



SPONTANEOUSLY PRODUCED SPUTUM COLLECTION

PURPOSE

To obtain sputum specimens for *Mycobacteria* or *Legionella* testing from a patient who has a productive cough.

Ensure that the patient is outdoors or placed in an airborne isolation room or negative-pressure sputum collection booth with the door shut. The air in the negative pressure room or booth should be drawn out of the space and ventilated outside of the building.

MATERIALS AND EQUIPMENT

- Sterile, filtered water or normal saline (150-200 ml)
- N95 mask (particulate respirator)
- Gloves
- Box of tissues
- Sterile specimen container approved by the laboratory for sputum collection and transport

PROCEDURE

Preparation

- 1) Instruct the patient to gently brush his/her teeth, gingival margins, tongue, and buccal surfaces using sterile, filtered water or normal saline to rinse.
 - a. Do not use tap water, toothpaste, commercial mouth wash preparations, nose drops, or any medications containing alcohol or oil. Instruct the patient to avoid taking oral antibiotics immediately before the sputum collection procedure.
- 2) Instruct the patient to gargle several times with sterile, filtered water or normal saline after brushing.
 - a. Do not use tap water or bottled water as they may contain non-tuberculous mycobacteria that may alter test results.



Sputum Collection

- 1) Observe standard precautions at all times.
 - a. Note: N95 masks must be worn by healthcare personnel for AFB cough-producing procedures.
- 2) The patient must be outdoors or in an appropriate negative air pressure room or booth.
- 3) Coach the patient and supervise the first sputum collection, at minimum, in order to obtain a good quality sputum specimen that represents secretions from the lower respiratory tract.
 - a. The patient should understand that sputum is material that is brought up from the lungs and that nasal secretions and saliva or spit are not acceptable.
- 4) Instruct the patient to inhale deeply, as far as possible, and then exhale slowly three times.
- 5) After the third breath, direct the patient to inhale completely and try to cough hard to produce sputum from deep in the lungs. The patient may feel a rattle or tickle as the sputum moves up the lungs and into the throat.
- 6) Instruct the patient to expectorate the sputum into a sterile specimen container.
- 7) When there is at least 5 ml (1 teaspoon) of sputum, replace the lid on the container and tighten it so it does not leak.
 - a. Note: High-quality sputum is required for laboratory testing. The optimal volume of sputum is 5-10 ml, minimum volume is 3 ml.
- 8) If the patient is in a negative pressure room or booth, ask the patient to remain in the booth or room until cleared to leave.
- 9) Print the patient's name, date of birth, specimen type and date/time of collection of the specimen container.
- 10) Complete WSLH CDD Requisition Form A. Necessary information: name, date of birth, date and time collected, source and type of specimen, test requested. Additional required information for Medicare/Medicaid: patient address, ICD9 code, physician's full name, and UPIN number.

Resources:

- 1) Centers for Disease Control and Prevention. Controlling TB in Correctional Facilities. 1995.
https://books.google.com/books?id=5ed_o0LWDFYC&pg=PA26&lpg=PA26&dq=sputum+coaching&source=bl&ots=zr23D9aQ4U&sig=6DHZW_3x0KwI6GjfVUMZljZWwcc&hl=en&sa=X&ved=0CCYQ6AEwA2oVChMisc6f5oTWxwIVxR4eCh1O-3A6O#v=onepage&q=sputum%20coaching&f=false
- 2) Association of Public Health Laboratories/National TB Controllers Association. Consensus statement on the use of Cepheid GeneXpert MTB/TIF assay in making decisions to discontinue airborne infection isolation in healthcare settings. 2016.
http://www.tbcontrollers.org/docs/resources/NTCA_APHL_GeneXpert_Consensus_Statement_Final.pdf