

## Procedure for Sputum Collection for Acid Fast Bacilli



### Equipment

- sputum collection kit from Provincial lab
  - instructions for client for collecting sample
  - sterile specimen containers
  - laboratory requisitions
  - sealable plastic bio-hazard bag
- vinyl gloves
- tissues
- separate room well ventilated to the outside
- N95 mask\*

In a public health setting you may be leaving specimen containers with the client to provide specimens over 2 - 3 days. Attempt to collect at least one sputum at the time of meeting with client. Remind your client to close lids tightly and to keep samples refrigerated - provide a bag to keep specimens separate from fridge contents. Emphasise that the sample must be mucus from as deep in the lungs as possible. Saliva from the mouth is not an appropriate sample.

When assisting your client to collect a sample be sure to provide privacy and a well ventilated area. Go outside if necessary to provide ventilation.

\*If your client is at high risk for having active TB ( has symptoms of TB, and/or in high risk group) you should to protect yourself by wearing an N95 mask.

PROCEDURE STEPS	RATIONALE
1. Plan to collect specimen in the early morning (before eating).	1. Bacteria are concentrated in bronchial secretions that accumulated overnight. Sputum collected prior to eating is less likely to be contaminated with food.
2. Label all containers with client's name and Personal Health Number. Complete requisition forms.	2. Ensures correct identification of specimen. Unlabeled samples will not be processed by the lab.
3. Explain procedure and reason for collecting sample to client.	3. Promotes client comfort and understanding.
4. Wash hands and put on disposable vinyl gloves.	4. Minimizes transmission of other pathogens. Protects health worker.

**Procedure for Sputum Collection for Acid Fast Bacilli...continued**

PROCEDURE STEPS	RATIONALE
5. Open sterile container, keeping the lid and give only the bottom to the client, asking client to take care not to touch the inside of the cup.	5. Minimize contamination of specimen.
6. Have client inhale and exhale deeply 3 times, then inhale quickly, cough forcefully, and expectorate(spit) the mucus into the cup.	6. Promotes deep coughing.
7. Check quality and quantity of sputum. Have client repeat procedure if needed to ensure sufficient quantity.	7. Specimen of at least 3 – 5 ml containing solid or purulent material is needed. It may take several efforts and up to 15 minutes to produce a large enough sample.
8. Close labelled sputum container securely. Wrap in absorbent material and place into bio-hazard ziplock bag. Place bag in designated transport container.	8. Specimens that have leaked will not be opened by the lab and will need to be repeated. Minimize spillage and exposure of health workers during transport.
9. Close labelled sputum container <b>securely</b> . Wrap in absorbent material and place into bio-hazard ziplock bag. Place bag in designated transport container.	8. Specimens that have leaked will not be opened by the lab and will need to be repeated. Minimize spillage and exposure of health workers during transport.
10. Enclose <b>completed</b> requisition in the sleeve of bag designed for this purpose.	9. Assures identification and proper testing of specimen.
11. Refrigerate specimen. Forward to lab as soon as possible using health center policy and procedure.	10. Refrigeration and prompt delivery reduce opportunity for organisms which are normally present in sputum to overgrow and contaminate the specimen.
12. Remove gloves and wash hands.	11. Minimizes transmission of other pathogens. Protects health worker.
13. Consult with TB control (or ordering physician) if collection was unsuccessful.	12. Client may require referral for further procedures to collect a specimen.

**References**

1. Alberta Health & Wellness: Tuberculosis Prevention and Control Guidelines for Alberta p.198-199.
2. Practical Skills Manual, Community Health Representative Program, Portage College, p.26.

## **Additional Methods of Gathering Samples for Acid Fast Bacilli**

### **For Sputum**

**Gastric Wash** - If an individual cannot cough strongly enough to spit out their sputum they may swallow it.

The gastric wash collects stomach contents to test for AFB (TB germs).

- Usually done in hospital outpatients
- A tube is passed through the nose into the stomach
- Saline is put down through the tube and pulled out again along with the contents of the stomach
- The contents are then tested as above for smear and culture

**Sputum induction** - done to help the person cough sputum up from lungs

- With a nebulizer the person inhales about 30 cc saline and then coughs the sample up
- Usually done in hospital outpatients

**Auger suction** - sputum is gently suctioned from the back of the throat

- Usually done in hospital outpatients

### **Other samples for AFB**

Any tissue or fluid may be tested for AFB, depending on where the disease is suspected in the body.

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|------|------------|---|
| E.g. | Urine      | - when kidney or bladder TB is suspected          |
|      |            | - these samples can be collected in the community |
|      | Lymph node | - sampled in hospital                             |

## CLIENT DIRECTIONS

### How to Collect Sputum Samples



- 1 Plan to collect specimen in the early morning (before eating).
- 2 Wash hands.
- 3 Open the sterile container. Place the lid on a clean surface with the inside surface facing up. **Be careful not to touch the inside of the lid or the cup.**
- 4 Breathe in and out deeply 3 times, then breath in quickly, cough forcefully, and expectorate (spit) the mucus into the cup. Do not give saliva from your mouth. The sputum needs to be from your lungs.
- 5 Check the sample. There should be 15 mls (one tablespoon) or enough to cover the bottom of the jar. Repeat the procedure if needed to get a large enough sample. Sometimes this can take a few coughs. (A smaller sample may be enough to test so, even if you are not able to get the full 15 mls, still save the sample to send to the lab.)
- 6 Close lid of the sputum container tightly. Write the day and time sample was taken on the label. Put into the zip-lock bag and place in refrigerator.
- 7 Return sample to health centre as soon as you have finished collecting all the specimens.

*If you are asked to collect more than one sample,  
give one sample per day collected in the morning.*