

# ALTERED TASTE AND SENSE OF SMELL

This information sheet, primarily created for physicians, pharmacists and front-line nursing staff, serves as 1) a management support tool and 2) a source of information. It is provided purely for information purposes and does not seek to replace the clinical judgement of clinicians and professionals who exercise activities reserved for them under specific laws or regulations. The tool's development included a systematic review of accepted clinical practice guidelines at the time it was drafted, and relied on the knowledge, experience and contribution of stakeholders across Québec. See [inesss.qc.ca/COVID-19](https://inesss.qc.ca/COVID-19) for further details.

This information sheet complements the general management support tool [Post-COVID-19 conditions](#).

- Review the tool for a general overview of the management of children, adolescents and adults who present with persistent symptoms following a SARS-CoV-2 infection.





## GENERAL INFORMATION

- ➔ Altered taste and sense of smell are **frequent** manifestations of post-COVID-19 conditions. Their prevalence depends on several factors, among them the SARS-CoV-2 variant involved.
- ➔ The **prognosis** is generally good. Recovery is different from one person to the next. Although there is limited background and little available data, it appears that:
  - there can be a spontaneous or progressive improvement in taste and sense of smell over 6 months post-infection;
  - after a year, the majority of people report having fully recovered, and nearly everyone notes at least a partial improvement in their symptoms.


## ASSESSMENT AND MANAGEMENT OF THE HEALTH CONDITION


Elements	Details	Exams and analyses	Management
Altered taste and sense of smell	<p><b>Characterize</b> – duration, fluctuations, intensity:</p> <ul style="list-style-type: none"> <li>• Partial loss (<b>hyposmia</b>) or full loss (<b>anosmia</b>) of the sense of smell, including flavours.</li> <li>• Distorted perceptions of odours and flavours (<b>parosmia</b>).</li> <li>• Perception of odours in the absence of an olfactory source (<b>phantosmia</b>).</li> <li>• Loss (<b>ageusia</b>) or distortion (<b>dysgeusia</b>) of taste. :</li> </ul>	<p><b>Perform:</b></p> <ul style="list-style-type: none"> <li>• An examination of the nose, mouth, tongue and throat to search for any contributing conditions (see below).</li> <li>• Subjective symptom assessment               <ul style="list-style-type: none"> <li>- visual analogue scale (where 0 = "I can't smell or taste anything" and 10 = "I smell and taste as per normal").</li> </ul> </li> </ul>	<p><b>Suggest:</b></p> <ul style="list-style-type: none"> <li>• <b>olfactory training</b> (see the table on page 3.)</li> </ul> <p><b>Consider referring the person to:</b></p> <ul style="list-style-type: none"> <li>• a <b>medical specialist</b> if symptoms persist for more than 6 months in the case of an adult and 3 months in the case of a child. An objective assessment could then be carried out.</li> <li>• a <b>dietitian-nutritionist</b> (see management of health impacts on page 2).</li> </ul>

⚠ **In young children**, reporting symptoms can be challenging, and noting altered taste or sense of smell may require looking out for changes in eating habits, nausea or an aversion to foods or textures that were previously acceptable.


