Healthier Together

Improving health and care in Bristol, North Somerset and South Gloucestershire

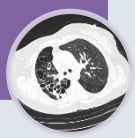
BNSSG Bronchiectasis in Adults Guidelines (2023)

This is a guideline for the management of bronchiectasis in primary and secondary care. More information can be found on the British Thoracic Society guideline which is available here.

1. Diagnosis and Referral

DEFINITION OF BRONCHIECTASIS

- Bronchiectasis refers to symptoms of persistent or recurrent bronchial sepsis related to irreversibly damaged and dilated bronchi
- This does not refer to traction bronchiectasis, for example due to fibrotic lung disease, which does not usually cause the same clinical presentation



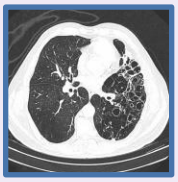
WHEN TO SUSPECT THE DIAGNOSIS IN ADULTS

- Persistent productive cough - commonly with purulent phelgm
- Productive cough in patients with underlying autoimmune/connective tissue disease (e.g. rheumatoid or crohn's disease)
- Frequent exacerbations which usually respond to antibiotics
- Haemoptysis
- Persistent lung crackles on auscultation
- Finger clubbing
- Respeated isolation of same organism in sputum (particularly *P. aeruginosa*)

WHEN TO REFER TO SECONDARY CARE

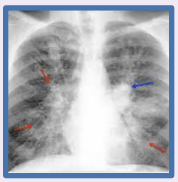
- Bronchiectasis in patients <50 years old or other suspicion of underlying causes e.g. immunodeficiency, primary ciliary dyskinesia, cystic fibrosis
- Persisting growth of Pseudomonas Aeruginosa - see section 5
- Patients with recurrent exacerbations or infections (≥ 3/year) after eradication attempts
- Deteriorating bronchiectasis with declining lung function
- patients previously established on prophylactic antibiotics with new symptoms/organisms in sputum
- Evidence or suspicion of Allergic Broncho-Pulmonary Aspergillosis (ABPA)
- Advanced disease - multilobar or described as 'extensive' on CT
- Chronic *Pseudomonas aeruginosa*, nontuberculous mycobacteria or MRSA colonisation
- Frequent non-respiratory infections (especially skin or sinus) may suggest underlying immune defect
- Patients with bronchiectasis and associated rheumatoid arthritis, immune deficiency, IBD or primary cillary dyskinesia

2. Baseline Investigations



High Resolution CT is the gold-standard test to establish a diagnosis of bronchiectasis.

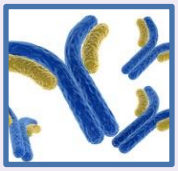
1. SPUTUM SAMPLE
For routine bacterial culture (plus AFB if regular infections), specify that the sample is for bronchiectasis



2. TOTAL IgE, ASPERGILLUS IgE and IgG
To identify patients with possible allergic bronchopulmonary aspergillosis (ABPA). Secondry care to request.

See diagnostic criteria.

3. SERUM IMMUNOGLOBULINS (IgG, IgA, IgM) AND FBC
To screen for gross antibody deficiency and esoinophil count



4. CONSIDER SECONDARY CARE REFERRAL IF INDICATED

See above

3. Maintenance Therapy in Bronchiectasis

Physiotherapy	Patients should be assessed by a specialist chest physiotherapist and be made aware of the **airway clearance techniques** available.
Airways Management	Patients with a diagnosis of **concurrent asthma or COPD (or signs/symptoms of) should be optimised as per BNSSG guidelines**
Mucolytics	**Consider in patients with excessive viscous mucus** Carbocisteine: 750mg TDS, lower does (e.g. 750mg BD or 375mg TDS) may be effective and can be considered after 4 weeks of higher dose or if higher doses are not tolerated or to reduce tablet burden. Nebulised Hypertonic Saline 3%, 6% or 7%▲: 4ml twice daily. Must be started by specialist following physio review and supervised trial as can cause bronchospasm. Considered to increase sputum yield, reduce viscosity and improve health status.
Prophylactic antibiotic therapy	**Consider if ≥3 exacerbations/year requiring antibiotic therapy** To be initiated by respiratory specialist due to risk of acute bronchospasm. Azithromycin*: **Initially 250mg - 500mg three times a week**. The BTS long-term macrolide use guideline provides good practice points and recommendations. Clinicians should perform an ECG and be confident there is no Non-tuberculous mycobacteria (NTM) disease present before treating. Note, hearing impairment is a important side effect. Nebulised Antibiotics▲: **Colistimethate 1-2 mega units twice daily** or **Tobramycin 300mg twice daily** or **Gentamicin 80mg twice daily.** