

Transnasal Endoscopy

Procedure Guide



Transnasal Endoscopy Procedure

Disclaimer

This transnasal endoscopy technique is presented to demonstrate the method adapted by Prof. Dr. med. Thomas von Hahn, Asklepios Clinic Barmbek Gastroenterology and Interventional Endoscopy (Germany).

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The Procedure

Potential Benefits of Transnasal Endoscopy

The systematic review and meta-analysis provides that unsedated transnasal endoscopy (TNE) is an accurate, safe, and well-tolerated procedure for the detection of columnar epithelium and can be considered as screening modality for Barret's Esophagus. ¹



Pretreatment Technique for Enhancing Patient Experience

Patient Preparation

Potential Contraindications Include:

- History of nasal trauma / prior nasal surgery.
- Patients with frequent nosebleeds (epistaxis).
- Coagulopathy / use of anticoagulants.

Patient Preparation for Anesthesia

1. Give anti-foaming agent (e.g. 2 ml simeticone in 20 ml water) upon arrival in the endoscopy room, approximately 5 to 10 mins prior to endoscopy.
2. Determine through which nostril the patient breathes more easily.
3. Spray nasal cavity, nasopharynx and oropharynx with local anesthetic spray catheter.
4. Explain procedure and answer any questions patient may have.
5. Position patient in the left lateral position; apply drape.
6. Lubricate scope with local anesthetic gel.
7. Begin procedure.

Tips and Tricks for Safe and Reliable Observation with Transnasal Endoscopy

Overview of Insertion Steps

1. Introduction / Process and Requirements to Transnasal Endoscopy

2. Insertion to the Nasopharynx

3. Insertion from the Nasopharynx to the Oropharynx

4. Observation in the Oral Cavity

5. Esophagus





1. Introduction/Process and Requirements for Transnasal Endoscopy

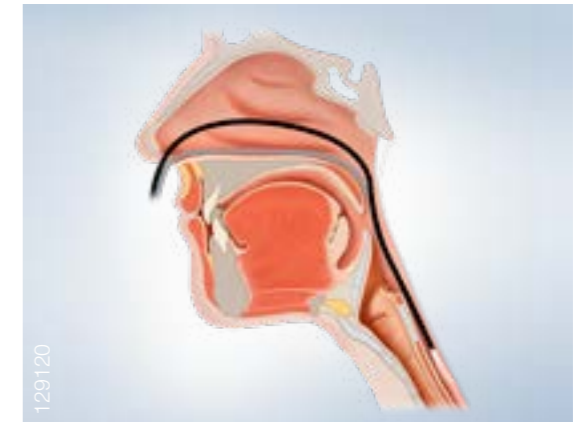
Considerations for Insertion of the Endoscope



Description

With reliable nasal anesthesia and mild/moderate pharyngeal anesthesia, physicians can insert the device/instrument taking into account the anatomy of the nasal structure. All procedures should be performed carefully and slowly compared to transoral insertion.

1. Transnasal endoscopy is usually performed in the left lateral position. Under special circumstances, the procedure can also be performed in the sitting position.
2. Lubrication of the endoscope facilitates insertion into the nasopharyngeal space.
3. The endoscope can be passed along either the floor of the nose or between the middle and inferior turbinates.
4. It is important to apply gentle pressure on the shaft of the endoscope and avoid sudden movements when inserting it into the nose to prevent intranasal pressure and patient discomfort.
5. The patient's head should be flexed/bent forward while the endoscope is being inserted into the upper esophageal sphincter. The patient is asked to swallow while the endoscope is gently advanced; air is insufflated into the esophagus, and the entire length is evaluated/assessed.
6. From this point on, the upper GI examination can be performed identically to transoral endoscopy (TOE).





