



**Interim Clinical Guidance on
Flexible Nasendoscopy (FNE)
and Nasal Endoscopy in Ireland
during COVID-19 pandemic**
Rev 1

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INTERIM CLINICAL GUIDANCE ON FLEXIBLE NASENDOSCOPY (FNE) AND NASAL ENDOSCOPY IN IRELAND DURING COVID-19 PANDEMIC

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1. Overview

Flexible transnasal endoscopy (FNE) is a procedure performed in high volumes in Ireland. It plays an important role in the early detection of throat cancers and for evaluation of benign pathology and is mostly carried out by Otolaryngologists. An adequate radiological substitute is not available. Due to the nature of the procedure, it is vital that healthcare staff and patients are aware of the associated risks during the COVID-19 pandemic. It is also of importance that precautions to minimise infections are adhered to. This document details these risks and provides guidance that should be followed in advance of and during the procedure in order to minimise the chance of transmission.

2. Purpose

The purpose of this document is to provide interim guidance on procedures surrounding the performance of outpatient flexible transnasal endoscopy (FNE) during the COVID-19 pandemic, in order to maximise protection of patients and staff against the risk of disease transmission in the healthcare setting.

3. Authorship

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4. Target Audience

Otolaryngologists (ENT Surgeons), other clinicians who perform FNE or nasal endoscopy (Maxillofacial surgeons, Radiation Oncologists, Neurosurgeons), Speech and Language Therapists, ENT Advanced Nurse Practitioners.

5. Introduction

Flexible transnasal endoscopy (FNE) is a procedure performed in high volumes mainly by Otolaryngologists (ENT surgeons), mostly in the outpatient setting, for evaluation of the nasal cavity, pharynx, larynx, and airway. It involves the insertion of a narrow bore flexible scope into the nasal cavity, and thence into the pharynx, for visualization of the lower pharynx and larynx. There is no suction or air insufflation used. Procedures generally last anything between less than 30 seconds and 2 minutes. It is considered an important procedure for early detection of throat cancers, as well as for the evaluation of benign pathology. It does not have an adequate radiological substitute.

FNE is also called and coded by other terminology, including nasendoscopy, a fiberoptic examination of pharynx, and fiberoptic (flexible) laryngoscopy; these all refer to the exact same procedure. Nasal endoscopy, also coded as sinuscopy, involves the introduction of a rigid scope into the nasal cavity for evaluation of same. This procedure is considered to be equivalent to FNE in terms of risk of aerosolisation or disease transmission by droplets, and as such is considered to be also covered by the guidance herein.

6. Risk of infection associated with FNE

The person operating the endoscope is handling an instrument that will be contaminated with respiratory secretions. They are also in close proximity to the person on whom the procedure is being performed. There is, therefore, a significant risk that any infectious microorganism present in the patient's respiratory tract could be transferred to the operator by contact (contamination of hands) or by droplets (generated when talking, sneezing or coughing). Contact and droplet transmission is considered to be the major risks associated with this procedure for the transfer of infection to the operator. There is also the potential for transfer of infection

from the operator to the patient (contact and droplet) and for transfer of infection between patients (on the endoscope).

7. Aerosol Generating Procedures (AGPs) associated with an increased risk of infection

There are a number of infectious diseases of the respiratory tract that are normally transmitted by droplets (larger respiratory liquid particles). Droplet transmitted infections include influenza virus and SARS-CoV-2 virus (associated with COVID-19). Droplet transmitted infection may be associated with transmission by aerosols (very fine respiratory liquid particles) in the context of certain medical procedures that generate aerosols from the respiratory tract. The evidence of increased risk is strongest for endotracheal intubation. While many practitioners are concerned about the potential for aerosol transmission associated with any procedure that involves any instrumentation of the respiratory tract, this is not supported by evidence for many procedures, including FNE.

Although FNE not considered to be an AGP, it can provoke coughing, gagging, throat clearing and sneezing. These normal physiological responses can produce liquid particles in a range of sizes (droplets and aerosols). In most clinical situations, the amount of aerosol generated in this context is unlikely to be any greater in extent than that produced by coughing, gagging, throat clearing and sneezing in normal day-to-day activity. The only published data regarding aerosolisation and nasal endoscopy is by Workman et al, who reported that FNE generates a similar amount of aerosol as speech and simulated coughing, and less than sneezing (Reference 1). Use of a surgical mask by the patient reduced the amount of aerosol.

In summary, FNE is not an AGP, but it does require that the upper respiratory tract of the endoscopist be closely exposed to the upper respiratory tract of the patient, therefore increasing the risk of contact and droplet transmission for both endoscopist and patient. This guidance is designed to manage the risk of infection without disproportionately curtailing access to a safe and critical diagnostic procedure.

