

OCCUPATIONAL HEALTH AND SAFETY



**UNDERSTANDING
VOICE DISORDERS**
HANDBOOK

**A HEALTHY VOICE
IS VITAL IN THE WORKPLACE**

***Prevent
and cure***



Centrale des syndicats
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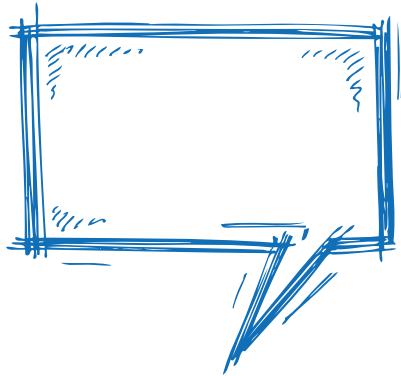
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TABLE OF CONTENTS

WHAT IS A VOICE DISORDER?	5
ADDITIONAL RISK FACTORS	9
A CLOSER LOOK AT COVID-19	13
HOW TO CARE FOR ONE’S VOICE	18
ADDITIONAL PANDEMIC-SPECIFIC ADVICE	22
GETTING HELP	24
RIGHTS AND OBLIGATIONS	25
REFERENCES	29





The voice is an essential work tool for a great number of professions, particularly those related to education, healthcare and early childcare. With our voice, not only do we share information using our words, we also share our emotions and our intentions through its melody and tone.

The voice is a pivotal and indispensable vehicle for workers in these fields, whether to share their knowledge, organize an activity or even manage emotions, when interpersonal conflicts occur for instance.

WHAT IS A VOICE DISORDER?

Voice disorders, or dysphonia, are still relatively unknown in Québec. A voice is said to be dysphonic when an individual detects a change in their usual voice. This change may involve the intensity (e.g., voice becomes weak), the timbre (e.g., voice breaks or becomes hoarse) or the pitch (e.g., voice becomes deeper or high-pitched). Other times, voice quality may seem unchanged, but some physical discomfort such as fatigue, throat irritation or dryness as well as muscle pain may be experienced when using one's voice.

These changes may occur as a result of excessive or inadequate use of voice and may be fleeting or persistent. One fairly common occurrence would be "losing your voice" after screaming at the top of your lungs at a concert. This specific scenario would only entail a temporary drawback, but when such an intense effort is exerted over long periods of time, as is the case in education and early childhood, it may lead to a more permanent problem and become debilitating in the long term. That is what we call a voice problem or disorder.

These types of problems are not systematically harmful to one's health. However, they can interfere with the affected person's routine activities, rendering their work or leisure activities more difficult.



WHAT ARE THE SIGNS OF A VOICE DISORDER?

Here are a few of the symptoms consistent with a voice problem diagnosis. Note that these signs differ from one person to the next and may vary in intensity.

Physical sensation	Perceived change
Discomfort / prickling in the throat	Vocal fatigue
Frequent coughing	Change in voice quality
Throat clearing	Loss of voice
Pain in throat when speaking	Faint or breathy voice

Voice disorders rarely happen overnight. Signs often appear gradually, without the person noticing anything specific or feeling the need to see a doctor (Naunheim and Carroll, 2017). Initial symptoms can disappear on their own after a short vocal rest, when a worker goes home at the end of the day for instance.

However, without professional intervention or changes in vocal use habits, these symptoms will eventually become permanent. And then hinder one's professional and personal life.

Over time, voice overloading may lead to organic damage to the vocal cords such as nodules or polyps. Surgery may be necessary to remove these growths. As such, it is important to remain vigilant as soon as the first signs appear to prevent and avoid further complications.

It is important to keep in mind that voice problems can be avoided. Even after its onset, strategies can be implemented to remedy a problem and prevent further damage which may require surgery.

WHO IS AT RISK AND WHY?

Anyone using their voice consistently and intensely in connection with their professional duties, their family life or leisure-time activities are at risk of developing a voice disorder.

