INESSS
LE SAVOIR PREND FORME

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MANAGEMENT INFORMATION SHEET – POST-COVID-19 CONDITIONS

REHABILITATION INTERVENTIONS

This sheet contains clinical information and recommendations that may be useful to anyone providing rehabilitation services to people with post-COVID-19 conditions (e.g., dieticians/nutritionists, kinesiologists, neuropsychologists, occupational therapists, physiotherapists, social workers, speech-language pathologists). It is also intended as a source of information for other stakeholders involved in the care of these people (e.g., paying agents). It does not seek to replace the clinical judgement of clinicians and professionals who exercise activities reserved for them under specific laws or regulations. The content is based on a systematic review of accepted clinical practice guidelines and relied on the knowledge of Quebec experts and people with post-COVID-19 conditions. This information sheet is complementary to other INESSS documents. For more details, please consult inesss.qc.ca/en/covid-19.

For a general overview of the medical management of people who have persistent symptoms following a SARS-CoV-2 infection, please refer to the general management support tool *Post-COVID-19 conditions*.

This sheet provides the following information:

- a definition of post-COVID-19 conditions;
- a description of clinical manifestations including fatigue and post-exertional malaises;
- general rehabilitation principles for post-COVID-19 conditions;
- rehabilitation assessment practices;
- rehabilitation intervention practices.

POST-COVID-19 CONDITIONS

Post-COVID-19 conditions correspond to the health condition of a person who meets all three of the following conditions:

- Initial SARS-CoV-2 infection, confirmed (analyses or investigations) or plausible (epidemiological link);
- Presence of clinical manifestations more than 12 weeks after initial infection;
- Presence of clinical manifestations that cannot be explained by any other condition and which were not present prior to the infection.

According to the clinical presentation, characterization and management support of clinical manifestations can be contemplated four weeks after the infection.

CLINICAL MANIFESTATIONS

GENERAL INFORMATION

- Post-COVID-19 conditions **are not related to the severity of the acute phase** of the infection.
- **The clinical presentation is variable:**
  - Persistence of some of the clinical manifestations present during the infection's acute phase, with or without any new manifestations;
  - Appearance of clinical manifestations after a remission period subsequent to the acute phase or an asymptomatic infection.
- Post-COVID-19 conditions **comprise a wide range of physical and mental manifestations** apparent at least 12 weeks after a SARS-CoV 2 infection. These manifestations include complications associated with the prolonged illness, sequelae due to hospitalization or the acute phase.
- **Recovery is different from one person to the next.** Although there is limited background and little available data, it appears that:
  - a progressive improvement in health status is observed in numerous people up to 12 weeks post-infection;
  - when symptoms persist beyond this 12-week mark, subsequent improvement is uncertain and tends to occur at a slower pace.

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Clinical manifestations of post-COVID-19 conditions (partial list)		
Categories[1]	**Manifestations**[1,2]	
Cardiorespiratory	• Arrhythmia • Cough • **Dyspnea**[3]	• Orthostatic intolerance • Palpitations • Thoracic discomfort or pain
Dermatologic	• Hair loss	• Skin rashes
Gastrointestinal	• Abdominal pain • Diarrhea	• Nausea • Vomiting
General	• Altered thermoregulation (fever or profuse sweating) • Hypersensitivity to environmental stimuli • Limited tolerance to effort	• Loss of or decrease in appetite • **Post-exertional malaises**[3] • **Sustained and debilitating fatigue**[3]
Musculoskeletal	• Joint, tendon or muscle pain	
Neurological	• Changes to senses, including altered taste and sense of smell, neuropathic pain and blurred vision • **Cognitive difficulties**[3,4], including memory loss, lack of clarity of thought and difficulty concentrating	• Headaches • Mobility changes, including a difficulty pronouncing or articulating • Sleep disturbances
Otorhinolaryngological	• Changes in the voice (e.g., quality, pitch or tone) • Difficulty swallowing • Earaches	• Sore throat • Tinnitus • Vertigo
Psychological	• Symptoms of anxiety • Symptoms of depression	• Symptoms of post-traumatic stress
ℹ Clinical presentation could change, depending on the SARS-CoV-2 variants and new discoveries.		