8. Precautions to minimise transmission of infectious micro-organisms (including SARS-CoV-2) during FNE during the COVID pandemic

a. Standard Precautions and Mask

The foundation for managing the risks of the spread of infection in every situation is Standard Precautions. Standard Precautions must be implemented scrupulously with all patients, in all settings, all of the time. Standard Precautions include hand hygiene; cough etiquette, appropriate use of PPE, environmental cleaning, and cleaning and decontamination of reusable instruments. In addition to Standard Precautions, all healthcare workers are advised to wear a surgical mask for all patient care activities where a distance of 2 metres cannot be maintained.

b. Additional considerations

A review of each step of the patient pathway appropriate to the setting where FNE is performed should take place as part of the return to service planning. Ensure regular reminders about hand hygiene and respiratory etiquette for patients and staff are visible along the patient pathway (e.g. posters and stickers).

c. Staff

Staff should not be at work if they have symptoms of COVID-19. If symptoms develop during a shift, staff should immediately report to their line manager or person in charge. A local pathway should be established for management, including testing of staff who develop symptoms while either on or off duty. Any cases of infection of staff should be assessed to determine if there is reason to believe infection was related to exposure in the workplace and if so to identify the likely pathway of infection.

d. Early identification of patients at high risk of COVID-19

Patients should have a pre-procedural assessment to establish if they are:

- Suffering from any new-onset symptoms or signs that may be consistent with COVID-19 (e.g. fever, shortness of breath, cough, recent loss of taste or smell)

- Self-isolating due to being in close contact
- Suffering from acute infectious illness of any nature
- Identified as a COVID-19 contact

With specific respect to SARS-CoV-2, the risk of exposure and infection is a reflection of a number of factors, including whether the patient is a known case of COVID-19, has symptoms suggestive of COVID-19, the prevalence of SARS-CoV-2 in the local community, and the anticipated risk of prolonged close contact and droplet production (e.g. due to coughing). Consideration of these factors can allow a rational assessment of risk attached to undertaking FNE. The following risk categorisation is recommended to allow this risk assessment:

High Risk

- Known SARS-CoV-2 patients, or patients who have new-onset symptoms which may be consistent with SARS-CoV-2 infection, or identified as COVID-19 contacts
- If high risk, then FNE should be deferred if at all possible, and testing arranged if not already performed. If deferral is not possible, then FNE should be undertaken with appropriate precautions

Standard Risk

- Patients with no clinical features suggestive of COVID-19, and who are not Contacts
- If standard risk, It is not necessary for patients to be tested for SARS-CoV-2 prior to undertaking FNE

e. Implement physical distancing

Pre-procedure

Consider how to implement social distancing in waiting areas. For example, appointments should be carefully staggered to avoid multiple patients arriving at the same time. Patients should be encouraged to wait remotely (in their car or vehicle if practical), and then admitted directly to the patient assessment area in order to minimise patient numbers in the designated waiting area. The designated waiting area should be adapted by removing or marking seating to ensure physical distancing of two metres is always maintained. Contingencies should be developed for the event of unexpected congestion; identify sub-wait areas that can be used for overflow. Steps should be taken to minimise any staff or other footfall through the waiting area that is not essential to the operation of the service. Patients identified as High Risk should be brought directly to the procedure room and avoid waiting in public areas.

During the procedure

As a general principle, increasing the distance between the endoscopist and the patient during the examination reduces the exposure to ejected droplets from either party. Maximising this distance and hence this exposure is best facilitated by use of endoscopes coupled to high definition video cameras with high definition video monitors with appropriate recording devices. Furthermore, this technology may also reduce the duration of the procedure by improved visualisation and by facilitating a systematic review of the recorded video or images. There is also a reduction for the need for a second procedure when a second or more senior opinion is required.

FNE should be undertaken with a camera, monitor and recording device (video-stack system).

Note however that this guidance is not intended to preclude performance of FNE in the absence of a video stack system where there is no other option, and where the procedure is assessed as being clinically indicated, and representing a low risk by the operator.

Any person who needs to stay in the room to support the procedure or accompany the patient should stay 2 metres away from the procedure if possible.

f. Face coverings

If a patient has been identified as high risk of COVID-19 then a surgical facemask should be provided for the patient, and it should be worn for the duration of the engagement where tolerated. In a high-risk setting, it is not appropriate to rely on a patient-provided cloth face covering of uncertain quality.