Vocal folds—or vocal cords—are tiny muscles covered by a delicate mucosa that vibrate and collide 100 to 300 times each second when we talk. These tiny impacts cause microtrauma on the vocal folds which usually subside painlessly. However, excessive voice use can hinder the quick healing process, which may lead eventually to microtrauma morphing into permanent damage.

It then becomes crucial to note when voice use becomes excessive. For this purpose, three key factors come into play in the mechanism leading to voice disorders: vocal pitch, vocal intensity and vocal duration.

Vocal pitch

To begin with, the pitch of our voice is linked to how quickly our vocal folds vibrate. The higher-pitched our voice is, the faster our vocal folds vibrate. The fact of being a female person is a risk factor in itself since the morphology of the female larynx entails faster vibrations of the vocal folds, which leads to a greater number of micro impacts per second.

Vocal intensity

Secondly, the more significant the vocal volume (intensity) produced by a person, the greater the force in which their vocal folds collide. As such, the fact of earning one's living in a job where talking louder is required also represents a risk factor.

Vocal duration

Finally, the longer we talk without enough rest time to allow microtrauma to the vocal folds to heal, the greater the risks of developing actual damage.

We can see that being a female person and working in a school or early childcare setting results in an accumulation of risks where developing a voice disorder is concerned. This was confirmed by a number of studies showing that teachers are two to three times more likely to suffer from a voice disorder than the general population (Martins et al., 2014), and that female persons are overrepresented in groups of individuals dealing with voice problems (Roy et al., 2005).

Voice disorders have a significant impact on the work of people in education or early childhood settings. Voice being a key component of these workers' professional duties, voice dysfunction is more likely to require taking time off work. In some cases, prolonged or repeated voice problems may lead to a career change. Studies show that 4.2% of teachers are considering a change of career because of their voice problems (Roy et al., 2004).

Though many studies have specifically looked at the impact of voice disorders on the teaching community, it is crucial that we keep in mind that nearly all workers in education and early childhood settings are highly impacted vocally. Educators, student supervisors, special education instructors and many others are at risk of developing these same disorders.



ADDITIONAL RISK FACTORS

Other risk factors, beyond the three main factors listed in the previous section, may increase the probability of suffering from a voice disorder. They can be sorted into two categories: internal risk factors and external risk factors.

INTERNAL RISK FACTORS

Internal risk factors consist of factors that are specific to a given individual, on which they do or do not have control. One's personality, emotions, ability to manage stress, level of tiredness and general health condition are some of these internal factors.

Personality

Several studies show that certain personality traits and certain emotions may increase the risks of developing vocal disorders. People on either end of the extroversion-introversion spectrum would be at higher risk (Roy, Bless and Heisey, 2000). On the one hand, personality traits such as shyness and having a tendency to worry and to struggle with anxiety, are identified. On the other, we can see more extroverted personality types, namely individuals who enjoy social interaction and will be more likely to talk louder and for a longer period of time in social situations.

Stress

Stress also has a direct link with voice disorders. It is a well-known fact that work-related stress has a negative impact on the staff's mental and physical health. However, it is less well known that it also has an impact on vocal health. Individuals reporting work-related stress are also twice as likely to develop voice disorders (Carrillo-Gonzalez, Camargo-Mendoza and Cantor-Cutiva, 2019).

Sleep

Sleep is also a key component of vocal health and general health. In fact, sleep is crucial to the psychological and somatic recovery of human beings and several studies show the negative impact lack of sleep or low-quality sleep has on vocal health. Workers who sleep less than six hours each night are also twice as likely to develop a voice problem (Carrillo Gonzalez, Camargo-Mendoza and Cantor-Cutiva, 2019).

EXTERNAL RISK FACTORS

External risk factors often pertain to organizational structures on which the individual has little immediate control.

Vocal demands

First, workers with significant vocal demands—talking at high intensity for long periods of time—when carrying out their professional duties are at risk of developing dysphonia (Marciano, 2017) due to the type of vocal microtrauma detailed previously.