1. Information is provided in alphabetical order. The frequency of manifestations can vary, based on the characteristics of the populations observed.
2. Some symptoms could fall into more than one category, but have been included in a single place to facilitate the production of the table.
3. Signs and symptoms most frequently observed.
4. Cognitive difficulties are often grouped together under the term "mental fog".

TYPES AND CHARACTERISTICS OF FATIGUE

Characteristics	**Classical fatigue**	**Fatigue linked to deconditioning**	**Fatigue associated with post-exertional malaises**
Clinical presentation	• Feeling of heaviness, weariness or exhaustion • Intensity usually proportional to the effort expended	• Intolerance to exertion • Reduced ability to carry out a physical activity at the normal frequency, intensity and duration based on age, size, gender, muscle mass and cardiovascular capacity	• Extreme and debilitating fatigue • Feeling of being crushed or spent • Intensity not proportional to the effort involved • Appearance or exacerbation following activities that were not an issue prior to the infection
Occurrence	During or after physical, cognitive or emotional exertion	During or shortly after physical exertion	Anywhere from a few to up to 72 hours after physical, cognitive or emotional exertion
Recovery	• Goes away with rest or sleep • Can last some hours or some days	• Goes away with rest or sleep • Generally lasts less than a day	• Does not diminish or diminishes very little with rest or sleep • Can last days, weeks and even months
ℹ **The three types of fatigue can co-exist.**			

→ **Depression and the fatigue that can accompany it** may result from the pandemic or post-COVID-19 conditions, and can bring an additional degree of complexity to the clinical presentation.

POST-EXERTIONAL MALAISES AND THEIR CHARACTERISTICS

Post-exertional malaises (PEMs):

- correspond to the **appearance or aggravation of signs and symptoms** that present following physical, cognitive or emotional exertion, even if minimal. They generally manifest themselves anywhere **from a few to up to 72 hours after an activity**, and can last days, weeks or months;
- are often associated with a **reduction in functional ability** compared to that prior to the infection;
- are related to the **amount of energy** a person has:
  - each person has an **amount of available energy** specific to them and which can vary over time;
  - **each activity** calls for a specific amount of energy from a given person and if this amount does not exceed the amount of available energy, the activity will trigger a classical fatigue that can be addressed with adequate rest;
  - the **cumulation of activities** brings about an increase in the energy expended;
  - the **post-exertional malaises triggering threshold** corresponds to the moment when all available energy has been expended;
  - **once the threshold is reached**, extreme fatigue and other manifestations of post-exertional malaises appear (after a certain moment) and can last a certain amount of time.

Characteristics of post-exertional malaises	
Parameters	**Characteristics**
Types of activities that can contribute to reaching the post-exertional malaises triggering threshold	• **All types** of activities can contribute: - **Physical** (e.g., taking a shower, brushing one's teeth, climbing stairs, cooking, doing laundry, housework, walking); - **Cognitive** (e.g., listening to music, reading, working at the computer, watching a movie or TV show, filling out a form, driving); - **Emotional** (e.g., bereavement, difficulty resuming previous activities, stressful or joyful events). *i* The energy required to carry out an activity can vary according to the type of activity, its duration and intensity, the setting, the person's mental state at the time or the manner in which the activity is conducted.
Exertion threshold that triggers post-exertional malaises	• **Variable:** - from one person to the next; - from one day to the next, for a given person. • **Dependent** on elements such as the change in a person's health status, the taking of medication and the addition of new activities to an established routine. • Can be preceded by **warning signs** (e.g., headaches, increased sensitivity to stimuli, trouble speaking, palpitations or irritability). *i* Warning signs can be different depending on the person and can also vary according to type of exertion. They tend to correspond to the symptoms of post-exertional malaises, but generally exist in isolation. Resting as soon as a warning sign appears can often prevent the development of post-exertional malaises.
Time between activity and post-exertional malaises	• From **a few hours to 72 hours** depending on the person.
Duration of post-exertional malaises	• Variable. Can last **days, weeks or even months**.

