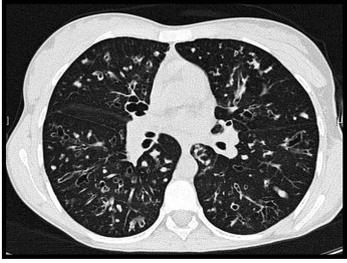


Guidelines for the Management of Bronchiectasis in Primary Care 13/14

When to suspect the diagnosis

<p>In Children:</p> <ul style="list-style-type: none"> • Chronic productive cough • Asthma that is refractory to treatment • A positive sputum culture for <i>S. aureus</i>, <i>H. influenzae</i> or <i>P. aeruginosa</i> in the setting of chronic respiratory symptoms • Unexplained haemoptysis • Persistent and unexplained physical signs or chest radiographic appearance 	<p>In Adults:</p> <ul style="list-style-type: none"> • Persistent productive cough - copious daily production of purulent sputum • Frequent exacerbations • Haemoptysis • Persistent lung crackles on auscultation • Finger clubbing • Frequent bacterial colonisation of sputum (particularly <i>P. aeruginosa</i>)
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High Resolution CT is the gold-standard test to establish a diagnosis of bronchiectasis



Maintenance Therapy in Bronchiectasis

Physiotherapy	Patients should be assessed by a specialist chest physiotherapist and be made aware of the airway clearance techniques available.
Airway Management	Consider in patients with reversible airflow obstruction Salbutamol: 2 puffs PRN up to four times a day and/or Ipratropium: 2 puffs PRN up to four times a day
Mucolytics	Consider in patients with excessive viscous mucus (review after 6 months) Nebulised Hypertonic Saline 7%: 4ml twice daily. Considered to increase sputum yield, reduce sputum viscosity and improve health status. Carbocisteine: Two 375mg capsules three times a day. Stop if no benefit.
Macrolides and Nebulised Antibiotics	Consider if ≥ 3 exacerbations/year requiring antibiotic therapy Azithromycin: 500mg alternate days (review regularly*) or Erythromycin: 250mg twice daily or Nebulised antibiotics are used in patients with daily symptoms and frequent bacterial growth. They are usually safe and effective, and should ideally be started in hospital. Nebulised Gentamycin 80mg BD, followed by Colomycin 1-2 mega units BD, then by Tobramycin 300mg BD for 6-12 months. Check hearing and U&E's biannually.

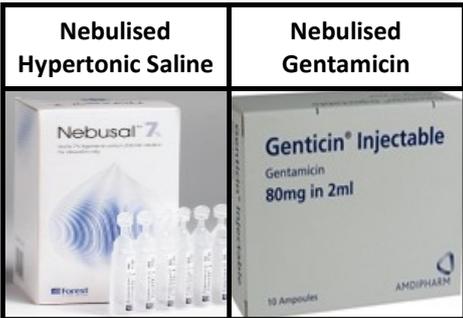
Initial Investigations

Investigations can be run in primary care, but suggest referral to secondary care.

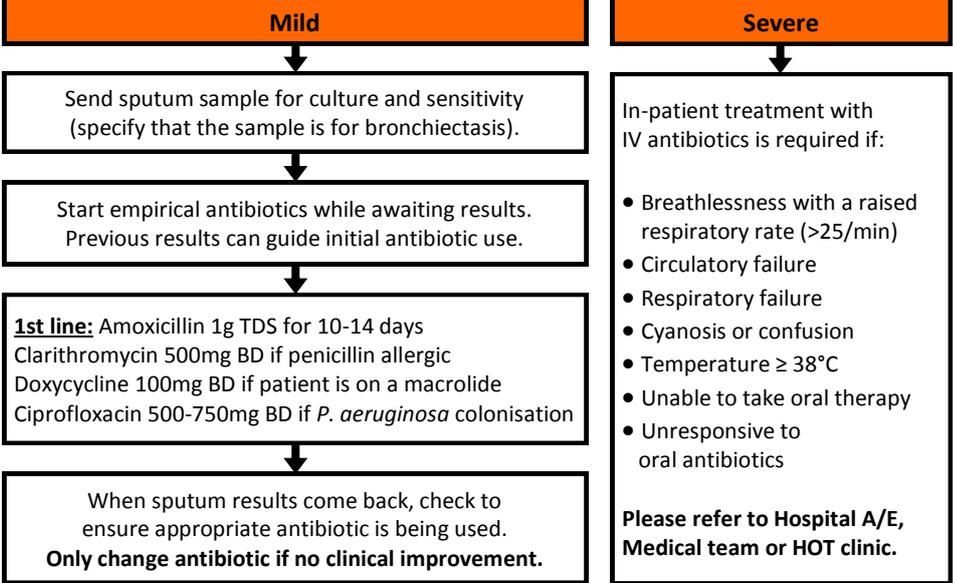
- 1) Sputum sample:** for routine bacterial culture (specify that the sample is for bronchiectasis)
- 2) Total IgE:** to identify patients with allergic bronchopulmonary aspergillosis (ABPA)
- 3) Serum Immunoglobulins (IgG, IgA, IgM):** to screen for gross antibody deficiency