Type of environment

In addition, an individual's environment has great influence on their voice production. Each setting has distinctive acoustic properties, which lead to different challenges as well as different voice adjustments (Marciano, 2017).

For instance, greater reverberation is observed in very high-ceilinged sports facilities; the staff has to increase their voice's intensity to be heard properly.

Atmospheric conditions

On a related issue, it should also be noted that the voice production process is sensitive to atmospheric conditions. Irritation caused by cold, heat, humidity, dust, pollution, air-conditioning and allergens can occur quite quickly (Martins et al., 2014).

Ambient noise

Lastly, noise is a significant external risk factor related to one's work environment. Generally speaking, individuals working in noisy environments are more at risk of developing a voice problem (Martins et al., 2014).

To make their message intelligible despite the ambient noise, workers trying to communicate will need to increase the volume of their voice to ensure they are clearly heard. This volume increase is somewhat involuntary and more in the realm of reflexes, therefore harder to control (Dejonckere and Pepin, 1983). Some studies show that vocal intensity in a noisy environment can be similar to the intensity produced when one screams, which leads to vocal fold damage when the behaviour happens again and again (Marciano, 2017).

In school settings, several studies have shown that sound levels exceed World Health Organization (WHO) recommendations for an optimal learning environment. According to WHO (1999), sound levels in these settings are more than 35 decibels higher than the recommended threshold.

These extreme sound levels in schools are similar to those of a lawnmower, a chainsaw and even a rock concert.

INTERNAL AND EXTERNAL RISK FACTOR INTERACTION

Internal and external risk factors interact and may lead to a vicious cycle, generating or sustaining a voice disorder. In education and early childhood settings, a suboptimal sound environment generates a self-sustaining negative spiral that affects directly and indirectly the voice of teachers and childcare workers.

The noise leads to mental fatigue and stress, compounded with the physical fatigue caused by raising one's voice. How long one speaks also increases given that reduced intelligibility entails the need for repetition.

Among the teaching staff, it has been shown that voice disorders increase mental and physical fatigue (Smith et al., 1997). Not only do voice problems lessen the intelligibility of speech, they can lead to students' negative perception and lessen their engagement, which in turn may adversely impact their learning (Lyberg-Åhlander et al., 2015). Many studies have shown that noise in classrooms represents a disruptive element of student learning (Szalma and Hancock, 2011) and can reduce some aspects of school performance by nearly 30% (Klatte et al., 2010).

Children may feel less driven when teachers are more difficult to understand or seem less engaging. This may affect a teacher's sense of efficacy and add to the stress and fatigue, as well as increase a child's stress level. We know for instance that noise triggers physiological stress responses and has a negative impact both on children's (Evans and Hygge, 1998) and teachers' well-being (Augustyńska et al., 2010).

Students and children in a noisy setting will have a tendency to be more boisterous and maybe not participate as much which makes class and behaviour management even harder. In fact, students may react by making noise themselves (talking with their peers, fidgeting) which leads in turn to a phenomenon described by many staff members in education and early childhood settings as "noise begets noise".

In the previous section, we saw how noise not only increases the vocal load of workers but also exacerbates their stress and fatigue. Though workers may in certain cases reduce their vocal load after their workday, stress as well as mental and muscular fatigue may have lasting effects, particularly on their sleep. In turn, these effects will have a detrimental influence on the health of their voice.

Furthermore, workers in education and early childhood settings are often women with dependent families, which reduces the likelihood of resting their voice after work. Where a voice disorder leads to losing one's voice near the end of day, communication issues will entail which may have repercussions on family dynamics and the quality of relationships. This compounds the stress, the mental load as well as negative feelings.

A CLOSER LOOK AT COVID-19

In 2020, all our lives were turned upside down by the onset of COVID-19. Many health measures were implemented to limit the spread of the virus, such as wearing a mask or a face shield or by physical distancing.

