

Nasopharyngeal swabs are not risk-free

Press release of the French National Academy of Medicine

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Nasopharyngeal swabbing followed by detection of the viral genome with RT-PCR has become the gold standard for the diagnosis of SARS-CoV-2 infection. A nasal swab is also required for antigenic testing. In view of the multiplication and repetition of this procedure for getting samples, sometimes carried out under unsuitable conditions, it is important to remember the precautions to be observed and the risks incurred. While some complications can be considered benign (discomfort, pain or bleeding), serious complications have started to be described in the medical literature in recent weeks, especially breaches of the anterior skull base associated with a risk of meningitis [1-3].

In order not to neglect the risk of injury induced by the widespread use of nasopharyngeal swabs carried out on a massive scale in the context of Covid-19, the French National Academy of Medicine reminds the good practices to be followed:

- Before any sampling, inquire about any accidental or surgical history of the ENT sphere that might have modified the anatomy of the nasal and sinus cavities, particularly procedures concerning the septum, the inferior nasal concha and the facial sinuses [4];
- Do not hyperextend the patient's head during sampling, but hold it in a natural position with the chin parallel to the ground;
- Introduce the swab horizontally along the floor of the nasal cavity, and never deflect it upwards towards the skull base.

In addition, the French National Academy of Medicine recommends:

- to reserve the practice of nasopharyngeal swabs to health professionals trained to perform this procedure under rigorous technical conditions;

- in children, to give preference to salivary samples for their safety and acceptability;

- to warn users of self-tests that self-sampling can lead to false negatives when swabbing is too timid and superficial, but can also become dangerous when swabbing is too deep and directed in the wrong direction.

1. Föh B et al. Complications of nasal and pharyngeal swabs - a relevant challenge of the COVID-19 pandemic? *Eur Respir J.* 2020. Dec 10; 2004004.

2. Alberola-Amores FJ et al. Meningitis due to cerebrospinal fluid leak after nasal swab testing for COVID-19, *Eur J Neurol.* 2021 Jan 21; 10.1111/ene.14736.

3. Sullivan CB et al. Cerebrospinal fluid leak after nasal swab testing for Coronavirus Disease 2019. *JAMA Otolaryngol Head Neck Surg.* 2020 Dec 1; 146(12):1179-1181.

4. Press release of the French National Academy of Medicine - "Covid-19: which samples for which tests?" February 17, 2021.