Patients at standard risk are advised to wear their own cloth face-covering in waiting areas or other areas where they are in contact with other members of the public, and distance cannot be maintained. If they do not have a cloth face-covering they should be offered a surgical mask if physical distancing from other patients cannot be maintained consistently throughout the patient pathway, or if it assists in reassuring patients that the environment is safe.

g. Requirement for Personal Protective Equipment (PPE)

The requirement for PPE is based on general guidance and an individual assessment of risk for each procedure (examining factors relating to patient, procedure and staff). The exact level of PPE can be guided by the risk categorisation.

High Risk

- Hand hygiene
- Disposable single-use gloves
- Long-sleeved disposable gown
- A fluid-resistant surgical facemask is sufficient, however, FFP2 mask may be considered
- Eye protection

Standard Risk

- Hand hygiene
- Disposable single-use gloves
- Apron
- Fluid resistant surgical facemask
- Additional PPE based on individual risk assessment.
- Consider use FFP2 mask in place of surgical mask
- Consider Eye protection
 - Eye protection is recommended as part of standard infection control precautions when there is a risk of blood, body fluid, excretions or secretions (including respiratory secretions) splashing into the eyes

Surgical scrubs are not personal protective equipment. However, the endoscopist should consider wearing surgical scrubs when working in areas of high activity with direct contact with patients for these procedures. Proper hand hygiene and safe donning, doffing and disposal of PPE should be standard practice.

h. Environment

Ensure the area is free of clutter and non-essential equipment to facilitate adequate cleaning. Alcohol-Based Hand Rub (ABHR) and tissues should be made available for patient use, in particular in the procedure room where there is a risk of coughing/sneezing. Patients should be encouraged to use ABHR after discarding tissues.

If possible, FNE should be performed in rooms with good natural or mechanical ventilation. Where rooms with mechanical ventilation are available, they should be used. In rooms without mechanical ventilation, keeping windows open will improve air circulation, weather permitting. A 'droplet pause' is not required between procedures, however, adequate time should be left for cleaning surfaces and equipment as outlined below.

A negative pressure isolation room is not required for performing FNE.

i. Cleaning

All staff should be aware of their role and responsibility in relation to cleaning. An adequate supply of suitable cleaning products in line with the local policy should be available in the procedure room. After the procedure, cleaning of surfaces which have been in direct contact with the patient should be performed using cleaning products in line with local policy (e.g. detergent wipes, sprays). Where coughing, sneezing, gagging or throat clearing has been provoked with potential for droplet contamination of the environment, the surfaces in the immediate space surrounding the patients should be wiped clean using detergent wipes or spray. Cleaning of the floor between patients is not required.

j. Decontamination of equipment

Additional measures for the decontamination of endoscopes are not required for SARS-CoV-2. Scopes should be decontaminated according to routine procedures and local hospital protocol, and in a manner approved for decontamination of scopes.

Other equipment which may have been used as part of the assessment should be decontaminated after use in line with local procedure. This includes equipment such as headlights and otoscopes.

9. Special situations

a. Patients referred with anosmia or ageusia

Anosmia and ageusia are recognized symptoms of COVID-19. Patients presenting with recent onset of these symptoms should be referred for COVID-19 testing in the first instance. If the test is reported as not-detected, discussion with Microbiology or Infectious Disease may be appropriate, and it may be appropriate to re-test particularly if there is no other clinical explanation for the presentation.

Patients with recent (<4 weeks) onset anosmia or ageusia requiring urgent FNE or nasal endoscopy for another reason, and that have a nasopharyngeal sample reported as not-detected, should be risk assessed regarding precautions required in consultation with Infection Prevention and Control where appropriate.

b. ENT emergency procedures

ENT emergency procedures, including management of epistaxis, incision and drainage of peritonsillar abscess, and management of post-tonsillectomy haemorrhage, may present a substantially higher risk of projectile droplet expulsion. Frequent need to perform suction may generate aerosols, hence they present a greater risk of disease transmission if the patient has COVID-19. In addition, many of these patients may also have symptoms consistent with COVID-19 (for example a raised temperature) which complicates assessment.

Recommendation

Consistent with Standard Precautions where exposure to blood, body fluids or splashes is considered likely, high-risk emergency procedures should be undertaken with the following precautions:

- Hand hygiene
- Gloves
- Long-sleeved gown
- Eye protection (visor or goggles)
- A fluid-resistant surgical mask is sufficient, however, FFP2 mask can be considered

As these cases frequently present out of hours, and it is possible for several cases to present in short succession, it is highly desirable for hospitals to have a designated room for ENT emergencies, which has good ventilation and is stocked with appropriate ENT equipment.

10. References

Reference 1: Workman AD, Jafari A, Welling DB, Varvares MA, Gray ST, Holbrook EH, Scangas GA, Xiao R, Carter BS, Curry WT, Bleier BS. Airborne Aerosol Generation During Endonasal Procedures in the Era of COVID-19: Risks and Recommendations