Given these new measures, communication issues arise every day, namely the challenge of being understood with a mask, the feeling of not getting enough air as well as foggy glasses, among others. This situation calls for great adaptability day in and day out. But how do these measures affect communications and the voice of people working in schools and early childhood settings?

SURVEY: VOICE HEALTH IN THE MIDST OF THE COVID-19 PANDEMIC

To better identify vocal health issues during the COVID-19 pandemic in our workplaces, a short questionnaire was sent to members of the Centrale des syndicats du Québec (CSQ) in October 2020.

Among the 201 answers received, nearly three-quarters came from women and 80% were from teachers, both men and women, working in large part in the elementary and secondary level. Most participants (96%) said they wear the surgical face mask in their workplace, combined with other measures in most cases. Wearing a mask and a face shield is the combination most used by workers (48.5%).

Since school started in September, over 60% of the respondents have always or often struggled to be heard and must strain their voice (feel as if they're yelling, tightening of the throat and shortness of breath). Nearly 40% of all participants have reported sore throats at the end of their workday, 35% have seen a change in their voice and 25% are worried about their vocal health.

The survey's most alarming finding is undoubtedly that 75% of the respondents feel ill-equipped or not equipped at all to take care of their voice. Only 4% among them feel they have the necessary tools to do so.

A few testimonials

Managing large groups has become particularly difficult due to the health measures. People in charge of such groups struggle to capture and hold the attention of their group and need to yell to be heard. The lack of attention generates more restless behaviour within the groups, which leads in turn to additional noise.

One respondent explains: “Simply being heard in a packed room when I’m wearing a mask ... oof! My ears are clogged, I have a sore throat, I’m constantly coughing and I have pimples due to that blue mask. It’s horrible. I have a headache every single day.”

“Normally, when a student asks a question, we simply move closer and answer very softly, in a whisper. Since last September, we have to yell to explain things to a student sitting at the very back. This leads to other students raising their voices and then the noise level just keeps increasing. Teaching periods are more exhausting,” notes another respondent.

Paradoxically, situations which are diametrically different also present unique challenges, namely communicating in small groups or one-on-one, when providing some counselling. Proximity to a student is only possible while wearing a mask, blurring verbal and non-verbal communication, which tires both the student and the teacher.

A participant explains. “I have to yell through my mask and exaggerate my intonation to be properly understood. It upends the protective and understanding climate a child can usually recognize through my soft tone of voice.”

“To provide a high-quality teaching experience, I often have to work one-on-one with students and wear a mask and safety glasses,” notes another respondent. “They are highly inconvenient in our day-to-day work; I often have to repeat myself; my voice is strained, I have headaches. It has a great impact on my energy level at work.”

WEARING A MASK: IMPACT ON COMMUNICATION AND VOICES

Wearing a mask results in communication issues, both acoustically and visually, of varying degrees:

- ✓ A signal's intensity is greatly reduced, because the mask serves as a barrier which impedes the propagation of sound waves. This decrease in volume may amount to 12 decibels (Goldin et al., 2020), which roughly translates to adding a one-metre distance from the other person.
- ✓ Articulation is distorted and muffled due to a decreased range of motion of the mouth and jaw (particularly with masks tied in the back).
- ✓ Emotional signalling is somewhat lessened, given that any facial expression of the lower half of the face is covered by the mask.
- ✓ Masks also prevent lip-reading as it is impossible to see the movement of the jaw or lips. These are all essential visual cues that help us understand what is being said.

PHYSICAL DISTANCING: IMPACT ON COMMUNICATION AND VOICES

When a mask or face covering is removed, it is necessary to maintain a two-metre physical distancing. For instance, teachers are authorized to take their masks off when giving a class to their students provided they maintain that distance from the group.

However, maintaining such a distance between speaker and audience necessarily entails a greater vocal load given that the speaker must talk louder to be heard by their interlocutors. Consequently, vocal cords are more at risk of developing microtrauma.

