




	TB-SPEED	TBS_2P_SOP_BSC	
	NASOPHARYNGEAL ASPIRATE (NPA) COLLECTION	Version	
		1.0	14/02/2019

## 1. COLLECTION OF A NASOPHARYNGEAL ASPIRATE (NPA)

### Equipment and materials

- Disposable gloves
- High filtration mask (N95 or FFP2)
- Mucus aspirator (suction machine)
- Mucus extractor (sputum trap)
- Silicon tube and connector
- Pulse oximeter

Mucus aspirator	Mucus extractor Disposable (one per child)	Silicon tube and connector Should stay on the machine (not disposable)	Pulse oximeter
			



Always wear disposable gloves and a high filtration mask

Perform the procedure in a well ventilated area

### Method

#### Preparation

- Clearly explain to the family, and the child if able to understand, the reason for collecting a NPA and the main steps of the procedure
- Open the mucus extractor kit and label the sputum trap appropriately (date, sample ID).
- Wear gloves and a high filtration mask throughout the procedure.

**NB:** any assistant or family member present during the procedure should also wear a mask to avoid contamination

*Procedure*

- Position the child on his/her back or side. A family member or the nurse's assistant should help to hold the child. Restrain the child very well by wrapping him/her in a piece of cloth.



- Connect the sputum trap to the suction machine using the silicon tube and connector  
**NB:** do not connect the sputum trap directly to the machine!



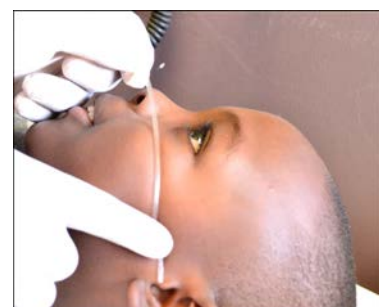
- Turn on the suction machine and adjust pressure according to the table below



**Table 6: Recommended pressure and catheter size according to age**

Patient's Age	Catheter Size (French gauge)	Suction Pressure		
		mmHg	bar	kPa
<12 months	CH8	80-100	0.10	10-13
1 to 5 years	CH8	100-120	0.15	13-16

- To evaluate the length of tube necessary, place the end of the tube at the external opening of the ear and extend it to the tip of the nose. Mark the length on the tube.



- If child is under oxygen, remove mask or nasal cannula. **Always monitor SpO2 during the procedure!**

- Without applying suction, insert the tube through the child's nostril, along the posterior pharyngeal wall until you reach the marked length. If the child doesn't have teeth, you can introduce the tube via the mouth. **Proceed with caution to avoid causing undue trauma to the child.**

Usually, the tube makes the child cough and produce sputum that can then be aspirated



- Apply suction.
- Using a rotating movement, collect respiratory secretions by slowly pulling out the tube. **Do not push the tube forward while aspirating as this would increase the risk of local trauma.**
- Apply suction until 3 mL of sputum is collected in the sputum trap. NB: Volume of mucus collected should be >1 mL (otherwise the sample will be rejected by the lab)
- If the volume is not reached by the first aspiration, it is possible to repeat the procedure in the other nostril. **The tube should not remain in the nasopharynx for more than 10 seconds**
- Remove the cap connected with the tube and recap it with the reserve cap provided in the kit. Ensure that the sputum container is tightly sealed and correctly labelled



Stop procedure immediately if

- Respiratory distress occurs
- Profuse sweating, nausea/vomiting, light-headedness, dizziness or loss of consciousness occurs.

#### After the procedure

- Monitor the child for several minutes. If pulse oximetry is below baseline or there are signs of respiratory distress, give oxygen and suction excess sputum from the airway.
- Inform parent(s)/guardian(s) and caregiver that coughing may be more frequent within 24 hours after the procedure
- Wipe the specimen container with alcohol/chlorhexidine to prevent cross-infection
- Transport to the laboratory as soon as possible for Xpert Ultra testing. Prior to transfer maintain at 2-8°C
- The stool container should be sent to the laboratory in an ice box. If the stools container is given at a time when the lab is closed, the container should be stored in the fridge

## 2. POSSIBLE ADVERSE EVENTS DURING NPA COLLECTION AND ACTION GUIDE

Clinical condition	Risk / Adverse Event	Action
<b>General</b>	Unpleasant or distressing for the child	No action required
	Cough, sneezing	No action required
<b>Digestive</b>	Nausea	No action required
	Vomiting	Stop the procedure. Put the child in supine position/lateral decubitus (i.e. lying) to avoid inhalation
	Unremitting vomiting	Idem and call the doctor Report as Severe Adverse Event
<b>Bleeding</b>	Bloody sample	Check aspiration pressure and lower if needed
	Mild nose bleeding	Stop the procedure. Make the child sit and leaning slightly forward. Firmly pinch the child's nostrils and keep pressure for 10 min. If bleeding has not stopped after 10 min, repeat the pressure.
	Nose bleeding requiring intervention	Idem and call the doctor. Report as Severe Adverse Event
<b>Heart rate</b>	Transient heart deceleration <60 bpm	Stop the procedure. Monitor heart rate
	Persistent heart deceleration <60 bpm	Idem. Give oxygen. Call the doctor. Report as Severe Adverse Event
<b>Respiratory</b>	Dyspnea OR Pulse oximetry 90% to 95%	Control peripheral oxygen saturation
	Transient Respiratory distress OR Pulse oximetry <90%*	Stop procedure Provide oxygen.
	Persistent respiratory distress OR Pulse oximetry <90% despite O <sub>2</sub> therapy	Idem. Call the doctor. Report as Severe Adverse Event
<b>Other</b>	Unexpected adverse event	If severe, call the doctor.

\* Rare, usually in children aged 3-6 months