

Title	Bronchoscopy (Flexible)
Version	2.0

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1. **Introduction**

Routine flexible bronchoscopy and bronchoalveolar lavage (FB-BAL) is not beneficial for individuals with CF but can be useful in certain clinical situations.

2. **Indications**

2.1. To obtain definitive lower airway microbiological cultures in non-expectorating patients.

2.2. As a therapeutic intervention for lobar collapse.

3. **Procedure**

- In children, FB-BAL is performed under general anaesthesia through a laryngeal mask
- In adults, FB-BAL is usually performed under sedation through the nose or mouth.
- The suction port is not used until the tip of the bronchoscope is below the level of the carina.
- A BAL is obtained by wedging the tip of the bronchoscope into a lobar bronchus and gently instilling 1 ml/kg (maximum 20 ml) of room temperature 0.9% saline under direct vision. The saline is then immediately aspirated into the syringe that administered the saline or into a sterile suction trap.
- If FB-BAL is undertaken solely for microbiological diagnosis, a single aliquot BAL is obtained from six lobes in a set order: right upper, right middle, right lower, left upper, lingula and left lower. Each BAL is sent for MC&S. The samples from the two most affected lobes are divided and sent for virology and NTM culture. NB A single FB-BAL from the most-affected lobe only may be performed when the duration of the procedure and tolerance (under sedation in adults only) also needs to be considered
- A triple aliquot BAL is obtained if cytology is required. The first aliquot is sent for MC&S and the second and third are pooled for cytology.
- If FB-BAL is undertaken to re-inflate a lobar collapse:
 - each segmental bronchus of the affected lobe should be lavaged until clear.
 - The first sample should be collected and sent for MC&S.
 - Subsequent samples do not need to be collected.
 - BAL from other lobes should be limited to minimise the total volume of lavage fluid used.
 - Dornase alfa should be instilled into the affected lobe at the end of the procedure (2.5mg if ≥5years and 1.25mg if <5years).
 - Targeted physiotherapy should be undertaken as soon as possible post procedure.

4. **Side-effects**

- FB-BAL is generally well tolerated.
- During the procedure there is a risk of bronchoconstriction and hypoxia.
- Immediately post-procedure there is a risk of increased cough and minor haemoptysis.
- Fever is common up to 48 hours post-procedure. Occasionally this can be associated with bacteraemia that needs treatment with antibiotics.