And yet, it is difficult for many workers to maintain this distance given that the very nature of their job requires them to be physically close to their interlocutors (students, young children, patients) to foster emotional communication. As a result, wearing a mask is often the protection method most used in workplaces.

TRANSPARENT PLEXIGLAS BARRIER AND/OR FACE SHIELD: IMPACT

To alleviate some of the difficulties incurred by constantly wearing a mask, other measures are provided, such as using a transparent Plexiglas barrier. However, these measures also impact communication.

- ✓ Plexiglas affects speech intelligibility as it is a barrier to the optimal transmission of sound waves.
- ✓ Reflections cast on the Plexiglas plane alter how articulation is visually perceived.
- ✓ The Plexiglas pane, much like physical distancing, entails a static position. However, movement and shifting from one place to the next is an integral part of the duties of all school or early childhood personnel.

For most workers in these settings, wearing a mask at all times throughout the day remains the preferred choice for them to carry out their tasks naturally and efficiently.

WHAT ABOUT CLEAR WINDOW FACE MASKS?

A clear window face covering helps re-establish visual cues, but is not as efficient as a surgical mask where acoustics are concerned. Face coverings with a clear plastic window block out the transmission of high frequencies even more.

Now, these frequencies are those of consonants, which help us distinguish between two words and therefore ensure speech intelligibility. Also, though the purpose of these masks is to restore visual cues, the experience some have had raises many “user issues”. Masks fog up quickly and, depending on the model, a user’s lips can stick to the plastic window making articulation and lip-reading more difficult.

GREATER VOCAL AND MENTAL LOAD

Workers in school and early childhood settings are truly committed to their work and are always looking to overcome communication issues inherent to their profession for the well-being of the people they work with.

Time and again, they offset these difficulties at the expense of their own health and well-being. The various ways in which they behave to improve speech intelligibility in poorer conditions create greater vocal and mental load. This can quickly become harmful to workers' vocal and general health and may contribute to all-encompassing occupational fatigue.

In short, voice disorders resulting from various professional constraints adversely affect workers' physical, emotional and functional realms. Consequences may even impact their general quality of life.



HOW TO CARE FOR ONE'S VOICE

In this section, we will begin by providing some advice on vocal hygiene which can be incorporated in one's daily professional or personal routine, and then suggest exercises to be done before, during and after speaking. Finally, we will look at a few solutions to help reduce risk factors which could lead to the development of dysphonia. Additional pandemic-specific advice will also be offered.

VOCAL HYGIENE

The goal of vocal hygiene is to keep your voice healthy, much like the oral hygiene recommended by your dental hygienist helps keep your mouth healthy. By adopting these healthy vocal habits, you can avoid developing a voice disorder.

1. Lighten the vocal load

Taking vocal breaks regularly throughout the day is essential. These breaks during working hours should ideally be moments of complete silence to allow the voice and throat to rest.

2. Use technology to amplify your voices

Using a vocal amplifier (e.g., a microphone) of at least 60 Hz can help spare your voice when speaking to larger groups. Studies show that workers who use amplifiers ease their vocal load by speaking less and lowering their voice.

3. Lower your voice: don't shout, project

Avoid yelling or straining your voice to be heard above the often ever-present and uncontrollable noise of your workplace. For women, raising—and even straining—their voice might be instinctive, to ensure they are heard above the noise. This produces a stronger but higher-pitched and “screeching” voice. To avoid straining your voice when speaking louder, make sure to keep clear of higher pitches.

See below to learn more about voice projection.

4. Stay hydrated

Drinking about 1.5 litres of water each day is recommended to maintain optimal hydration, which is good for your body and your vocal cords. These tiny muscles will remain supple and functional, making voice production far easier. When your vocal folds seem dry, you could also use a nebulizer for five minutes twice a day to keep them well-hydrated (Masson and de Araújo, 2018).

