical features of FM, but there are many other symptoms associated with it such as dizziness, headache, fatigue, poor memory, non-restorative sleep, and irritable bowel or bladder symptoms, that are not part of the ACR criteria. However, in addition to the widespread chronic pain lasting more than three months, these other symptoms are almost always present. As noted, a high proportion of persons with chronic fatigue syndrome also show characteristic features of FM.

## Diagnosis

This is based on history (symptoms) and physical examination (signs).

A person with widespread pain, generalized aching affecting three of 4 main body regions lasting more than three months, with the presence of at least 11 of 18 tender points meets the 1990 ACR criteria for the diagnosis of FM. The pain of FM is worse with sustained repetitive physical activity.

## Controversy

Although the diagnosis of FM may be essential for a determination of disability, FM in itself should not be sufficient grounds for entitlement, particularly since the majority of patients with FM continue working despite their symptoms. Thus, disability should not be based on a diagnosis of FM, but on an evaluation of the effect of distress and chronic pain on the person.

The role of the physician is to identify impairment as any loss or abnormality of psychological, physiological or anatomical structure or function to determine whether such impairment interferes with that person's ability to perform a normal range of human activity.

Based on this concept one can ask what the threshold is for designating a patient as having FM of such severity that he or she is incapable of working or coping with daily activities. One polar position for the question of disability determination for FM would be to state that it is a condition never related to trauma or stress and never disabling. In keeping with this view some compensation guidelines serve to deny benefits to claimants without objective organic structural, physical or laboratory abnormalities. This would be consistent with reports of functional assessment by evaluators who perceive that the patient with chronic pain is not trying or shows self-limiting performance that is judged under test conditions to represent an inconsistent effort. However, such an attitude belies the validity of the patient's pain and fatigue. Moreover, the detection of tender points unknown to the patient makes it difficult to evoke simulation as an explanation. Thus, tender points should ordinarily be considered an objective measure of musculoskeletal involvement. The opposite polar position is to accept uncritically at face value the reality of the patient's self-reported pain and fatigue and its impact on his or her daily activities. The challenge for the expert clinician lies somewhere between these two extremes. Resolution of these differences is the challenge, and further evidence of disability must be obtained from family, employers and coworkers. From this source documentation is required to determine whether the patient is unable to work regularly, accurately and consistently or to respond appropriately to supervision and to the public.

## Causes

The cause or causes of FM are unknown and patients with FM show no specific pathologic changes in their musculoskeletal tissues; and there is no laboratory test diagnostic of it. Moreover, FM is not life-threatening. For

these reasons it is not considered a disease, but a syndrome, i.e. a combination of symptoms and signs that separates or distinguishes it from other forms of arthritis and rheumatism.

Even though the causes of FM are unclear it has come to be seen as a functional multifactorial syndrome associated with a number of physiological disturbances. It is claimed that these range from the effects on the central and autonomic nervous systems, sleep disturbance and the effects of stress on the glandular system of the body known as the hypothalamic, pituitary, adrenal (HPA) hormonal axis.

Physiologic sleep abnormalities reflecting a possible neuroendocrine disturbed sleep pattern have been observed in patients with FM. Sleep electro-encephalographic (EEG) studies show a slow-wave alpha EEG arousal non-restorative sleep pattern that gives rise to symptoms of fatigue and difficulties with short-term memory and concentration with problems maintaining sleep. Although these features are prominent in FM they are not specific and it is not clear whether these changes represent an underlying mechanism that causes FM.

Many patients with FM report that their condition started with a physical or emotional trauma, infection, or surgery. Smythe suggests that, in keeping with the pioneering studies of Lewis and Kellgren, the location of the pain and tender points is determined by the deep referral patterns associated with a mechanical problem of the neck and back. Pain symptoms then become magnified by sleep disturbance, psychological factors, physical deconditioning and frequently by generalized joint hypermobility.

## Workplace issues

A study of the clinical course of 104 randomly-selected workers who had not returned to work in three months following soft-tissue injury showed the greatest negative effect for return to work was associated with psychological distress and functional disability. In this study the presence of fibrositic tender points was one of the valid predictors of delay in return to work.