Manifestations that can appear or be exacerbated in the event of post-exertional malaises		
Categories[1]	**Manifestations**[1] (liste non exhaustive)	
Cardiorespiratory	• Arrhythmia • Chest pain • Drop in pressure • Dyspnea • Orthostatic intolerance (see grey box opposite) • Palpitations	⚠ Orthostatic tachycardia would be observed in a subgroup of people who present persistent symptoms.
Cognitive	• Memory loss • Decreased attention	• Difficulty finding words • Trouble thinking clearly
General	• Discomfort while standing or sitting down • Extreme fatigue	• Flu-like symptoms[2] • Unrefreshing sleep
Neurological	• Blurred vision • Difficulty pronouncing or articulating • Dizziness • Greater sensitivity to stimuli[3]	• Headaches • Internal tremors[4] • Pain • Paresthesiae
Musculoskeletal	• Burning muscles • Muscle fatigue	• Muscle or joint pain • Muscle weakness

1. Information is provided in alphabetical order.
2. Includes sore throat, painful adenopathies, fever and myalgia.
3. Includes noise, light, odours and touch.
4. Not usually visible from the exterior and often involves the lower limbs.

ⓘ **Post-exertional malaises** are cardinal manifestation of myalgic encephalomyelitis. This condition has certain characteristics in common with some of the clinical aspects of post-COVID-19 conditions; the link, however, cannot be confirmed given the uncertainties regarding the pathophysiology of each of the conditions.

GENERAL PRINCIPLES

ⓘ **A rehabilitation intervention can be considered, especially for people who:**
- present with one or more persistent manifestations of post-COVID-19 conditions (including post-intensive care syndrome) that result in significant functional limitations or that significantly impair the ability to carry out regular activities of daily living (e.g., perform daily and domestic tasks, attend work or school), quality of life or achievement of life goals;
- need assistance in managing the manifestations of post-COVID-19 conditions and in adapting to their residual abilities (e.g., psychological support, adaptation to their new condition, including adaptation of their environment).

➔ Promote **rehabilitation management** and **interprofessional collaboration** to prevent deterioration of the person's condition and improve physical, cognitive and emotional recovery.

➔ Adopt a **shared decision-making approach** with the person, in collaboration with their family or loved ones (if they wish to).

➔ Use **assessment and intervention practices** that take into account the clinical manifestations presented by the person together with their abilities and preferences.

⚠ Certain principles specific to rehabilitation (e.g., reactivating, increasing strength and endurance) can be detrimental to a person who presents with post-exertional malaises.

➔ **Adapt** practices using **alternative methods**, including:
- telerehabilitation (e.g., by telephone, videoconferencing);
- adjusting the number, duration and frequency of sessions;
- self-monitoring supported by tools and equipment (e.g., smartwatch cardiac monitors, daily logbooks);
- communication of information by means of leaflets, emails, sound recordings or videos;
- participation of a family member or close friend.

➔ **Continuously re-assess** rehabilitation goals and achievement, since recovery trajectories are individual, unpredictable and episodic.

→ Take into account **the psychological and psychosocial impact** of post-COVID-19 conditions on the **person** and, more broadly, on their **family and loved ones**. Notably:

- validate actual experience, listening to concerns and worries;
- acknowledge that the new and unpredictable nature of post-COVID-19 conditions requires significant capacity to adapt;
- take a supportive approach to loss and bereavement;
- promote well-being and resilience (e.g., managing emotions and stress);
- provide support for any difficulties that arise (e.g., isolation, anxiety, financial difficulties, family problems, employment-related problems, food insecurity);
- encourage the person to:
  - be kind to themselves;
  - give themselves permission to ask for help;
  - not feel guilty when they have difficulty performing certain tasks and have to give up roles;
  - have realistic expectations;
  - speak to their loved ones about their symptoms and their effects.

⚠ Certain clinical manifestations (including post-exertional malaises) can influence a person's psychological state.

→ Support the person in developing their **life plan** and **significant social roles** (e.g., worker, volunteer, parent, grandparent).