5. Breathe and maintain a good posture

Optimal breathing allows for optimal voice production. Breathing using relaxation techniques can also help reduce stress, relieving any tension you may have in your throat, which generally contributes to vocal strain.

6. Address any irritants

Reduce, or stop, if possible, tobacco consumption. Control allergies, exposure to dust, gastric reflux and all other factors which may irritate structures involved in voice production.



VOICE TRAINING EXERCISES

As with any other muscle in your body, it would be best to stretch and warm up your voice's muscles before any effort and to let them cool down afterwards, particularly when the effort is prolonged and high-intensity. The following exercises can help but it would be best to consult with a speech-language pathologist to get personalized advice.

1. Warm-up

The voice box (five minutes): blow a raspberry while releasing a breezy voice. This simple exercise can be done in the morning in the shower or even while you are driving to work. Your vocal cords will be properly warmed-up and ready to tackle a full day of vocalizing.

2. Voice projection

Being grounded: being well grounded is key to voice projection. Plant your feet firmly on the ground and keep your back straight, as if you were a deep-rooted tree. This is the best posture to produce a properly projected voice.

3. Vocal cooldown

Sigh (repeat five times): take a deep breath in as you raise both arms alongside your body up in the air, then exhale in a nice yawn as you bring your arms back down.

Hum (five minutes): softly hum a relaxing song or melody, keeping your lips together. You will feel more relaxed in the wink of an eye.

4. In case of voice loss

Straw in a water bottle (two to five minutes): using a straw, blow bubbles in a water bottle and then add a bit of sound using your voice. Maintain this breezy voice throughout the exercise. Your tired vocal cords will appreciate this relaxing exercise at the end of a long day.

ACTING ON RISK FACTORS

It is important to try to reduce the likelihood of developing a voice disorder by acting on internal and external risk factors.

1. Identify personality traits and emotions which may affect your voice

Once you have a better understanding of these aspects, you can be on the lookout for situations that entail greater voice loading, and manage them better. If need be, do not hesitate: see a psychologist to help manage certain feelings.

2. Develop stress management strategies

Taking short breaks to rest both body and mind is essential. You might practise mindfulness or meditate for instance. This helps to let go of physical and psychological tension, which in turn helps relieve vocal tension. Furthermore, it is very important to improve the quality and quantity of sleep to ensure maximum psychological and somatic recuperation. Sleeping over six hours each night is recommended.

3. Adapt your work space when possible

Try to organize your work environment so ambient noise is kept to a minimum. Working in rooms of medium size with good acoustics is preferable. Remember to close both windows and doors to avoid any sound nuisance from the streets or corridors.



ADDITIONAL PANDEMIC-SPECIFIC ADVICE

1. Make sure the audience hears you very clearly

Before sharing oral instructions or starting a lesson, it is essential to make sure that anyone requiring hearing aids or using cochlear implants are wearing their devices, particularly in special needs settings.

2. Take the time to speak clearly

Speaking clearly and slightly slower, taking quick pauses and being silent for a few seconds are but a few ways you can improve speech intelligibility. But remember: articulating more clearly may also lead to strenuous voice production, which in turn increases voice loading. The goal is to slow down without excessive enunciation.

3. Maintain visual contact with your interlocutors

When mask wearing is unavoidable, it is essential to try to capture the attention of those you are speaking with through eye contact. Some expressions can be conveyed simply by squinting your eyes, by frowning or raising your eyebrows, by winking, etc.

4. Use non-verbal language and provide visual aids

The use of non-verbal strategies to support speech and lessen voice loading is very important given the current health crisis. Here are a few non-verbal communication strategies: make hand gestures, talk more theatrically, mime, share a common set of signs, provide visual aids, and write on the board.

5. Take speech pauses more often

These breaks should go hand in hand with some “airing out,” without a mask and ideally outside.

