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Throat specimen collection

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■ Critical Notes!

Using Lippincott Procedures in your Practice

Lippincott Procedures is an AHS & Covenant Health endorsed resource for evidence-based practice information. It should be used in consideration of your clinical experience, context-specific information & clinical data, with **ATTENTION TO CURRENT ORGANIZATIONAL POLICIES/PROCEDURES**, and other organizational references.

If you have questions about using *Lippincott Procedures* in your practice please contact:

- For AHS staff, the Professional Practice Consultation Service at practice.consultation@albertahealthservices.ca
- For Covenant Health staff, Professional Practice at professional.practice@covenanthealth.ca

■ Introduction

Correct collection and handling of throat swab specimens helps laboratory staff accurately identify pathogens with minimal contamination from normal bacterial flora. Collection normally involves sampling inflamed tissues and exudate from the throat with sterile swabs made of cotton or another absorbent material.¹

After the specimen has been collected, the swab is immediately placed in a sterile tube containing the appropriate transport medium.¹ Swab specimens are usually collected to identify pathogens, prevent complications, and sometimes identify asymptomatic carriers of certain easily transmitted disease organisms.

◆ **Clinical alert:** For information specific to obtaining specimens for Coronavirus Disease (COVID-19) testing, please refer to the CDC's website for the most updated information <https://www.cdc.gov/coronavirus/2019-ncov/lab/guidelines-clinical-specimens.html> ◆

■ Equipment

- Gloves
- Mask with face shield or mask and goggles
- Tongue blade
- Penlight

- Sterile swabs (cotton, wool, or synthetic fiber)
- Sterile culture tube with transport medium or commercial collection kit
- Specimen label
- Laboratory biohazard transport bag
- Optional: gown, laboratory request form

■ Preparation of Equipment

Inspect all equipment and supplies. If a product is expired, is defective, or has compromised integrity, remove it from patient use, label it as expired or defective, and report the expiration or defect as directed by your facility.

■ Implementation

- Verify the practitioner's order.
- Gather and prepare the necessary equipment and supplies.
- Perform hand hygiene.^{2 3 4 5 6 7}
- Confirm the patient's identity using at least two patient identifiers.⁸
- Provide privacy.^{9 10 11 12}
- Explain the procedure to the patient and family (if appropriate) according to their individual communication and learning needs *to increase their understanding, allay their fears, and enhance cooperation.*¹³ Tell the patient that gagging might happen when you swab the throat but that the swabbing will take only 10 to 15 seconds.
- Assist the patient with sitting at the edge of the bed or in a chair facing you.
- Perform hand hygiene.^{2 3 4 5 6 7}
- Put on gloves, a gown, and a mask with face shield or a mask and goggles, or other personal protective equipment, as needed, *to comply with standard precautions.*^{14 15 16 17}

◆ **Clinical alert:** If a patient is on airborne precautions, wear a fit-tested N95 or higher-level disposable respirator when caring for the patient; put on the respirator before entering the room, and remove it after exiting the room. If you anticipate spraying of respiratory fluids, wear a gown, a mask and goggles, or a mask with face shield as well as gloves.¹⁷ ◆

- Tell the patient to tilt the head back and open the mouth wide.^{14 18}
- Depress the back third of the tongue with a tongue blade, and illuminate the throat with a penlight.^{14 18}
- Inspect the throat for swelling, pus, and red or white spots.¹⁸
- If the patient gags, withdraw the tongue blade and instruct the patient to breathe deeply. After the patient relaxes, reinsert the tongue blade but less deeply than

before. Encourage the patient to close the eyes or to stare at the ceiling *to promote cooperation*.