⚠ **Safety criteria to consider:**

- Ensure that the **safety of a person** who presents with a post-COVID-19 condition is central to the rehabilitation assessment and intervention (e.g., post-exertional malaises).
- Consider that certain signs and symptoms may **pose risks to the health and safety** of the person (e.g., risk of falling, inability to smell smoke).
- **Medical assessments** should be performed:
  - prior to starting a rehabilitation process in order to exclude underlying pathologies and maximize the effectiveness of the rehabilitation interventions;
  - when no improvement or deterioration in the person's condition is observed.
- While waiting for additional medical tests, **adapt or maintain** the assessment and intervention practices (e.g., energy management strategies to prevent post-exertional malaises).

REHABILITATION ASSESSMENT

For all clinical manifestations

→ **Look out for and characterize the clinical manifestations** and monitor their progress by documenting the:

- types of manifestations (see the Clinical manifestations of post-COVID-19 conditions table);
- onset, duration and fluctuations of the manifestations;
- treatments or activities that relieve or exacerbate the manifestations;
- effects of previous therapeutic intervention trials (e.g., medications, occupational therapy, physiotherapy).

→ Document the impact of the clinical manifestations on overall functioning, activities of daily living and the person's quality of life.

→ Document the person's expectations and preferences.

→ Document the help available to the person in their living environment.

Additional information for certain clinical manifestations

For fatigue and post-exertional malaises	→ Document the characteristics of fatigue and post-exertional malaises (see the Fatigue and Characteristics of post-exertional malaises tables); → Document the effect of introducing an activity (physical, cognitive or emotional) or increasing its intensity on symptoms, energy levels and mood on post-exertional malaises. ⚠ Consider the possible impact of the assessment (during or after) on the person's physical, cognitive and emotional state and inform them of these impacts. ⚠ An accumulation of post-exertional malaises involving incomplete recovery can complicate the assessment of the clinical picture. ⓘ **Post-exertional malaises** can be difficult to assess for a variety of reasons: • the person affected may find it hard to describe them; • they can go undetected and persist over time; • they may interact with other clinical manifestations.

Additional information for certain clinical manifestations	
For cardiorespiratory manifestations	➔ Document the effect of changing body position on symptoms (e.g., appearance or exacerbation while standing, relief or improvement while lying down). ⚠ To assess severe symptoms of orthostatic intolerance, refer the person to a physician, if necessary, and adapt the intervention while waiting for the results. ⓘ **Orthostatic intolerance** consists of a group of symptoms that appear when a person who is lying or sitting gets up. These symptoms may or may not be accompanied by orthostatic tachycardia, orthostatic hypotension or syncope.
For cognitive manifestations	➔ Document cognitive manifestations, taking into account the fact that cognitive assessment practices can be demanding and a source of post-exertional malaises. ⓘ Cognitive difficulties (e.g., involving attention and concentration, memory, executive functions) are often grouped under the term ***mental fog***.
For nutritional status and altered taste and sense of smell	➔ Document in particular: • involuntary weight variations; • the risk of malnutrition and sarcopenia; • altered or lost sense of smell or taste; • loss of appetite and early or low satiety; • gastrointestinal symptoms; • swallowing difficulties (dysphagia); • eating habits (e.g., timing of meals and snacks, quantity and quality of food, hydration). ⓘ **Alterations in smell and taste** often lead to changes in dietary habits (e.g., added sugar or salt, reduced dietary diversity), which may in turn lead to nutritional deficiencies or health risks (e.g., hypertension, diabetes). ⓘ **Malnutrition and sarcopenia** are seen in people with post-COVID-19 conditions. They can be linked to certain symptoms, including swallowing difficulties, altered sense of smell, altered taste, nausea, vomiting, fatigue and dyspnea.

⚠ **Safety criteria to consider:**

- Take into account any **factors or conditions** that could cause, contribute to or exacerbate the observed clinical manifestations (e.g., medical history and comorbidities).
- **Stop assessment** in the event of new onset or significant worsening of signs and symptoms and **seek medical advice**, based on clinical judgment.

REHABILITATION INTERVENTIONS

GENERAL INFORMATION

➔ **Intervention practices** should take into account the presence or absence of post-exertional malaises and have the following objectives:

- focus on safety first;
- avoid deconditioning and then promote gradual recovery;
- ensure maintenance of the progress that has been achieved to date.

