

## APPENDIX 1

**Recommendations for sputum collection****1. General**

- a. Specimens should be collected before starting patients on anti-tuberculosis drug therapy.
- b. Sputum specimens should be collected in a well-ventilated area and precautions should be taken to ensure that healthcare workers and others are not exposed to infectious aerosols and materials. Contaminated materials should be disposed of in accordance with standard biosafety procedures.
- c. Specimens should be obtained under the direct supervision of a healthcare worker.

**2. Procedure for sputum collection**

- a. Sputum must be collected in sterile, screw-capped, leak-proof, disposable, plastic containers. Containers must be free from paraffin and other waxes or oils. The container should be clear so the specimen can be visualised without opening the container.
- b. Sputum collection containers should be labelled with the patient's name, NRIC number, nature of specimen, date and time of collection. The label should be on the side of the container instead of the lid.
- c. Patients should be instructed to:
  - i. Collect the specimen in the morning before any oral intake.
  - ii. Rinse his/her mouth with water before starting to collect the specimen to remove contamination such as food particles and bacteria. Patients with postnasal discharge should clear these passages before beginning sputum collection.
  - iii. Cough from as deep inside the chest as possible, as it is important to collect sputum and not saliva.
    1. Instruct patient to take a deep breath, hold his/her breath for a few seconds, and then exhale slowly.
    2. Do this twice.
    3. The third time, inhale deeply, hold his/her breath, and then forcefully exhale through the mouth.
    4. The fourth time, inhale deeply and cough. Instruct patient to carefully direct the sputum into the container to minimise contamination of the outside of the container for safe handling.
    5. Patient is to repeat the process until at least 5 ml of specimen has been obtained.
- d. The healthcare worker supervising the sputum collection may rap gently and firmly on the applicant's back to help induce coughing and sputum production.
- e. The supervising healthcare worker should inspect the specimen to ensure that it contains sputum and not saliva. Sputum is frequently thick and mucoid, but may consist of dull white or light green fluid with fine chunks of dead tissue that show up like solid flakes. Blood may or may not be present. In contrast, saliva appears thin and nearly clear; and should not be accepted.
- f. The specimen container should be capped tightly to avoid leakage. Wipe off the outside of the container with a clean tissue before placing into a biohazard-labelled plastic specimen bag. Each specimen should be accompanied by a request with relevant patient and clinical data.
- g. The healthcare worker and patient should practise hand hygiene after specimen collection to prevent transmission of microorganisms.
- h. The specimen should be delivered to the laboratory as soon as possible after collection to minimise overgrowth of commensal bacteria or deterioration of the mycobacteria.

**Grade D, Level 4**