- Open and remove the swab, taking care not to touch the tip with your hands *to prevent contamination*. If you touch the tip, discard it and obtain a new swab.
- Rub the swab tip quickly but thoroughly over both tonsils, including inflamed or purulent sites, using light pressure. Don't touch the tongue, cheeks, saliva, or teeth with the swab tip *to avoid contaminating it with oral bacteria*.¹⁴¹⁸
- Withdraw the swab and immediately place it in a culture tube. If you're using a commercial culture kit, crush the ampule of culture medium at the bottom of the tube and then push the swab into the medium *to keep the swab moist*. If you're using a rapid strep test kit, follow the manufacturer's instructions.¹⁴¹⁸
- Discard used supplies in appropriate receptacles.¹⁵
- Remove and discard your gloves and other personal protective equipment if worn.¹⁵
- Perform hand hygiene.²³⁴⁵⁶⁷
- Label the specimen in the presence of the patient *to prevent mislabeling*.⁸
- Indicate on the laboratory request form (if used in your facility) whether the practitioner strongly suspects an organism, especially *Corynebacterium diphtheriae* (which requires two swabs and special growth medium) and *Neisseria meningitidis* (which requires enriched selective media).
- Place the specimen in a laboratory biohazard transport bag and immediately send it to the laboratory *to prevent growth or deterioration of microbes*.¹⁵
- Perform hand hygiene.²³⁴⁵⁶⁷
- Document the procedure.¹⁹²⁰²¹²²

■ Special Considerations

- Note recent antibiotic therapy on the laboratory request form (if used in your facility) *because it could alter the results of the throat culture*.¹
- If possible, obtain the specimen before starting antimicrobial therapy.¹
- Check with the laboratory for special instructions for viral studies.
- *To maximize sensitivity for a large number of viruses*, collect both nasopharyngeal and oropharyngeal specimens.²³
- *Because throat swabs and anterior nasal swabs have unacceptably low rates of deoxyribonucleic acid recovery*, don't use them for pertussis diagnosis.²⁴
- Instruct the patient not to use antiseptic mouthwash before the procedure.²⁵
- *To avoid stimulating the gag reflex during the procedure and possibly causing the patient to vomit*, wait 1 hour after the patient eats a meal before conducting the procedure if possible.

- Notify the practitioner if the patient has signs or symptoms of a systemic infection or has difficulty breathing because of swelling of the tongue or throat.

■ Patient Teaching

Teach the patient and family (if appropriate) the importance of respiratory hygiene, cough etiquette, hand hygiene, and other infection control measures *to help prevent the spread of respiratory infections*.¹⁷

■ Complications

Laryngospasm may occur after you obtain the culture if the patient has epiglottitis or diphtheria. Keep resuscitation equipment nearby.

■ Documentation

Record the time, date, and site of specimen collection. Note recent or current antibiotic therapy. Also note whether the specimen has an unusual appearance or odor. Document the patient's tolerance of the procedure. Document teaching provided to the patient and family (if applicable), their understanding of that teaching, and any need for follow-up teaching.

This procedure has been reviewed by the Academy of Medical-Surgical Nurses.



■ Related Procedures

- [Nasopharyngeal specimen collection](#)
- [Nasopharyngeal specimen collection, ambulatory care](#)
- [Pain assessment, neonatal](#)
- [Point-of-care testing, rapid influenza diagnostic test, ambulatory care](#)
- [Point-of-care testing, rapid strep test, ambulatory care](#)
- [Throat specimen collection, home care](#)

■ References

[\(Rating System for the Hierarchy of Evidence for Intervention/Treatment Questions\)](#)

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Rating System for the Hierarchy of Evidence for Intervention/Treatment Questions

The following leveling system is from *Evidence-Based Practice in Nursing and Healthcare: A Guide to Best Practice* (2nd ed.) by Bernadette Mazurek Melnyk and Ellen Fineout-Overholt.

- Level I: Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials (RCTs)
- Level II: Evidence obtained from well-designed RCTs
- Level III: Evidence obtained from well-designed controlled trials without randomization
- Level IV: Evidence from well-designed case-control and cohort studies
- Level V: Evidence from systematic reviews of descriptive and qualitative studies

Level VI: Evidence from single descriptive or qualitative studies

Level VII: Evidence from the opinion of authorities and/or reports of expert committees

Modified from Guyatt, G. & Rennie, D. (2002). Users' Guides to the Medical Literature. Chicago, IL: American Medical Association; Harris, R.P., Hefland, M., Woolf, S.H., Lohr, K.N., Mulrow, C.D., Teutsch, S.M., et al. (2001). Current Methods of the U.S. Preventive Services Task Force: A Review of the Process. American Journal of Preventive Medicine, 20, 21-35.

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