The question of whether trauma can be a factor associated with FM is worthy of further study. For example, chronic whiplash syndrome is a condition where physical trauma precedes the onset of a chronic musculoskeletal pain disorder such as FM. A retrospective study from Israel showed FM occurring 12 times more commonly after neck injuries than in workers with lower limb fractures. A deeper understanding of the problem



indicated that common whiplash syndromes vary widely as to whether there is a preponderance of physical, or psychological impairment. Nevertheless, current uncertainties reflect the fact that appropriate prospective studies have not been done.

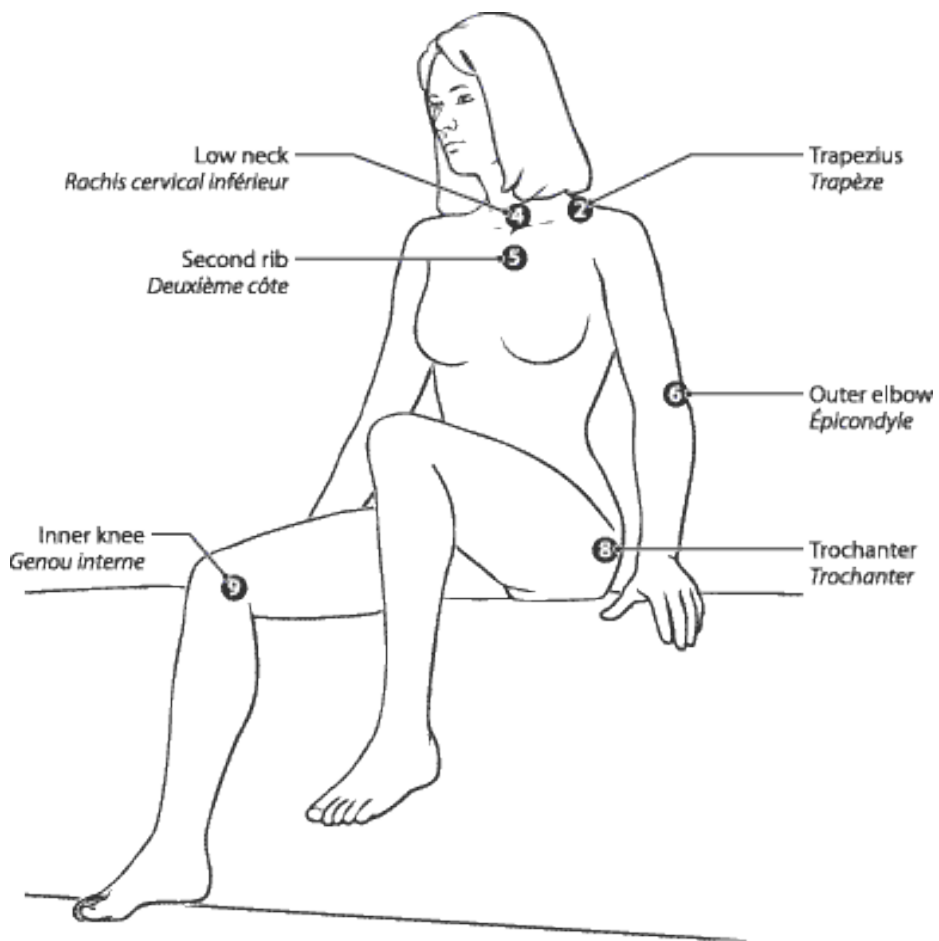
There is also strong evidence that major depression is associated with FM and symptoms of it are often present in depressed persons. Although a lifetime history of depression has been reported in about 50% of patients with FM, current major depression has only been found in about 25% of patients with FM. Interestingly, patients with FM often improve with antidepressants. While it is true that many patients with FM suffer anxiety or depression, it is not clear whether these problems are the cause or an effect of it. On balance, most studies do not support the view that FM is primarily a psychological disorder.

## Controversy

In some legal judgments of disabled persons it has been deemed that patients with FM do not appear to be expressing emotional or mental problems in the form of physical pain, whereas others have stated that individuals with FM cannot cope with everyday stresses of life and convert this inability into physical symptoms to avoid dealing with reality. Moreover, many physicians express frustration directed at the patient with FM or the FM construct. This hostility seems related to the fact that patients with FM display very much more psychological distress than other patients. All this is further compounded by the lack of effective treatment for FM and the fact that many patients have a record of adversarial interactions with the health care system.

## End note

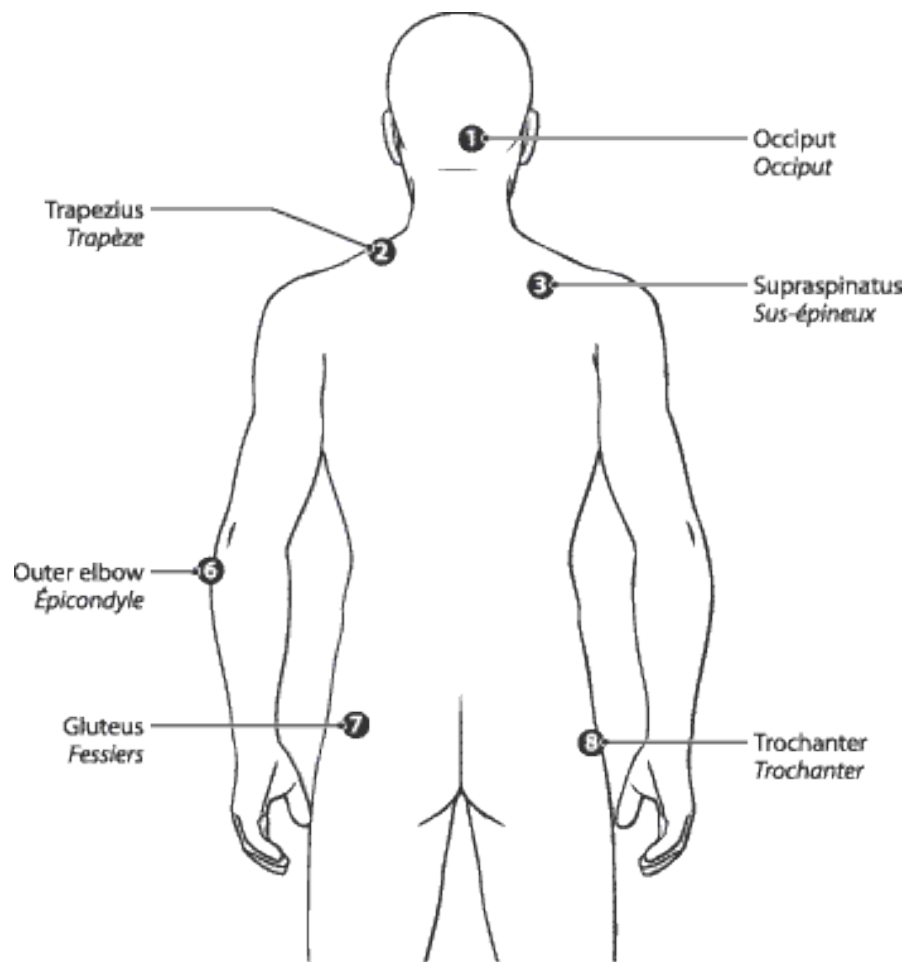
I understand from the Tribunal's point of view causation in the workplace is the most important issue. However, I hope that my paper makes it clear that the cause or causes of Fibromyalgia are unknown and there is limited science to confirm that Fibromyalgia may be caused as a result of an accident, nature of work, or exposure. On the other hand, just because there is no indisputable evidence does not mean that there may not be a relationship, only that appropriate prospective studies have not been done.



**Figure 1. Fibrositic tender points (anterior)**

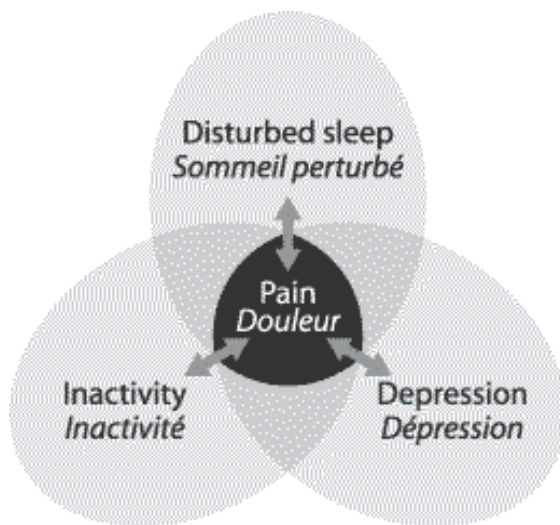
**Figure 1. Points douloureux de la fibromyalgie (Région antérieure)**

**Figure 1 - Fibrositic tender points (anterior)**



**Figure 2. Fibrositis tender points (posterior)**  
**Figure 2. Points douloureux de la fibromyalgie (Région postérieure)**

Figure 2 - Fibrositis tender points (posterior)



**Figure 3. Cycle of illness in fibromyalgia**  
**Figure 3. Cycle pathologique de la fibromyalgie**

**Figure 3 - Cycle of illness in fibromyalgia**

### Further reading

1. Bennett RM. Rational management of Fibromyalgia. *Rheum. Dis. Clin. North Am.* 2002;28 :181-201.
2. Bohr TW. Fibromyalgia syndrome and myofascial pain syndrome - do they exist? *Neurologic Clinics* 1995;13:365-83.
3. Bradley LA, McKendree-Smith NL. Central nervous system mechanisms of pain in fibromyalgia and other musculoskeletal disorders: behavioural and psychologic treatment approaches. *Curr Opin Rheumatol.* 2002;14:45-51.
4. Buskila D. Fibromyalgia, chronic fatigue syndrome, and myofascial pain syndrome. *Curr Opin. Rheumatol* 2001;13:117-27.
5. Carette S. Fibromyalgia 20 years later: what have we really accomplished? (editorial) *J Rheumatol* 1995;22:590-2.
6. Cohen ML. Is fibromyalgia a distinct clinical entity? The disapproving rheumatologist's evidence. *Baillieres Best Pract Res Clin Rheumatol.* 1999;13:421-5.
7. Crofford LJ, Clauw DJ. Fibromyalgia; where are we a decade after the American College of Rheumatology classification criteria were developed? *Arthritis Rheum.* 2002;46:1136-8.
8. Croft P. Testing for tenderness: what's the point? *J Rheumatol.* 2000;27:2531-3.

9. Fitzcharles MA. Is fibromyalgia a distinct clinical entity? The approving rheumatologist's evidence. *Baillieres Best Pract Res Clin Rheumatol.* 1999;13:437-43.
10. Goldenberg DL. Fibromyalgia syndrome a decade later: what have we learned? *Arch Intern Med* 1999;26:159:777-85.
11. Gordon DA. Chronic widespread pain as a medico-legal issue. *Baillieres Best Pract Res Clin Rheumatol.* 1999;13:531-43.
12. Levethal LJ. Management of fibromyalgia. *Ann Intern Med.* 1999;131:850-8.
13. Neeck G, Crofford LJ. Neuroendocrine perturbations in fibromyalgia and chronic fatigue syndrome. *Rheum Dis Clin North Am.* 2000;26:989-1002.
14. Nielson WR, Merskey H. Psychosocial aspects of fibromyalgia. *Curr Pain Headache Rep.* 2001;5:330-7.
15. Schneider MJ. Tenderpoints/Fibromyalgia versus trigger points/myofascial pain syndrome: a need for clarity in terminology and differential diagnosis. *J manipulative physiol ther* 1995;18:398-406.
16. Smythe H. Fibromyalgia: can one distinguish it from malingering? More work needed; more tools supplied. *J Rheumatol.* 2000;27:2536-40.
17. Paiva ES, Deodhar A, Jones KD, Bennett RM. Impaired growth hormone secretion in fibromyalgia patients. *Arthritis Rheum.* 2002;46:1344-50.
18. White KP, Harth M. Classification, epidemiology, and natural history of fibromyalgia. *Curr Pain Headache Rep.* 2001;5:320-9.
19. White KP, Carette S, Harth M, Teasell RW. Trauma and fibromyalgia: is there an association and what does it mean? *Semin Arthritis Rheum.* 2000;29:200-16.
20. ACR Diagnostic Criteria for Fibromyalgia. *Arthritis Care and Research*, 2010; Vol 62 (No. 5): p. 600-610
21. Wolfe F, et al. The fibromyalgia syndrome: a consensus report on fibromyalgia and disability. *J Rheumatol* 1996;23:534-39.