

# The Effects of the COVID-19/SARS-CoV-2 Pandemic Outbreak on Otolaryngology Activity in Italy

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## Abstract

The coronavirus disease 2019 (COVID-19) pandemic during the first months of 2020 is causing profound changes in worldwide health care systems, resulting in a major reduction of surgical interventions and routine non-urgent outpatient diagnostic procedures. The lockdown due to the COVID-19 pandemic in Italy, one of the most affected countries in Europe, is having severe effects on the otolaryngology medical and surgical activities. The main changes are represented by the postponement of outpatient visits and scheduled surgery, while the only guaranteed service is reserved to diagnostics and surgery for oncology and urgent patients. In these cases, given the sites of action typical of the otolaryngology practice, physicians and nurses are exposed to a high risk of contagion through virus aerosol transmission. Furthermore, as the current measures of lockdown continue, it will be difficult to perform scheduled and new diagnostic assessments, medical treatments and surgical procedures in a timely manner favoring the risk of diagnostic and therapeutic delays with severe impact on patients' health.

## Keywords

COVID-19, SARS-CoV-2, otolaryngology, surgery

After the declaration by the World Health Organization of the Severe Acute Respiratory Syndrome-CoronaVirus-2 (SARS-CoV-2), also known as coronavirus disease 2019 (COVID-19), outbreak as an international public health emergency, many governments adopted a lockdown strategy that resulted in a profound change in people habits.<sup>1</sup> As a consequence, also the Italian health care system underwent profound changes, resulting in a major reduction of surgical interventions and routine nonurgent outpatient diagnostic visits and examinations.<sup>2</sup>

The activity of the otolaryngology unit of our University hospital, in accordance with government and local instructions, has undergone radical transformation guaranteeing diagnostic and therapeutic service exclusively to oncology and urgent patients.

Non-urgent outpatient procedures have been temporarily suspended to limit virus diffusion and reallocate personnel to COVID-19 dedicated wards. Patients seeking for urgent otolaryngology visits can go the emergency department, where a specific triage is made by dedicated personnel, or request an urgent outpatient appointment after specific indication by own general practitioner. Urgent conditions are mainly represented by respiratory distress, epistaxis, sudden sensorineural hearing

loss, and peritonsillar and neck abscesses, and may require, depending on the condition, an otolaryngology visit, upper-airway endoscopy, and auditory evaluation. Rarely, patients with urgent conditions do not seek for medical care because of fear of contagion, with potential life-threatening consequences.

Scheduled surgical operations have also been suspended, except for cancer and urgent patients. Surgical interventions performed in our unit despite the pandemic mainly consist in tracheostomies, pharyngeal, nasal, and laryngeal oncology-related diagnostic biopsies performed as open-surgery, through microlaryngoscopy or endoscopy and open head and neck oncologic procedures. Special protocols are applied for these patients, following international recommendations.<sup>3</sup> Patients

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are called in advance by hospital administrative offices asking for onset of specific COVID-19-related symptoms in the previous 2 weeks or direct exposure to SARS-CoV-2, including close contacts with positive patients. Also, normothermia and a negative oropharyngeal and nasopharyngeal swab for SARS-CoV-2—performed at hospital admission—are required before entering the operating room. Last, one-bed rooms are guaranteed to avoid contagion.

Emergency cases may still need surgery even while positive for COVID-19. Current evidence show that the droplets and close contact transmission represent the most important routes of transmission, but also aerosol transmission is possible in cases of long exposure to high concentrations of aerosols in relatively closed environments.<sup>4,5</sup> Therefore, if aerosol is considered a possible route of transmission, this may have serious implications in otolaryngology surgery. In fact, given the site of activity characteristic of many surgical interventions for head and neck pathology, this type of surgery may favor contamination with upper airway aerosol from the patient to the surgeons, surgery nurses, and anesthesiologists, and vice versa.

During diagnostic, therapeutic, and surgical procedures, especially in case of urgent conditions for which COVID-19 positivity can not be excluded, personal protective equipment is required for all personnel to protect themselves, patients, and others when providing care. Personal protective equipment used in our otolaryngology unit include at least FFP2 or N95 respirator and surgical mask, goggles or face shields, gloves, and disposable gowns.


In conclusion, the impact of SARS-CoV-2 pandemic on otolaryngology diagnostic and surgical activities is still unknown, as well as the effects on future general health care strategy and hospital organization. The current situation has caused a drastic reduction of the routine activity of

otolaryngology units, with a dramatic impact on the service offered to patients. In our unit, the number of patients waiting for an appointment at the outpatient service is constantly increasing, and this will further worsen as the current measures of lockdown continue, making it difficult to perform scheduled and new examinations in a timely manner and favoring the risk of diagnostic delays with severe effects on patients' health. This will become even more evident in the long term with unpredictable effects on our discipline.

### Authors' Note

The data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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