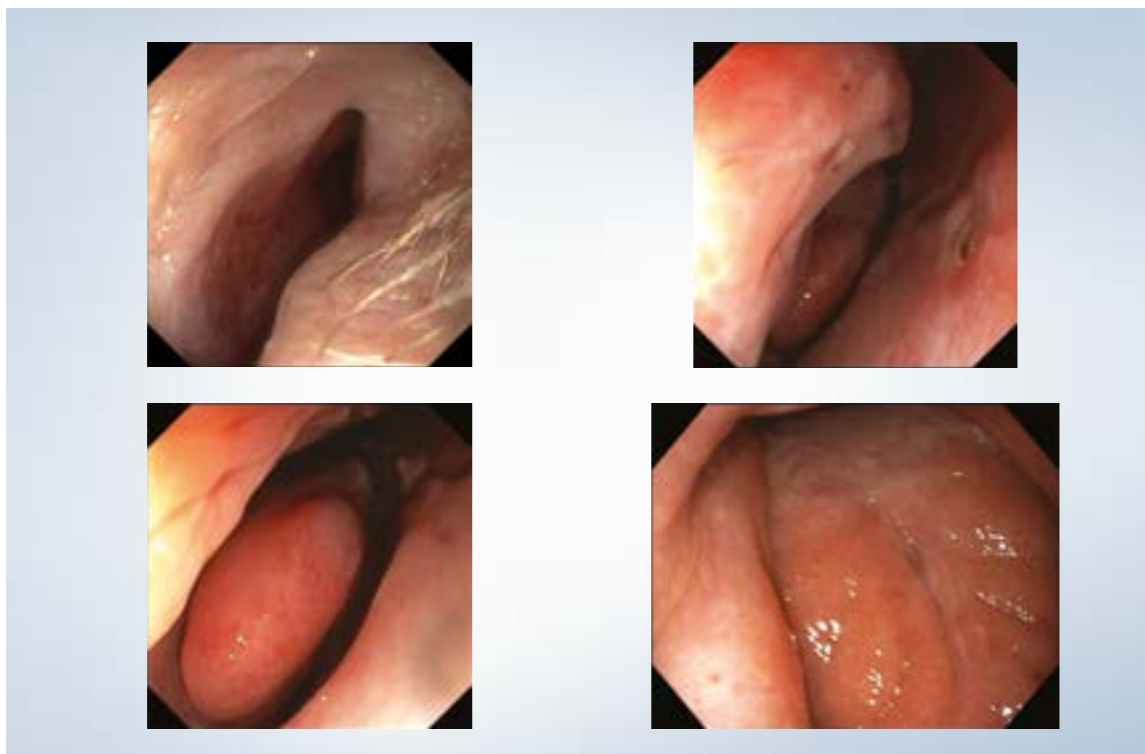
2. Insertion to the Nasopharynx

Considerations for Insertion of the Endoscope



Description

When performing nasal insertion, you should strive to pass the endoscope safely and smoothly through the nasal cavity. Always considering the direction in which the spray catheter was inserted into the nasal cavity, you can gently push the endoscope in that direction so that you can reach the nasopharynx naturally. If the anesthesia has been properly preformed, insertion will not cause pain or discomfort, but if you get lost in the nasal passage or feel resistance, it may be appropriate to remove the endoscope and recheck the direction. With a slight upward angle at the beginning of the insertion, you will not lose your orientation even in the sitting position. Usually, the endoscopic image is occluded and magnified in the nasal cavity, so you should be careful not to incorrectly target the narrow side of the nasal passage with unnecessary angular manipulation.



Key Insights

The structure of the nasal passage varies greatly from patient to patient, but insertion is always started with a slight upward angle. You will not lose your orientation if you know whether the nasal septum is on the right or on the left. Also, remember the direction in which a cotton spray catheter was inserted. Patients with a narrow nasal passage always have dilated marks (mild redness and indentations) during pretreatment, so moving in that direction is recommended. This is also useful when inserting in a sitting position.



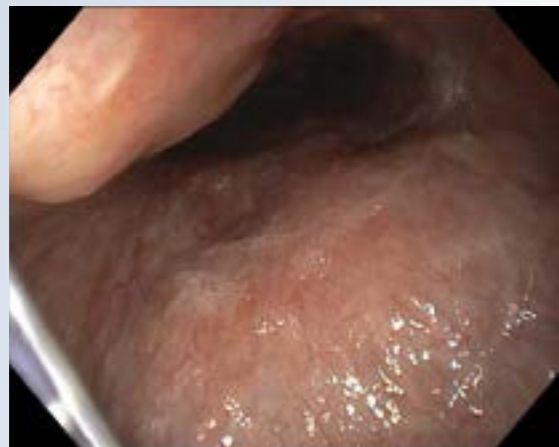
3. Insertion from Nasopharynx to the Oropharynx

Considerations for Insertion of the Endoscope



Description

When you reach the nasopharynx, you can advance the endoscope to the oropharynx by operating the angle up and down. When you feel resistance at a few centimeters into the nostril, the endoscope has hit the posterior wall of the nasopharynx and no further insertion is required. When the nasopharynx is closed, nasal breathing opens your field of view.





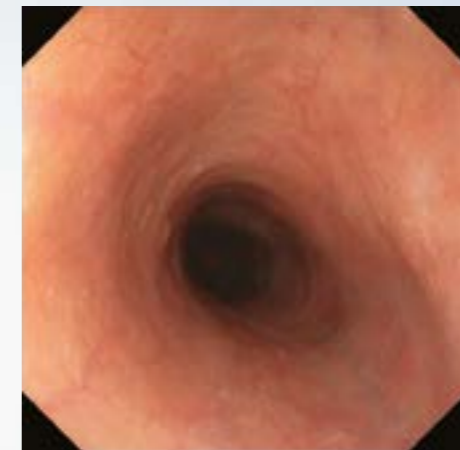
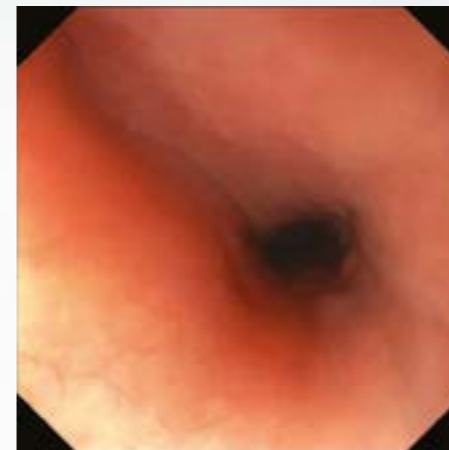
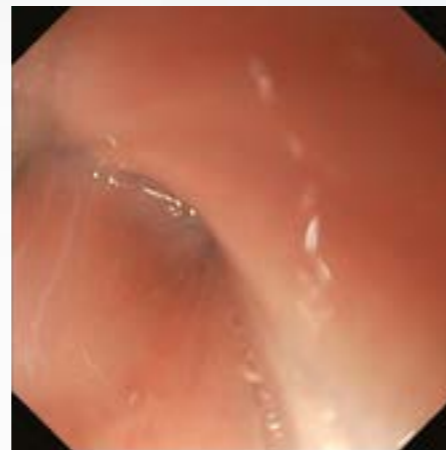
4. Insertion from the Oropharynx to the Proximal Esophagus