⚠ Do not apply the usual strategies of gradually resuming activities with a continuous increase in duration and intensity if post-exertional malaises are present or suspected.

➔ Discuss the **potential benefits and risks** of the various intervention practices.

➔ Assist the person in **self-monitoring and in managing** their **manifestations** while **avoiding relapses**; this involves in particular:

- providing reliable and appropriate information on:
  - the development of post-COVID-19 conditions and their clinical manifestations;
  - whom to contact if the person has concerns about symptoms;
  - how to obtain psychological and psychosocial services, including housing, home care, employment and financial support;
- asking the person to document:
  - signs and symptoms (onset, deterioration and resolution) in order to identify triggering, exacerbating and mitigating factors;
  - the significant activities they have carried out and their energy levels;
  - their ability to carry out daily and domestic activities and to attend work or school;
- promoting the adoption of healthy lifestyle habits to enable the most optimal functioning possible.

- Take into account the **psychological and psychosocial impact** of post-COVID-19 conditions by adapting the intervention practices.
- Offer **group interventions** when possible (e.g., information, education on specific techniques – breathing, etc. –, peer support, psychosocial support) **combined with individual follow-up**.
- Since recovery can be slow, **continue the approach if an improvement trend is observed** (e.g., symptoms are more spaced apart, less intense, of shorter duration).

⚠ **Safety criteria to consider:**

- **Interrupt the intervention** in the event of new onset or significant worsening of signs and symptoms and **seek medical advice**. Some rehabilitation interventions can be adapted or maintained while waiting to consult with specialists.
- **Tell the person what signs and symptoms to look out for** and when to seek urgent medical help (e.g., sudden chest pain that lasts longer than 15 minutes).

FOR POST-EXERTIONAL MALAISES (INCLUDING ASSOCIATED FATIGUE)

- **To avoid cycles of activities followed by post-exertional malaises (crashing) and to promote recovery:**
  - wait for the person's condition to stabilize before guiding them cautiously towards a gradual return to activities (for work-related activities, see the For a return to work section);
  - do not encourage the person to carry out activities for the purpose of increasing their endurance;
  - make sure to support the person with respect to the amount of effort required for each individual activity and for all activities so that these activities do not exceed the effort threshold that would exacerbate their symptoms.

⚠ Certain principles specific to rehabilitation (e.g., reactivating, increasing strength and endurance) can be detrimental to a person who presents with post-exertional malaises.

- **Encourage the person to:**
  - avoid feeling guilty during post-exertional malaises;
  - see post-exertional malaises as an opportunity to learn more about their limits;
  - give themselves permission to do things differently;
  - inform loved ones about post-exertional malaises and their consequences.
- **Support the person in using different energy management strategies (pacing)** (see table below).

Energy conservation/maximization/regularization	
Elements	**Examples**

• **Balance** out activities with rest periods (see the following section).
• **Prioritize**
  - **Rank** activities according to priority.
  - **Conserve** energy for important activities.
  - Recognize and **limit** energy-depleting activities.
• **Adapt**
  - **Modify** activities so that they are easier to carry out.
  - **Split up** large tasks into more manageable activities.
• **Plan**
  - **Space out** activities over several days or even weeks.
  - **Perform** high-energy activities during the times of day or week where energy is at its highest point.
  - **Set aside** time for activities that restore energy (while respecting energy envelope).
	• Groceries and errands
	  - Have food and other sundries delivered; go during less busy periods.
	• Modification of activities (when possible)
	  - Adopt a sitting or half-sitting position (e.g., to brush one's teeth, shower, cook, get dressed, etc.).
	  - Adopt a half-sitting or lying down position (e.g., cognitive activities).
	  - Limit stimuli (e.g., wear ear plugs and a sleep mask, install a screen, dim the lights, lower the brightness on electronic devices).
	• Technical aids
	  - Handicapped parking tag, walker with a seat, adapted transportation, wheelchair.
	• Home aids
	  - Housecleaning, meal preparation, snow removal, maintenance – e.g., lawn, landscaping, small household tasks.
	• Activities that restore energy (while respecting energy envelope).
	  - Hobbies, sitting outdoors.
	  - Activities that are pleasurable or satisfying.