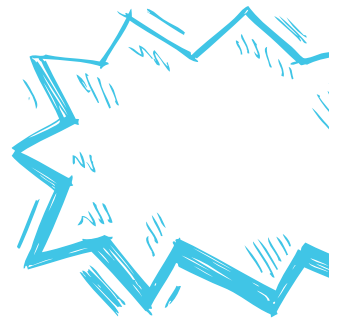
POSSIBLE ORGANIZATIONAL SOLUTIONS

Considering how voice disorders may impact the lives of those affected, workers can start working on a few levels to take care of their voice.

Organizations and workplaces would also do well to explore and implement other broader avenues to ensure their staff's well-being while lowering the absenteeism rate as well as voice health-related career changes.

Here are a few possibilities:

- ✓ Identify those at risk of developing a voice disorder early in their career (while attending university, for instance) and offer workshops/training to help develop healthy vocal habits;
- ✓ Broaden the current mandate of school speech-language pathologists so they can take an active role in the prevention and treatment of voice disorders among their colleagues;
- ✓ Set aside moments and spaces in the workplace to allow complete vocal and global rest, lowering work-related cognitive load and stress;
- ✓ Provide vocal amplifiers in any environment where acoustics are suboptimal (noisy environments, excessive reverberation, etc.).



GETTING HELP

Generally, if your voice is hoarse (or simply feels different) for more than 15 days, you should see an ENT specialist or a speech-language pathologist.

Speech-language pathologists are professionals who deal with communication disorders. They have the necessary training and skills to prevent voice problems and help rehabilitate your voice. They can be called on to help various clientele: singers, customer service representatives, transgender individuals and, most importantly, teachers.

An **ENT** (ear-nose-and-throat specialist) is a medical specialist who treats all medical problems related to the head and neck area as a whole but more specifically the ears, nose and throat (e.g., otitis, head and neck cancer, dizziness, voice disorders). Treatments provided by an ENT can involve taking medication, surgery or reeducation. An ENT can work in close collaboration with speech-language pathologists and audiologists.

Audiologists are professionals who deal with hearing impairment and vestibular system disorders. They focus among other things on prolonged noise exposure in the workplace and its harmful impact on the staff's hearing health. Do not hesitate to seek their advice if you work in a noisy environment or notice any changes in your hearing.

You can find a list of speech-language pathologists and audiologists in your region on the Ordre des orthophonistes et audiologistes du Québec (OOAQ) website: ooaq.qc.ca/consulter.

RIGHTS AND OBLIGATIONS

Occupational health and safety are subject to two important Acts: the Act respecting industrial accidents and occupational diseases (AIAOD) which provides compensation for employment injuries, and the Act respecting occupational health and safety (AOHS) which sets out a series of measures aimed at prevention. Provisions related to compensation and prevention provided for in these acts also apply to voice disorders.

PREVENTION

Workers' obligations

A worker must, among other things, meet the obligations set out in Section 49 of the AOHS:

[...]

(2) take the necessary measures to ensure his health, safety or physical well-being;

(3) see that he does not endanger the health, safety or physical well-being of other persons at or near his workplace;

[...]

(5) participate in the identification and elimination of risks of work accidents or occupational diseases at his workplace.

[...]

Workers play a key role in their workplaces as they are best suited to identify any situation which may lead to voice disorders (e.g., harmful changes to the work environment, obligation to use one's voice continuously, noisy work environment, being exposed to irritating fumes stemming from a cleaning product for instance, presence of dust or chalk dust or other types of dust, inadequate ventilation or the presence of deficient acoustics).

Right of refusal

Section 12 of the AOHS provides that “a worker has a right to refuse to perform particular work if he has reasonable grounds to believe that the performance of that work would expose him to danger to his health, safety or physical well-being, or would expose another person to a similar danger.”

However, this Act limits the exercise of this right when “[...] his refusal to perform the work puts the life, health, safety or physical well-being of another person in immediate danger or if the conditions under which the work is to be performed are ordinary conditions in his kind of work” (Section 13 of the AOHS).

