

L'ESSENTIEL

OCCUPATIONAL HEALTH AND SAFETY | OCTOBER 2013

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I LIGHTEN
MY LOAD

I PROTECT
MY BACK

Suffering related to
musculoskeletal injuries (MSI)
is no *FIQ*tion!

FÉDÉRATION
INTERPROFESSIONNELLE
DE LA SANTÉ DU QUÉBEC



www.fiqsante.qc.ca

OHS Committee editorial

A sprain, herniated disc, epicondylitis, tendonitis, bursitis, capsulitis are among the musculoskeletal injuries diagnoses, commonly known as MSI, most frequently seen among the professionals working in the care settings.

In the health sector, MSI make up a large part of professional injuries, more than half the injuries compensated and the disbursements incurred by the CSST.

Resulting from a work accident or an occupational disease, the consequences from these injuries are significant for the victim and her loved ones.

The physical and psychological suffering associated with MSI cannot be ignored, and the same is true for the long-term repercussions.

To these human costs can be added the other concerns that are also just as painful, such as a loss of interest and a social network, the administrative, financial and legal issues, even depression.

For its 2013 OHS campaign, your OHS Committee has chosen to make the healthcare professional members of the FIQ aware of the problem of MSI and their long term effects.

Even though the employers and healthcare professionals are obliged to take the necessary measures to prevent employment injuries, you are not totally immune to the occurrence of MSI caused by your work. If this happens to you, you can then count on a complete team at the FIQ.

Suffering from MSI is already enough! You don't have to feel powerless in such a situation. Turn to your local union team to help you throughout the steps of your OHS file.

Sylvain Allard, Isabelle Groulx, Karine Paiement, Jean-Louis Pelland, Joëlle Thiébaud and Céline Tranquille

Members of the OHS Committee

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fiq L'ESSENTIEL

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Musculoskeletal injuries (MSI)

You, a licensed practical nurse, a respiratory therapist, nurse or perfusionist, work in a setting where the possibilities of being a victim of a work accident or an occupational disease are very real and far from being *FIQtion*. Being exposed to ergonomic and psychosocial factors in your environment, you are part of the groups most at risk of one day suffering a musculoskeletal injury (MSI).

Thus, the OHS Sector at the FIQ, in close collaboration with the OHS Committee and the Communication-Information-Web Service, consider it critical to make you aware of this major occupational health and safety problem that is MSI in the care settings, their cumulative effects throughout your work life and to the importance of taking preventive action to protect your health.

WHAT ARE MSI?

Musculoskeletal injuries (MSI) include a set of injuries and symptoms of the musculoskeletal system that affect it in some or several of its structures, such as the tendons, muscles, ligaments, synovial sheaths, joints, including the intervertebral discs, and sometimes the nerves and the blood vessels related to these structures.

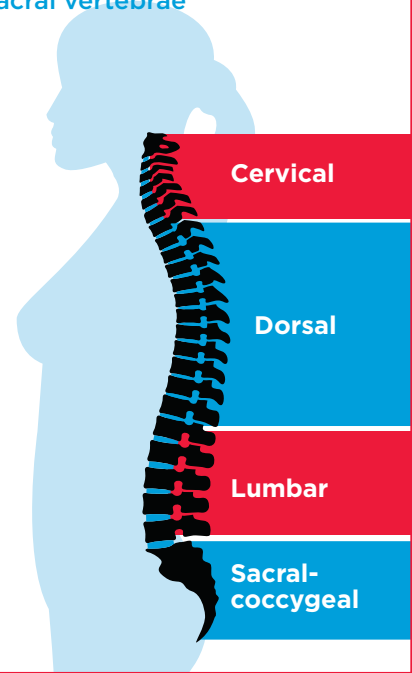
The regions of the body affected by MSI are mainly:

- the cervical spine
- the lower spine and lumbosacral spine
- the upper limbs (shoulders, arms, elbows, forearms, wrists or hands)
- the lower limbs (hips, upper legs, knees, legs, calves, ankles or feet)

The diagnosis varies according to the part of the body affected. For example:

DIAGNOSIS	LOCATION OF INJURY
Epicondylitis, medial epicondylitis	Elbow
Herniated cervical disc	Neck (C1 to C7 vertebrae)
Lumbar sprain	Lumbar spine (L1 to L5 vertebrae)
Capsulitis, tendonitis or torn rotator cuff	Shoulder
Carpal tunnel syndrome	Wrist
De Quervain tenosynovitis	Thumb, distal edge of the wrist

The spine is composed of 24 vertebral joints, including seven cervical (C1 to C7), twelve dorsal or thoracic (D1 to D12), and five lumbar (L1 to L5). It also includes sacral-coccygeal vertebrae, five sacral vertebrae (S1 to S5) fused together to form only one bone block called the sacrum and four or five coccygeal vertebrae also fused together at adulthood.



HOW CAN MSI OCCUR?

The mechanisms that produce MSI can vary:

- MSI can be caused by an unexpected and sudden event (traumatic accident) that surpasses the capacities of the human body's muscular or skeletal structure directly causing an injury, such as a lumbar sprain.
- MSI can also gradually develop and be caused by successive events that over time bring about an incapacity in the muscular or skeletal structure to completely recover, thus fostering the gradual emergence of the injury, such as a non traumatic tendonitis.

In this second situation, the pain at the beginning starts at work and disappears when at rest. This stage is an alarm signal telling you to act while your condition can still be reversed. If you delay in seeing a physician and let the problem persist over weeks and months, while continuing to perform your professional activities, the pain will persist even at rest, disturb your sleep and will become disabling. Your daily activities will then be disturbed and permanent after-effects are possible. This why it is important to see a physician as soon as the first symptoms appear.

WHAT ARE THE MAIN SIGNS AND SYMPTOMS OF MSI?

Even though the signs and symptoms associated with MSI can vary from one person to another according to the event that occurs and the diagnosis made, the most frequent are the following:

- pain with movement of the injured structure
- sensitivity or pain to touch
- inflammation, warmth or localized redness at the injury site
- edema or swelling in the painful joint
- feeling of weakness or muscle stiffness
- reduction in range of motion
- numbness or tingling

You must pay particular attention to the appearance of one or another of these warning signs and symptoms of MSI. Do not hesitate to consult your

physician as soon as possible to get a diagnosis of your injury or your occupational disease. MSI may be caused not only by work but also aggravated by performing your professional tasks. It is therefore important not to neglect this health problem that is both obvious and pervasive.

IT HURTS TO SAY IT OR THE VALIDITY OF PUTTING PAIN INTO WORDS

Measuring such a subjective phenomenon as pain is doomed to be inaccurate, according to a common myth. This is not the case at all, quite the contrary. More and more, pain assessment scales are anything but approximate. Over the last four decades, numerous scales for measuring pain have been developed and validated. These scales have truly demonstrated their undeniable reliability and their validity in strictly controlled contexts of experimental studies on the psycho-physical aspect of pain.

The Québec and world pioneer on pain studies, Ronald Melzack, a celebrated physiologist and psychologist, developed a questionnaire in 1975 outlining the words for talking about and describing pain, thus creating a real pain language. His *McGill Pain Questionnaire* contains about 75 words taken from the very mouths of the patients questioned during the many studies who are the first ones concerned by the pain. Even though this grid is no longer used very much today, and has been replaced by other more sophisticated ones, it has been translated into 12 languages and nevertheless remains one of the most important clinical pain assessment tools over the last 40 years.

McGill Questionnaire

Here are the categories of words that describe all types of pain. Some of these words may correspond to the pain you are feeling right now. Please check those (only one group) that best describes your pain. Ignore any group that does not have a word corresponding to that pain.

1	<input type="checkbox"/> Flickering <input type="checkbox"/> Quivering <input type="checkbox"/> Pulsing <input type="checkbox"/> Throbbing <input type="checkbox"/> Beating <input type="checkbox"/> Pounding	11	<input type="checkbox"/> Tiring <input type="checkbox"/> Exhausting
2	<input type="checkbox"/> Jumping <input type="checkbox"/> Flashing <input type="checkbox"/> Shooting	12	<input type="checkbox"/> Sickening <input type="checkbox"/> Suffocating
3	<input type="checkbox"/> Pricking <input type="checkbox"/> Boring <input type="checkbox"/> Drilling <input type="checkbox"/> Stabbing	13	<input type="checkbox"/> Fearful <input type="checkbox"/> Frightful <input type="checkbox"/> Terrifying
4	<input type="checkbox"/> Sharp <input type="checkbox"/> Cutting <input type="checkbox"/> Lacerating	14	<input type="checkbox"/> Punishing <input type="checkbox"/> Gruelling <input type="checkbox"/> Cruel <input type="checkbox"/> Vicious <input type="checkbox"/> Killing
5	<input type="checkbox"/> Pinching <input type="checkbox"/> Pressing <input type="checkbox"/> Gnawing <input type="checkbox"/> Cramping <input type="checkbox"/> Crushing	15	<input type="checkbox"/> Wretched <input type="checkbox"/> Blinding
6	<input type="checkbox"/> Tugging <input type="checkbox"/> Pulling <input type="checkbox"/> Wrenching	16	<input type="checkbox"/> Annoying <input type="checkbox"/> Troublesome <input type="checkbox"/> Miserable <input type="checkbox"/> Intense <input type="checkbox"/> Unbearable
7	<input type="checkbox"/> Hot <input type="checkbox"/> Searing <input type="checkbox"/> Burning, scalding <input type="checkbox"/> Burning, hot iron	17	<input type="checkbox"/> Spreading <input type="checkbox"/> Radiating <input type="checkbox"/> Penetrating <input type="checkbox"/> Piercing
8	<input type="checkbox"/> Tingling <input type="checkbox"/> Itchy <input type="checkbox"/> Smarting <input type="checkbox"/> Stinging	18	<input type="checkbox"/> Numb <input type="checkbox"/> Tight <input type="checkbox"/> Drawing <input type="checkbox"/> Squeezing <input type="checkbox"/> Tearing
9	<input type="checkbox"/> Dull <input type="checkbox"/> Sore <input type="checkbox"/> Hurting <input type="checkbox"/> Aching <input type="checkbox"/> Heavy	19	<input type="checkbox"/> Cool <input type="checkbox"/> Cold <input type="checkbox"/> Freezing
10	<input type="checkbox"/> Tender <input type="checkbox"/> Taut <input type="checkbox"/> Rasping <input type="checkbox"/> Splitting	20	<input type="checkbox"/> Nagging <input type="checkbox"/> Nauseating <input type="checkbox"/> Agonizing <input type="checkbox"/> Dreadful <input type="checkbox"/> Torturing

McGill Questionnaire on pain developed by Ronald Melzack in 1975, listing the words for talking about and describing pain

“Pain should not be ignored, it must be treated; because not only does it have the power to make life miserable, we now know that it has the potential to do even worse: to physically alter your brain tissue!”¹

¹ www.frsq.gouv.qc.ca/fr/publications/recherche_en_sante/html/no42/dossier.html, quote from Catherine Bushnell, Ph.D., Professor of Anaesthesia and Neurophysiology at the Alan Edwards Centre for Research on Pain, McGill University: she does research on the mechanisms of the pain process, and on the relationships between pain and consciousness: www.mcgill.ca/anesthesia/research/aru/bushnell/

WHAT ARE THE RISK FACTORS ASSOCIATED WITH MSI?

The risk factors are the conditions and the constraints linked to your work situation that can foster the appearance of MSI. Two major risk categories are associated with the occurrence of MSI at work, the ergonomic and biomechanical risk factors as well as the psychosocial and organizational risk factors.

MAIN RISK FACTORS ASSOCIATED WITH MSI IN THE WORK SETTING	
ERGONOMIC AND BIOMECHANICAL	PSYCHOSOCIAL AND ORGANIZATIONAL
<ul style="list-style-type: none"> • Restrictive postures • Over-exertion • Moving heavy weights • Repetitive movements • Working in a stationary or the same position • Working on a screen • Excessively long hours of work • Wrong movements • Defective, dilapidated or inappropriate work material or equipment • Poor arrangement of the work station • Vibrations, pressure or mechanical shocks • Cold or too hot room temperature • High sound ambiance 	<ul style="list-style-type: none"> • High level of stress • Time pressure, work tension, work intensity • Lack of time • Poor organization of work • High psychological or emotional demands • Work overload • Little latitude in decision making • Little social support from colleagues and managers • Pace of work • Work schedules • Fatigue, voluntary, even mandatory overtime (OT) • Insufficient breaks • Technological changes • Unhealthy work climate • Violence, harassment at work • Imbalance between effort and recognition at work
<ul style="list-style-type: none"> • The majority of these risk factors are found in care settings. • The health risk increases with the length, frequency and intensity of the exposure to one or several of these risk factors. 	

SST IN THE KNOW?

The exposure of employees to a combination of ergonomic and psychosocial risk factors is associated with a more significant prevalence of MSI linked to the job (*Québec Survey on Working and Employment Conditions and Occupational Health and Safety. 2011*: www.irsst.qc.ca/media/documents/PubIRSST/R-691.pdf)

“[...] a psychological stress contributes to MSI by an increase in the activity and contractions of the muscles that magnify the stress on the muscles associated with the physical workload.” (EQCOTESST, p. 447)

“[...] physical, mental, psychological or social constraints at work interact and influence both psychological distress and MSI. Psychological distress and MSI can, in turn, influence each other. The relationships between these factors are complex and may be **bidirectional**. [...] The study therefore shows a **major relationship between MSI and mental health problems linked to work.**” (EQCOTESST, p. 447 and 501)

“**A very small proportion of employees** who were absent from work because of musculoskeletal pain linked to their main job (completely related to work but with a non-traumatic origin) **applied to the CSST for compensation**. [...] The MSI cases compensated by the CSST represent the tip of the iceberg. [...] **the scope of the problem of MSI linked to work**

is much more significant than indicated by the data on compensation. This fact has implications on prevention and for the key monitoring methods for MSI linked to work. This fact must lead to a major reflection on the **prioritization of prevention actions.**” (EQCOTESST, p. 494 and 496).

“**The prevalence of MSI linked to work are significantly higher among women to those seen among men**, and this, for each one of the body areas studied. This difference between genders is particularly marked for MSI of the neck (10.3% v 3.8%).” (EQCOTESST, p. 494)

“**The prevalence of MSI linked to a main job is strongly associated with psychological distress and with symptoms of depression**, both in men and in women.” (EQCOTESST, p. 494)

“**Musculoskeletal injuries are the main cause of incapacity in the Québec population** (*Institut de la statistique du Québec, 2000*) and **their high proportion attributed to work** suggests that we could prevent a good number of these problems by interventions in the workplace.” (EQCOTESST, p. 495)

MSI in the care setting

A FEW STATISTICS

In Canada and in Québec

According to the occupational health and safety research network in Québec, MSI are the primary cause of disabilities and the health problem linked to work most frequently reported in developed countries. **In Canada**, it is 2nd among the most costly injuries, ahead of pathologies associated with a cancer, cardiovascular diseases occupying first place. (www.rrsstq.com/fra/tms-lies-au-travail-et-a-lergonomie.asp)

In Québec, the health network (social affairs sector) is 2nd for the highest annual number of MSI among all the economic activity sectors. According to the ASSTSAS², it is the only sector where the proportion of MSI exceeds half of the employment injuries, while it is 35.5% for all the sectors. Women are proportionally more often victims of MSI caused by their work than men (53% v 47%). The length of compensations linked to MSI has increased by 31% from 44.3 days in 1998 to 58 days in 2007. (www.asstsas.qc.ca/documents/Publications/Repertoire%20de%20nos%20publications/OP/OP34204.pdf)

Regarding healthcare professionals

The economic activity most at risk of MSI is in **the care setting**. Based on the data from the *Portrait national des troubles musculosquelettiques (TMS) 1998-2007* drawn up by the *Institut national de santé publique du Québec - INSPQ*, the *Programme de prévention des TMS chez le personnel soignant* developed by the ASSTSAS indicates in particular that:

- the nurses and licensed practical nurses suffer 27% of the injuries linked to the MSI compensated by the CSST in the health sector

- over-exertion and body reactions (unexpected effects on the body following awkward positions) causing MSI represent 57% of all types of accidents involved concerning the injuries compensated by the CSST in this sector
- the main location for injuries associated with MSI is the trunk (back and shoulders) in 51% of cases, the upper limbs (arms and hands) in 16%, and the head and neck in 7% of the injuries compensated by the CSST
- moving patients is the main cause (63%) of the injuries linked to MSI compensated by the CSST in the health sector. (www.asstsas.qc.ca/documents/Publications/Repertoire%20de%20nos%20publications/Autres/A24_TMS.pdf)

SUFFERING LINKED TO MSI IS NO FIQTION!

The suffering linked to MSI is very real and not the result of an unfounded complaint, which is where the coinage of the term “*FIQtion*” comes from in the prevention message conveyed by the FIQ to its members. It is critical that this physical and psychological suffering is clearly identified, fully recognized and seriously taken into account in order to better help the healthcare professionals dealing with the negative consequences of MSI on their biopsychosocial and professional conditions.

From the emergence of the first distressing physical symptoms of an injury diagnosed as MSI until it is healed or stabilized indicating that no further improvement in the state of health is foreseeable, some healthcare professionals live with great suffering that is not limited only to persistent physical pain but also to malaise and psychological after-effects.

² ASSTSAS: Association paritaire pour la santé et la sécurité du travail du secteur affaires sociales

In fact, MSI resulting from a work accident or an occupational disease can cause them to experience various worries linked both to the uncertain development of their injury and the unknown repercussions from it on their capacities, their social relationships and their professional career.

As proof, among the files dealt with by the OHS Team at the FIQ, the number of healthcare professionals that the CSST has declared unable to perform their pre-injury job or even a suitable job with the employer because permanent functional limitations caused by MSI is quite significant. Some of them have to leave their professional field and look for a job elsewhere on the labour market after having worked for the same employer for many years. The impact of such a stress on the various aspects of their lives can be very harmful.

The occurrence of MSI can also affect their mental state and result in a psychological injury that can be incapacitating. According to a Québec study on working conditions, employment and OHS published in 2011, about 39.2% of workers with an elevated psychological distress level (45.1% of women and 31.5% of men) reported an MSI linked to their job. Anger, anxiety, sadness, depression, despair and other psychological manifestations can occur and eventually become more debilitating than the initial physical injury.

Certain therapeutic factors may contribute to preventing the development of a mental health problem resulting from a physical injury such as an MSI. Being able to break out of the isolation and being able to rely on reliable resources to obtain help are among these factors.

It is critical that the employees who suffer from an employment injury can quickly rely on the help of competent people that they trust, who will manage their file, give them the facts, give them the correct information and clearly explain to them the medical and legal path of their claim. The local union representatives, in collaboration with the FIQ union consultants, can give this kind of support to the healthcare professionals. Do not hesitate to consult them as soon as your employment injury appears!



How to prevent MSI

ACT ON YOUR PHYSICAL AND PSYCHOLOGICAL WORKLOAD

Making both your mental and physical load lighter will certainly help to protect your back and to protect you from MSI.

The workload involved in moving patients frequently being the cause of MSI in healthcare professionals, one of the best means of preventing them is to act on the elements of your workload as well as on the other risk factors that exist in your job. An analysis of your work station can be performed to eliminate or mitigate these risk factors.

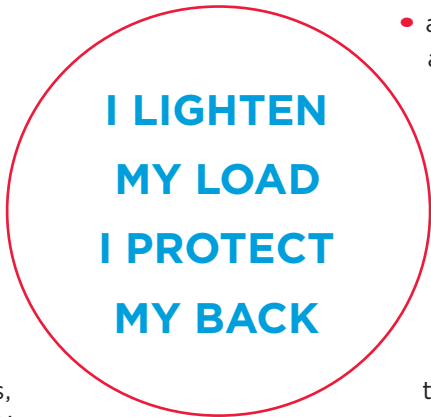
Thus, to reduce over-exertion and awkward postures, be sure to have the appropriate equipment available for moving patients such as a patient-lift, to apply the principles of moving patients safely, commonly known as PDSB, and to have received the training and the updating required by your job.

Always keep in mind that under an *Act respecting occupational health and safety*, the employer is obliged to take the necessary measures to protect your physical and psychological health, and to insure your safety and your integrity.

The interpersonal approach to care proposed by the ASSTSAS, in addition to the PDSB training, may also contribute to providing other tools for improving the conditions for executing the tasks in the care setting.

Among the other means of prevention, you can:

- vary your tasks and take mini breaks
- adopt less awkward, neutral postures
- push weight rather than pull it



- avoid excessive stretching and twisting
- ask for help and encourage support

Taking your breaks and meal periods are also means and perfect opportunities for rest stipulated in your collective agreement which allows your body to recuperate and be able to continue your shift more easily.

Lastly, you can rely on your local union team at all times for support and to help you in the steps to get corrective measures applied to your work environment by the employer.

ADOPT THE GLOBAL APPROACH TO THE WORK SITUATION RECOMMENDED BY THE ASSTSAS

The global approach to the work situation developed by the ASSTSAS is a universal reference in OHS prevention. It covers analyzing each and every one of the elements of a work situation and their inter-relationships with a view to identifying the problems and correcting them with appropriate measures of prevention.

The six elements of the ASSTSAS prevention model on which it is important to ask questions and to act are:

1. The INDIVIDUALS involved in a work situation:

- the healthcare professional who must perform the task
- the patient concerned (his physical, mental and emotional health, his personal characteristics, his medical history)
- the care team (who does what? when? how? with the help of whom?, etc.)
- the other individuals present (loved ones, visitors)

2. The **TASK** to be carried out by the healthcare professional:

- her physical, mental, emotional and interpersonal workload
- the postures, actions and movements required by the task
- the work methods and care used
- the sequence of the operations
- the organization of work

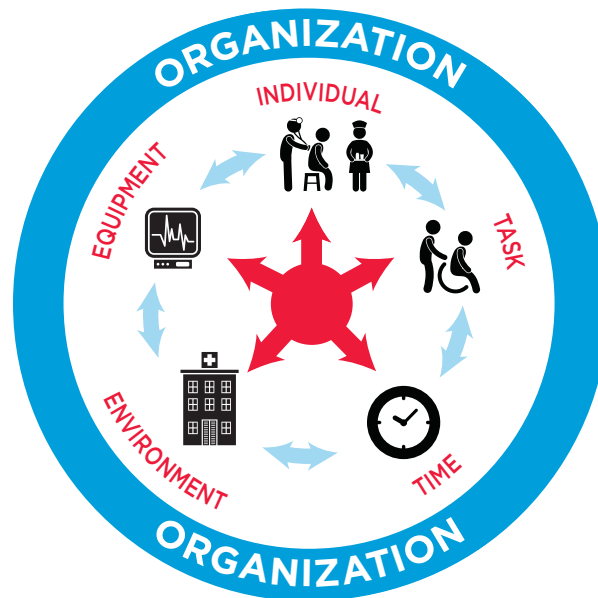
3. The amount of **TIME** required to accomplish the task:

- the length of time scheduled for the task in relation to the real time to accomplish it, the work schedule
- the tempo of work and the time to execute it
- the frequency of interruptions
- the time of the day and of the year
- the number of hours worked when the task must be accomplished

4. The work **ENVIRONMENT** in which this task must be accomplished:

- the design of the rooms and the work areas
- the vocation of the workspaces, the distances to cover, the quality of the surfaces, such as the floors
- the environmental factors such as the ambient temperature, heat, lighting, noise and the air quality

GLOBAL APPROACH TO THE WORK SITUATION



Source: ASSTSAS³

“In an organization, individuals carry out tasks with equipment in an environment and a specific time period.”

5. The work **EQUIPMENT** available to the healthcare professional to accomplish this task:

- the equipment, its availability, accessibility, condition, and its compatibility
- its ease of use, method of use and maintenance, the training received

6. The **ORGANIZATIONAL PRACTICES**

- the care plans, protocols, policies, procedures and internal regulations in force
- the structure of responsibility and decision-making, guidance and teamwork
- the institution's prevention programme.

The adoption of the global approach to the work situation which consists of analyzing all the elements and their respective inter-relationships can be a major contribution to preventing MSI.

Taking the time to take her time to do things properly and not get injured can help save precious time in getting the job done in time just like at home! Moreover, your local union representatives can give you the support and time necessary to help you to take the time to protect your health! Do not hesitate to talk to them!

³ ASSTSAS, *Programme de prévention des troubles musculosquelettiques (TMS) chez le personnel soignant, MAUX DE DOS, le personnel soignant toujours ciblé!*, 2011, page 7: www.asstsas.qc.ca/documents/Dossiers%20thematiques/TMS/Programme%20TMS/Programme_TMS.pdf

Useful links for MSI

Agence de la santé et des services sociaux,
Directions de santé publique, Prévention des troubles
musculosquelettiques (TMS) reliés au travail, Réseau
de santé publique en santé au travail – Pour des
milieux de travail en santé:
www.santeautravail.qc.ca/web/rpsat/dossiers/tms

ASSTSAS, Programme de prévention des troubles
musculosquelettiques (TMS) chez le personnel
soignant, MAUX DE DOS, Le personnel soignant
toujours ciblé!, 2011: [www.asstsas.qc.ca/documents/
Dossiers%20thematiques/TMS/Programme%20TMS/
Programme_TMS.pdf](http://www.asstsas.qc.ca/documents/Dossiers%20thematiques/TMS/Programme%20TMS/Programme_TMS.pdf)

ASSTSAS, liste des références bibliographiques du
programme de prévention des TMS chez le personnel
soignant: [www.asstsas.qc.ca/dossiers-thematiques/
troubles-musculosquelettiques-tms/programme-
de-prevention-des-tms-chez-le-personnel-soignant/
bibliographie.html](http://www.asstsas.qc.ca/dossiers-thematiques/troubles-musculosquelettiques-tms/programme-de-prevention-des-tms-chez-le-personnel-soignant/bibliographie.html)

ASSTSAS, Troubles musculosquelettiques (TMS):
[www.asstsas.qc.ca/publications/liens-utiles-db809a.
html?sid=7a8c2347-c208-4f55-a856-1c0ed35cf573](http://www.asstsas.qc.ca/publications/liens-utiles-db809a.html?sid=7a8c2347-c208-4f55-a856-1c0ed35cf573)

ASSTSAS, Mieux gérer l'exposition professionnelle
au stress en milieu hospitalier, 2009:
[www.asstsas.qc.ca/Documents/Publications/
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FT8-stress.pdf](http://www.asstsas.qc.ca/Documents/Publications/Repertoire%20de%20nos%20publications/Autres/FT8-stress.pdf)

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Au cœur des problèmes de santé des travailleurs
québécois, Objectif Prévention-ASSTSAS, 2011,
Volume 34, Number 2: [www.asstsas.qc.ca/
publications/revues/objectif-prevention/objectif-
prevention-vol-34-no-2-avril-2011/troubles-
musculosquelettiques-tms/au-coeur-des-problemes-
de-sante-des-travailleurs-quebecois.html](http://www.asstsas.qc.ca/publications/revues/objectif-prevention/objectif-prevention-vol-34-no-2-avril-2011/troubles-musculosquelettiques-tms/au-coeur-des-problemes-de-sante-des-travailleurs-quebecois.html)

DUPONT, Luc, Scientific Journalist, Percer les
mystères de la douleur, Le réseau québécois de
recherche sur la douleur, Health research, No. 42, File:
[www.frsq.gouv.qc.ca/fr/publications/recherche_en_
sante/html/no42/dossier.html](http://www.frsq.gouv.qc.ca/fr/publications/recherche_en_sante/html/no42/dossier.html)

Institut national de santé publique (INSPQ), Enquête
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santé et de sécurité du travail (EQCOTESST), 2011:
[www.irsst.qc.ca/-publication-irsst-enquete-
quebecoise-conditions-travail-emploi-sst-
eqcotesst-r-691.html](http://www.irsst.qc.ca/-publication-irsst-enquete-quebecoise-conditions-travail-emploi-sst-eqcotesst-r-691.html)

Institut national de santé publique du Québec (INSPQ),
Portrait national des troubles musculosquelettiques
(TMS) 1998-2007: TMS sous surveillance,
September 2010: [www.inspq.qc.ca/pdf/
publications/1156_TMS1998-2007SousSurveillance.pdf](http://www.inspq.qc.ca/pdf/publications/1156_TMS1998-2007SousSurveillance.pdf)

Institut national de santé publique (INSPQ), La
prévention des troubles musculosquelettiques liés
au travail, réflexion sur le rôle du réseau de santé
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