Elements	Details	Exams and analyses	Management
Contributing conditions	<b>Look for:</b> <i>Frequent</i> <ul style="list-style-type: none"> <li>Upper respiratory tract infection</li> <li>Rhinitis or sinusitis</li> <li>Allergies</li> <li>Nasal polyposis</li> <li>Traumatic brain injury</li> </ul> <i>Less frequent</i> <ul style="list-style-type: none"> <li>Major neurocognitive disorders</li> </ul>	<b>Consider:</b> <ul style="list-style-type: none"> <li>According to the clinical presentation and usual practices.               <ul style="list-style-type: none"> <li>magnetic resonance imaging if a tumour is suspected.</li> </ul> </li> </ul>  See the management support tool <a href="#">Post-COVID-19 conditions</a> .	<b>Manage</b> according to the clinical presentation and usual practices: <ul style="list-style-type: none"> <li>Consider nasal washing with a saline solution or local corticosteroids to treat frequent contributing conditions, when indicated.</li> </ul>
	<i>Rare</i> <ul style="list-style-type: none"> <li>Nasal or brain tumour (suspected, for example, due to epistaxis, unilateral or progressive nasal congestion, persistent headaches, disturbance in vision, facial paresthesia, unusual nasal discharge).</li> <li>Congenital disorder.</li> </ul>		<b>Consider referring</b> the person to a <b>medical specialist</b> .
Other contributing factors	<b>Consider:</b> <ul style="list-style-type: none"> <li>Medication</li> <li>Drugs or other substances, administered through the nose</li> <li>Smoking</li> <li>Alcohol (cirrhosis)</li> <li>Toxins</li> <li>Past radiotherapy of the head or neck</li> <li>Recent surgery of the neck or chest</li> </ul>	<b>Consider:</b> <ul style="list-style-type: none"> <li>According to the clinical presentation and usual practices.</li> </ul>  See the management support tool <a href="#">Post-COVID-19 conditions</a> .	<b>Issue a reminder:</b> <ul style="list-style-type: none"> <li>Benefits of good health practices, as the case may be.</li> </ul>
Health impacts	<b>Ask questions regarding:</b> <ul style="list-style-type: none"> <li>Changes in eating habits (e.g., greater quantities of salt or sugar, food quantity or variety) and possible impacts:               <ul style="list-style-type: none"> <li>diabetes;</li> <li>kidney disease;</li> <li>hypertension;</li> <li>nutritional deficiencies;</li> <li>denutrition;</li> <li>change in weight.</li> </ul> </li> <li>Symptoms of anxiety or depression.</li> </ul>	<b>Weigh the person and compare</b> with prior weight: <div>  In the absence of other causes, a change in weight of less than 10% can point to a major nutrition issue.           </div> <div>  Weight loss can be hidden by the presence of swelling or anasarca.           </div>	<b>Manage</b> according to the clinical presentation and usual practices: <ul style="list-style-type: none"> <li>Recall the importance of a balanced diet (see the tips and recommendations in <a href="#">Appendix I</a>).</li> </ul> <b>Consider referring the person to:</b> <ul style="list-style-type: none"> <li>a <b>dietitian-nutritionist</b> in cases where there are nutritional deficiencies;</li> <li>a <b>mental healthcare professional</b> if necessary.</li> </ul> <b>For children</b> with modified eating habits or who have a new aversion to specific foods, <b>with or without an impact on weight gain:</b> <ul style="list-style-type: none"> <li><b>consider referring the child to</b> a <b>dietitian-nutritionist</b> and an <b>interdisciplinary team</b> to oversee the nutritional aspects.</li> </ul>


## IMPACTS ON SAFETY AND PERSONAL AND PROFESSIONAL LIFE

General safety	Food safety	Impact on common tasks	Mental health
<p><b>Notify the person</b> that they should:</p> <ul style="list-style-type: none"> <li>ensure that smoke and gas detectors are functional;</li> <li>be cautious when using gas devices (e.g., stove, BBQ, fireplace);</li> <li>make sure there is adequate ventilation when using cleaning or chemical products;</li> <li>be aware of the hazards associated with chemical spills or fires (e.g., short-circuit or device that overheats).</li> </ul>	<p><b>Notify the person</b> that they should:</p> <ul style="list-style-type: none"> <li>ensure that foods are safe for consumption;</li> <li>check the expiry date on food labels;</li> <li>properly identify food (including the date it was prepared) and store it.</li> </ul> <p> When in doubt, a given food should not be eaten.</p>	<p><b>Notify the person</b> that they may have to:</p> <ul style="list-style-type: none"> <li>inquire about or check the hygiene needs of persons or animals (e.g., changing bedsheets, changing diapers, emptying a litter box);</li> <li>check food that is cooking to ensure it does not burn;</li> <li>follow a recipe or ask for help in adding seasoning to a dish.</li> </ul>	<p>Professionals who rely on their taste and sense of smell to do their job (e.g., chefs, wine experts or perfume makers) could be increasingly prone to depression.</p>

 The potential consequences of altered taste and sense of smell are too numerous to list. People should be made aware of the potential hazards and the safety measures they can take to protect themselves and others (depending on their personal and professional circumstances). One should never solely rely on taste or smell – **look, verify and confirm with other people**.