Circumstances leading to workers exercising their right of refusal are always assessed on a case-by-case basis. We recommend that you contact your local union before exercising this right.

You can learn more with the CSQ’s Right of refusal brochure; it provides additional information on the intervention of the Commission des normes, de l’équité, de la santé et de la sécurité du travail (CNESST) as well as available recourses.

Employer’s obligations

Also under the provisions of the AOHS, an employer must meet the obligations provided for under Section 51. Generally, the “[...] employer must take the necessary measures to protect the health and ensure the safety and physical well-being of his worker.”

The Law sets out specific obligations on the employer. He must, among other things:

- ✓ see that the establishments under his authority are so equipped and laid out as to ensure the protection of the workers;
- ✓ ensure that the organization of the work and the working procedures and techniques do not adversely affect the safety or health of the workers;
- ✓ use methods and techniques intended for the identification, control and elimination of risks to the safety or health of the worker;
- ✓ see that no contaminant emitted affects the health or safety of any person at a workplace;



give the worker adequate information as to the risks connected with his work and provide him with the appropriate training, assistance or supervision to ensure that he possesses the skill and knowledge required to safely perform the work assigned to him.

Take action to prevent voice disorders

All accidents, incidents or dangerous situations, even if they do not lead to time off work, must be reported using the appropriate form or recorded in the occupational injury register, in accordance with the employer's procedures. The employer must assess the work in order to identify inherent risks of developing a voice disorder.

The employer must then provide its staff with the proper information as to any work-related risks. He must also ensure that they receive the proper training and supervision (e.g., healthy vocal habit training, help or tools provided by speech-language pathologists, adjustments to the work environment so as to reduce the presence of noise or of a very loud reverberation).

Work organization must also be reviewed to reduce the presence of noise. Hygiene measures must be put in place to ensure that workplaces are not exposed to dust, are well ventilated and have proper humidity control. Furthermore, ventilation systems must be suitably maintained and looked over to ensure that they work properly.

Issues related to voice problems must be reported to the occupational health and safety committee to ensure that solutions are developed to improve the workplace and reduce the risks which may lead to voice problems.

REPARATION

When a worker develops a voice disorder, a claim with the accompanying written certificate from the attending physician must be filed with the CNESST.

Generally, a voice disorder is recognized as an occupational disease. To ensure this injury is recognized, a worker must demonstrate that the injury is related to the specific risks of their job. They must prove that, given its nature or its normal working conditions, their work carries a particular risk of developing the disease. For example, some of these aspects might be considered: the length of time the voice is used; the voice's intensity; medical proof or documentation; characteristics of the physical location; or the presence of noise.

Currently, diagnosis related to voice disorders are not recognized under Schedule 1 of the AIAOD. As such, this type of pathology does not benefit from a presumption which would facilitate its recognition.

The courts have recognized that voice disorders may be considered as a professional injury from the perspective of a work injury when working conditions have been changed or in the presence of unusual working conditions. Such was the case for a worker who lost her voice after being subjected to irritating fumes originating from a powerful cleaning product.

The AIAOD defines an industrial accident as “a sudden and unforeseen event, attributable to any cause, which happens to a person, arising out of or in the course of his work and resulting in an employment injury to him” (injury or illness). Changes to a person’s working conditions could be consistent with the notion of a “sudden and unforeseen event” in its broader sense and may allow for the recognition of an industrial accident.

Compensation

Should a professional injury involve time off from work, the Act stipulates, among other things, that the CNESST must pay an income replacement indemnity equal to 90% of the weighted net income. Medical aid costs required as a result of the worker’s condition, such as medication and speech-language therapy, are entirely borne by the CNESST once it accepts the claim.

Collective agreements may contain greater benefits, in terms of compensation, than those detailed in the Act. The AIAOD also provides for compensation for other consequences related to an industrial accident such as compensation for bodily injury in cases of permanent physical or mental impairment. Should the claim be denied, you can contact your union.

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