Considerations for Insertion of the Endoscope



Description

During oral observation, the gag reflex is not activated unless it is accidentally touched by the base of the tongue. Patients are advised to hold their breath, vocalize and swallow saliva if the suction is insufficient, and then you can carefully observe the mesopharynx, larynx, etc. In terms of preventing aspiration, mild pharyngeal anesthesia is appropriated and sufficient. When passing the esophageal inlet, be careful not to go too far into the left and right piriform recesses. By gradually advancing the endoscope while gently inflating it, you can reach the cervical esophagus while observing the wall with almost no resistance. If patients feel discomfort in the throat, instruct them to swallow gently. As long as the insertion is performed in the direction of the larynx, it is extremely rare for the esophageal insertion to cause coughing or aspiration.





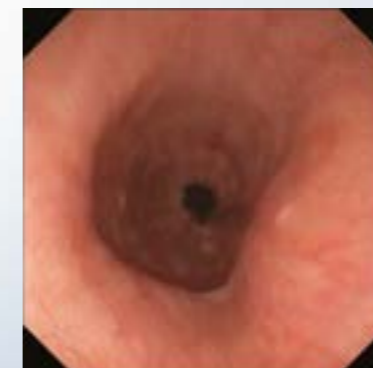
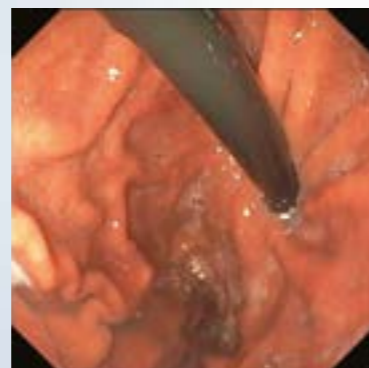
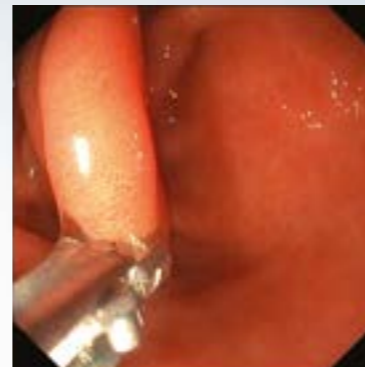
5. Diagnostic Evaluation of the Esophagus, Stomach and First and Second Part of the Duodenum

Considerations for Insertion of the Endoscope



Description

The inside of the esophagus should be thoroughly flushed with gaseous water before observation, and when the endoscope reaches the stomach, observation should be performed according to a familiar procedure. Insertion into the deep duodenum is also easy, but excessive bending in the stomach may make duodenal insertion difficult, in which case the air in the stomach should be reduced. The left-right angle is often effective for observation of the esophagus when the endoscope is inverted and for biopsy tissue collection in the upper part of the stomach.



Recommended Equipment

Transnasal Endoscopy

The following inventory, lists the equipment that can be used to perform a TNE procedure.

- Endoscopy system
- Ultra-slim gastroscop (e.g. GIF-H190N)
- Local anesthetic lubricant gel (e.g. xylocaine)
- Local anesthetic spray with catheter (e.g. xylocaine)
- Decongestant nasal spray (e.g. xylometazoline)



Ultra-slim gastroscop
(e.g. GIF-H190N)



Endoscopy
system

EVIS X1 - Elevating the Standard of Endoscopy

Full Potential of Transnasal Endoscopy with our Most Advanced Endoscopy System

Combining Benefits – for Patients and Endoscopists

As a leading medical technology company, we want to support every endoscopist. In every procedure. Every day.

Easy-to-use technologies such as TXI, RDI and NBI aim to revolutionize the way gastrointestinal disorders can be detected, characterized and treated.

The advantages of the transnasal endoscopy together with the newest technology aim to offer optimal support for every patient and endoscopist.



NBI



RDI



TXI

EVIS X1

Transnasal Endoscopy

Reference

- ¹ Lotte J Huibertse, et. al. Unsedated transnasal endoscopy for the detection of Barrett's esophagus: systematic review and meta-analysis, Dis Esophagus. 2023 Feb; 36(2): doac045.

As medical knowledge is constantly growing, technical modifications or changes to the product design, product specifications, accessories and service offerings may be required.

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