



COLLEGE OF SURGEONS, SINGAPORE

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Academy of Medicine, Singapore

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Acute olfactory and gustatory dysfunction as a symptom of COVID-19 infection

Joint statement of the Chapter of Otorhinolaryngologists,
College of Surgeons, Singapore and the Society of
Otolaryngology-Head and Neck Surgery, Singapore

I. Background

As the number of COVID-19 infections increase globally, an increasing number of case series and reports on patients infected with COVID-19 presenting with acute olfactory dysfunction as the sole symptom, or together with other symptoms, have been published^{1-7,14}.

This joint statement has been released to increase awareness of and evaluation of olfactory dysfunction (with concomitant alteration of taste sensation) as a symptom of COVID-19 infection.

II. Symptomatology

1. Acute olfactory dysfunction

1.1. In the context of COVID-19 infections, acute olfactory dysfunction is defined as decreased or altered sense of smell for a duration of 14 days or less at presentation, in the absence of other nasal symptoms or conditions. In particular:

- i Chronic rhinosinusitis, with or without nasal polyposis
- ii History of head trauma History of neurotoxic medications
- iii History of neurotoxic medications

In the context of COVID-19, acute olfactory dysfunction can be the sole symptom or be accompanied by other symptoms of respiratory tract infection and/or fever

1.2. Symptoms of olfactory dysfunction reported in COVID-19 include:

- i Hyposmia: partial loss of sense of smell
- ii Anosmia: complete loss of sense of smell
- iii Parosmia: distortion of the perception of an odorant
- iv Phantosmia: perception of an odorant that is not present



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2. Acute dysgeusia and hypogeusia

2.1. Acute dysgeusia is defined as a partial or complete loss of, or altered sense of taste for a duration of 14 days or less at presentation.

Hypogeusia is defined as a partial loss of taste.

Dysgeusia/hypogeusia often accompanies olfactory dysfunction as the sense of smell is intimately related to the sense of taste.

2.2. A multicentre European study of 417 Covid-19 patients² reported 88.8% of patients having gustatory disturbance, 78.9% with hypogeusia/ageusia, and 21.1% with dysgeusia.

This statement will hereinafter focus on the symptom of olfactory dysfunction.

3. Incidence of olfactory dysfunction

3.1. The incidence of olfactory dysfunction in COVID-19 ranges from 5.1% to 85.6%^{1-4,14}.

3.2. Studies where specific questions on olfaction were posed reported a higher incidence of the symptom^{2-4,14}.

4. Time of onset of acute olfactory dysfunction

4.1. The European study mentioned above² assessed the time of onset of olfactory dysfunction as follows:

- 11.8% of patients developed olfactory dysfunction before the onset of other COVID-19 symptoms.
- 22.8% of patients developed olfactory dysfunction at the same time as other symptoms.
- 65.4% of patients developed olfactory dysfunction after the onset of other symptoms.

5. Recovery of olfactory function

5.1. The multicentre European study reported that olfactory dysfunction persisted after the resolution of other symptoms in 63.0% of patients². In patients who recovered olfactory function, 96.7% recovered within 14 days of resolution of other symptoms².

III. Recommendations

1. As COVID-19 is a recent infectious disease that is still evolving, data and studies are new, incomplete and emerging.

2. The American Academy of Otolaryngology-Head and Neck Surgery⁸, European Rhinologic Society⁹, British Rhinological Society¹⁰, ENT UK¹⁰, and other professional organisations have issued statements advising the screening for anosmia in COVID-19.



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3. The French ENT Society and the government had advised that people with acute anosmia to remain confined at home while monitoring for other symptoms of COVID-19, in part due to insufficient ability to test all such patients.¹¹

4. Based on available existing literature, the Chapter of Otorhinolaryngologists and Society of Otolaryngology-Head and Neck Surgery Singapore recommend that:

i Acute olfactory dysfunction (anosmia and hyposmia) be included as a symptom of COVID-19 in the Case Definition of COVID-19, and a high index of suspicion for COVID-19 infection be maintained when evaluating patients presenting with anosmia, hyposmia, dysgeusia or hypogeusia, whether in isolation or accompanying other upper respiratory symptoms

ii Appropriate Personal Protective Equipment be worn when examining the aerodigestive tracts of these patients.

iii Clinicians consider investigating such patients for COVID-19 in the absence of other identifiable etiologies, especially with other COVID-19 associated symptoms or suspicious exposure history.

5. Recently, New Zealand has updated its Case Definition of COVID-19 to include anosmia as a symptom¹². The European Centre for Disease Prevention and Control has also included anosmia as a symptom of COVID-19¹³.

The Chapter of Otorhinolaryngologists and the Society of Otolaryngology-Head and Neck Surgery, Singapore are of the opinion that there is sufficient evidence for Singapore to do likewise and include acute olfactory dysfunction as a symptom of COVID-19 infection.

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Dr Ng Chew Lip, Dr Soma Subramaniam, Dr Neville Teo

The Singapore Rhinology Interest Group supports the above statement.

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