In patients < 50 years of age, refer to hospital to rule out:

- Cystic Fibrosis
- Primary Ciliary Dyskinesia



Management of Exacerbations



Eradication Therapy of *P. aeruginosa* (at first growth)

New growth of *P. aeruginosa* in the sputum is an indication for referral to secondary care for eradication therapy.

Treatment may be initiated in primary care:
1st line: Ciprofloxacin 750mg BD for 2 weeks

Important Considerations

Ensure annual flu vaccination and one-off pneumococcal vaccination	Refer to oxygen assessment service if oxygen saturation $\leq 92\%$ on air on more than one occasion, without an exacerbation
Sputum tests biannually (to be done in primary care)	Consider pulmonary rehabilitation if MRC Dyspnoea scale is 3 and above (see reverse)
If resistant exacerbation, send sputum for acid-fast bacilli (to rule out non-TB bacilli)	Management of anxiety / depression
Review co-morbidities: treat as appropriate	

* May cause gastrointestinal and hepatic side effects; also reported to cause a hearing decrement.

When to refer to Secondary Care for follow-up

Bronchiectasis in patients less than 50 years of age	Patients receiving prophylactic antibiotic therapy (oral/nebulised)
Patients with recurrent exacerbations (≥ 3 per year)	Allergic Broncho-Pulmonary Aspergillosis (ABPA) - defined as asthma symptoms + total IgE > 500 kU/L
Deteriorating bronchiectasis with declining lung function	
Patients with chronic <i>Pseudomonas aeruginosa</i> , opportunistic mycobacteria or MRSA colonisation	Patients with bronchiectasis and associated rheumatoid arthritis, immune deficiency, IBD and primary ciliary dyskinesia

MRC Dyspnoea Scale

Grade	Degree of breathlessness related to activities
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying on walking up a steep hill
3	Walks slower than contemporaries on level ground due to breathlessness, or has to stop for breath if at own pace
4	Stops for breath after walking about 100m or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when dressing / undressing

Pulmonary Rehabilitation

Pulmonary Rehabilitation may be of benefit to patients who have a MRC score of 3 and above. It is not suitable for patients who are unable to walk, have unstable angina, have had a recent MI or have impaired cognition. Programmes are tailored to individual needs and include physical training, disease education, nutritional, psychological and behavioural intervention.

Referral for Long Term Oxygen Treatment (LTOT)

The need for oxygen therapy should be assessed in:

- Patients with oxygen saturation $\leq 92\%$ on air on more than one occasion, without an exacerbation
- All patients with severe airflow obstruction ($FEV_1 < 30\%$ predicted)
- Patients presenting with cyanosis, peripheral oedema, polycythaemia or raised JVP
- Ambulatory assessments should be made in patients who desaturate on exercise

LTOT is indicated in patients who:

- Have a $PaO_2 < 7.3kPa$ when stable
- Have a $PaO_2 > 7.3kPa$ but $< 8.0kPa$, and one of:
 - Secondary polycythaemia, nocturnal hypoxaemia, peripheral oedema, or pulmonary hypertension

To gain benefits from LTOT patients should not be smoking and breathe supplementary oxygen for at least 15 hours a day. Greater benefits if receiving oxygen for 20 hours per day.

Contacts for Oxygen Referrals

NHS North Somerset contact details:

To refer a patient or discuss suitability, contact
Oxygen Respiratory Nurse
Telephone: 01275 885 432

NHS South Gloucestershire contact details:

To refer a patient or discuss suitability, contact
NBT ARAS clinic / team
nbn-tr.nbthomeoxygenservices@nhs.net

NHS Bristol contact details:

To refer a patient or discuss suitability, contact
the community Respiratory Team
Telephone: 0117 987 8335/8336

Referral forms can be downloaded from:

http://www.bristolpct.nhs.uk/patients/all_services/respiratory/pro/community/

Patients can also be referred to a respiratory consultant at the nearest hospital.

Further information can be sought from the British Thoracic Guidelines, available at:

<http://www.brit-thoracic.org.uk/Portals/0/Guidelines/Bronchiectasis/non-CF-Bronchiectasis-guideline.pdf>

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