## OLFACTORY TRAINING (MINIMUM OF 12 WEEKS)

 Available data does not allow for guaranteeing the effectiveness of olfactory training as a means of treating altered taste and sense of smell associated with post-COVID-19 conditions.


Categories	Details	Precautions
<b>Principle</b>	<ul style="list-style-type: none"> <li>Regularly inhaling the same odours as a way of re-learning these smells through the olfactory system.</li> </ul>	<ul style="list-style-type: none"> <li>The recovery process can take a long time to kick in and progress can be very slow.</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>The person should:               <ul style="list-style-type: none"> <li>work with at least <b>4 to 6 odours</b>;</li> <li>select a <b>variety</b> of odours such as essential oils or other odours present in the home (e.g., flowers, fruit, herbs, spices, coffee grains, etc.).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The items chosen should emit a fairly strong odour and be fresh (avoid spices that are several years old).</li> <li>A person whose sense of smell has not been affected should be enlisted to help in choosing the items.</li> </ul> <p> Avoid using irritating chemical products such as bleach.</p>
<b>Process</b>	<ul style="list-style-type: none"> <li>Each of the selected odours should be smelled (one at a time) for about <b>15 seconds</b>.</li> </ul>	<ul style="list-style-type: none"> <li>The process should be done in a calm area devoid of other smells such as air fresheners, cooked food, etc.</li> </ul>
<b>Frequency and duration</b>	<ul style="list-style-type: none"> <li>Olfactory training exercises should be done every day, in the morning and evening, for at least <b>12 weeks</b>.</li> </ul>	<ul style="list-style-type: none"> <li><b>Sticking with the plan is critical</b>, as is regular follow-up.</li> </ul>
<b>Follow-up</b>	<ul style="list-style-type: none"> <li>Every day, the person should take notes, mentioning whether specific odours are perceived and recognized.</li> </ul>	<ul style="list-style-type: none"> <li>Progress can be inconsistent, intermittent and fluctuating (e.g., an odour can be recognized one day but not the next).</li> <li>The prognostic value of progress - or a lack thereof - is unknown.</li> </ul>

## FOLLOW-UP


Elements	Details
<b>Method</b> – telephone, telemedicine or in person	<ul style="list-style-type: none"> <li>To be determined based on the person's needs.</li> </ul>
<b>Frequency</b>	<ul style="list-style-type: none"> <li>Plan to follow up after 3 months or once the olfactory training is completed.</li> </ul>
<b>Follow-up appointment</b>	<ul style="list-style-type: none"> <li>Assess the changes in altered taste and sense of smell.</li> <li>Follow up as regards the olfactory training:               <ul style="list-style-type: none"> <li>Should there be a visible improvement, the olfactory training could be prolonged, with new odours, if the person so wishes.</li> </ul> </li> <li>Follow up regarding the impact of altered taste and sense of smell (morale and mood, weight and nutrition, risks).</li> </ul>

## APPENDIX I

### NUTRITIONAL TIPS AND RECOMMENDATIONS

 The recommendations in this Appendix are provided for general information purposes. Management of food intake should be optimized with the help of a dietitian-nutritionist and the interdisciplinary team.

#### General recommendations

- Personalize the approach by considering the person's circumstances and reality.
  - Stick to regularly scheduled meals that can be separated into small portions and eaten more often (e.g., 3 meals and 3 snacks).
  - Vary food texture and temperature.
  - Eat meals in a pleasant atmosphere (e.g., music, decor, presence of other people).
  - Use herbs, spices or aromatics.
  - Add items that the person likes (e.g., nuts) to spruce up a meal.
  - Consider giving high-protein or high-calorie food supplements.
-  It is best to divide the supplements taken into smaller quantities (ingested several times a day) to avoid the lassitude that can result from oversupplementation and to uphold a regular meal schedule.
- Favour cooking in the microwave or outdoors if smells are unpleasant.
  - Ask family members or friends (or contact a support service) for help with meal preparation.