SETTING Inpatient wards, Bristol Royal Hospital for Children

FOR STAFF Nursing and Medical staff

PATIENTS Infants, children and young people with suspected active Tuberculosis (TB) from whom a spontaneous or induced sputum sample cannot be obtained and who are able to have a Naso-Gastric Tube placed.

Introduction
Tuberculosis is an infection caused by the bacterium Mycobacterium tuberculosis. TB usually affects the lungs but any part of the body can be affected. TB bacteria are coughed or sneezed into the air by people with active TB disease and are carried in the air in tiny water droplets which are then breathed in by close contacts. Diagnosis is determined by various tests including Mantoux skin prick test, IGRA blood test, Chest Xray, Cultures, Broncho Alveolar Lavage and Gastric Lavage (in children).

Background
Infants and young children are generally not able to expectorate enough sputum for laboratory analysis. Gastric lavage is therefore used for the collection of samples for microscopy and mycobacterial cultures in young children when sputum cannot be spontaneously expectorated nor induced using hypertonic saline. It is most useful for young hospitalised children.

During sleep the lung’s mucociliary system deposits mucus up into the throat. This is then swallowed ending up in the stomach. Gastric aspiration on each of three consecutive mornings should be performed for each patient. This is the number that seems to maximize yield of smear-positivity and the first gastric aspirate has the highest yield. However, the diagnostic yield of a set of three gastric aspirates is only about 25–50% of children with active TB so a negative smear or culture does not exclude TB. Gastric lavage is a technique best used to obtain a microbiological sample where the diagnosis of TB has already been made. Culture enables the determination of the susceptibility of the organism to anti-TB drugs.

Children who are not fasted for at least 4 hours (3 hours for infants) prior to the procedure and children with a low platelet count or bleeding tendency should not undergo the procedure (due to the risk of passing the NGT)

Method
Three consecutive early morning specimens should be obtained. There are usually only small numbers of microorganisms present so as much material as possible should be obtained.

Equipment Required:
20ml syringe
Sterile specimen bottle e.g. Universal White Top
Sterile water or Saline

Please note: Performing this procedure may cause the child to cough, which can expose the healthcare worker to pathogens. It is therefore essential that appropriate PPE including respiratory protection (FFP3 mask) is worn when performing this procedure.

- Fast the child for six hours (minimum four) overnight.
- Perform hand hygiene and put on PPE
- Ensure the NGT is correctly placed by testing the PH according to Trust Guidelines (see link below).
- First aspirate the stomach contents using a 20ml syringe and place in a sterile container.
- Instil at least 20ml of sterile water or saline down the NGT.
- Aspirate the contents and place in the same sterile container.
- Remove PPE and perform hand hygiene.

ICE: Request Infection Science → Bacteriology → TB → TB/Mycobacteria → Fluid (from dropdown menu) specify Gastric Lavage in clinical details

References:
From Pediatric TB: An Online Presentation by Ann Loeffler, MD. Produced by the Francis J. Curry National Tuberculosis Center.


Specimen Collection – Microbiology and Virology Great Ormond Street Hospital http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/specimen-collection-microbiology-and-virology#Gastric washings (lavage)

RELATED DOCUMENTS
Policy for Insertion, Confirmation of Position and Removal of Naso-Gastric and Oro-Gastric Feeding Tubes
DMS address: http://nww.avon.nhs.uk/dms/default.aspx
TB Contact Screening and Management of Children With Suspected or Confirmed Tuberculosis
DMS address: http://nww.avon.nhs.uk/dms/default.aspx

AUTHORISING BODY
Paediatric Medicines Governance Group

SAFETY
Caution for children with a low platelet count or bleeding tendency should be observed due to the risk of bleeding when passing the NGT.

QUERIES
Contact Infectious Diseases Team Ext 20174 / Bleep 3997 Monday to Friday 8:00 to 18:00 email: paedidimmunology@uhbristol.nhs.uk