Balance between activities and rest periods	
Elements	**Examples**
• **Balance** - **Find thresholds** of physical, cognitive and emotional exertion that trigger post-exertional malaises. - **Adjust the intensity** of activities and plan for alternating activities with rest periods so as not to exceed the identified thresholds. - **Wait until the health status has been stable** for a few weeks before even slightly increasing the activities, even if the person is feeling well. ⚠ Increasing the intensity of activities too quickly could result in a relapse. ⚠ Cycles of activities and post-exertional malaises ("crashes") should be avoided as much as possible. • **Facilitators** - Plan **rest periods prior to and after** activities that burn energy. - **Keep a buffer** for unexpected situations. - **Alternate** between tasks (e.g., easy vs. hard, physical vs. cognitive). - **Stop** an activity before being too tired (this decreases the required **rest time**). - Plan rest times first, then add in activities. - Plan breaks and **rest times each day**. - **Select** activities so as to not exceed the available energy for a given day, nor to use up energy from subsequent days (e.g., The Spoon Theory).	• Identify the exertion thresholds - Seek out the warning signs; stop an activity before or once they appear. - Use heart rate as a reference point - e.g., 50 to 60% of the maximum rate. • Rest - Take many small breaks, choosing the time, frequency and duration based on experience - e.g., 2-5 minutes. - Take sensory breaks of 5 to 20 minutes – e.g., ear plugs, sleep mask, dimmed lights, no screens. - Lie down for one hour before an outside event. - Keep one or more days free of commitments prior to an appointment. - Allow yourself to fully rest (do nothing). ⚠ The objective is not to sleep, as long naps have a negative effect on nighttime sleep. • Activities to recover - Relaxation, meditation, focus on breathing, breathing exercises

⚠ The optimal management of energy can involve a certain learning curve. Moreover, adjustments will be needed based on the changes in health condition and the introduction of new activities to the person's routine.

FOR CARDIORESPIRATORY MANIFESTATIONS

➔ **Intervention practices should** take into account the presence or absence of post-exertional malaises and:

- aim to optimize safety by minimizing exercise intolerance and exacerbation of symptoms (e.g., post-exertional malaises);
- focus on resuming activities (including mobilization and exercise, as needed) with consideration of energy management in the context of cardiorespiratory symptoms (e.g., hyperventilation syndrome or respiratory arrhythmias).

⚠ Closely monitor the development of the person's condition as activities are introduced.

➔ **Monitor vital signs and oxygen saturation parameters.**

➔ Consider **using basic breathing techniques** (e.g., abdominal breathing, pursed-lips breathing).

⚠ If the person has difficulty controlling their breathing at rest or during exertion, assess whether respiratory retraining or referral to respiratory therapy or physiotherapy would be beneficial.

➔ For **signs and symptoms suggestive of orthostatic intolerance**:

- start in a non-vertical position with non-upright exercises (in a supine position) and gradually replace them with standing exercises;
- train the person on how to manage and prevent orthostatic intolerance:
  - remaining properly hydrated and increasing one's salt intake (in the absence of high blood pressure, heart failure or renal failure);
  - avoiding getting up quickly;
  - wearing a support belt or support hose that go up to the waist;
  - sleeping in a bed inclined at a 15-degree angle, head up (reverse Trendelenburg position);
  - avoiding hot environments for prolonged periods (e.g., a hot shower);
  - lying down for at least 15 minutes after a hearty meal or after drinking alcohol;
  - eating smaller meals, in the presence of postprandial hypotension;
  - eating high-protein foods and limiting one's carb intake.
- teach the person how to measure their heart rate, if necessary.

➔ **When resuming exercise and if there are no post-exertional malaises**, consider structured exercise that includes aerobic reconditioning and strengthening.

- For people with **respiratory symptoms**:
  - take into account some additional considerations (e.g., the use of bronchodilators);
  - train the person:
    - to describe the intensity of the effort made while exercising;
    - to use a pulse oximeter to support activity progress and safety;
    - about positions that relieve shortness of breath (e.g., lying on one's side with head elevated).
- For people with **heart symptoms**:
  - ensure that warm-up and cool-down periods (approximately 5 minutes) are included;
  - consider using a heart rate monitor, starting with a range between 40-60% of maximum heart rate;
  - monitor heart rate recovery after exertion;
  - monitor the person's response to the activity (e.g., arrhythmia, rapid increase or decrease in blood pressure).
- For people with a **chronic cough**:
  - train a person with a non-productive cough on proper breathing and coughing techniques and sleeping positions;
  - educate and train a person with a productive cough on basic breathing techniques (abdominal breathing and pursed-lips breathing) and airway clearance techniques (e.g., controlled coughing or short exhalation technique).

FOR COGNITIVE MANIFESTATIONS

➔ **Intervention practices should** take into account the presence or absence of post-exertional malaises and:

- include the use of compensatory methods (e.g., alarms, organizers, taking notes in a diary);
- teach metacognitive strategies (e.g., self-monitoring, adding feedback to future performance);
- consider energy management strategies for mental fatigue [see Various energy management strategies (pacing) table];
- consider targeted training for negative symptoms, including cognitive remediation (e.g., attention/memory exercises).

FOR NUTRITIONAL STATUS AND ALTERED TASTE AND SENSE OF SMELL

➔ Use **intervention practices** that take into account the presence or absence of post-exertional malaises in order to reduce the impact of clinical manifestations on diet, including:

- maintaining a regular eating routine;
- splitting portions (e.g., eating solid and liquid foods at regular intervals);
- adapting the position of the body to the table;
- using technical aids;
- having nutritious, ready-to-eat frozen foods on hand;
- considering getting help with meal preparation or using a catering service.

➔ Consider **developing an individualized nutritional treatment plan** focused on a varied diet and an adequate intake of energy, proteins, vitamins, minerals and water (e.g., in the event of involuntary weight loss or malnutrition).

➔ **For altered taste and sense of smell:**

- support the person in order to promote adequate nutrition and hydration and increase the pleasure of eating by:
  - enhancing sensory experiences (e.g., with a variety of textures and temperatures);
  - stimulating the various taste receptors;
  - presenting food in an attractive way and in a pleasant atmosphere;
- make the person aware of the potential risks and safety measures that need to be taken for them and for others according to their personal and professional situation;
- consider olfactory training (see details in the management information sheet entitled *Altered taste and sense of smell*).

FOR A RETURN TO WORK

➔ Rely on **interprofessional collaboration** (e.g., rehabilitation professionals, physicians) and a **partnership** with employers and paying agents.

➔ **When a return to work is being considered:**

- check whether the person is able to carry out daily, domestic and leisure activities without going beyond their level of physical, cognitive and emotional energy;
- suggest that the person gradually simulate their regular habits in preparation for a return to work (e.g., wake-up and bedtime hours, meal times, activities similar to those at work);
- if necessary, consider technical aids, adaptations or schedule modifications;
- support the person in dealing with their employer and paying agents as the work-related activities are resumed.

➔ **When a person returns to work**, reintegration into the workplace should be **individualized, progressive and flexible**:

- rely on energy management interventions [see the Various energy management strategies (pacing)] table;
- arrange tasks and reduce job demands in such a way as to allow a very gradual return;
- continue supporting the person throughout the return-to-work process.

⚠ There may be a recurrence of post-exertional malaises and a new sick leave episode if the workplace reintegration is too rapid, even when gradual.

COMPLEMENTARY TOOLS PRODUCED BY INESSS

Management support tool : *Post-COVID-19 conditions*, Institut national d'excellence en santé et en services sociaux, Quebec City, 2022.

Management information sheet: *Altered taste and sense of smell* , Institut national d'excellence en santé et en services sociaux, Quebec City, 2022.

Management information sheet: *Cardiorespiratory manifestations*, Institut national d'excellence en santé et en services sociaux, Quebec City, 2022.

Management information sheet: *Post-exertional malaises and fatigue*, Institut national d'excellence en santé et en services sociaux, Quebec City, 2022.

Management information sheet: *Neurological manifestations*, Institut national d'excellence en santé et en services sociaux, Quebec City, 2022.

Details on the process used to develop this management information sheet for post-COVID-19 conditions and the stakeholders consulted, as well as full references, are available in the supporting report.

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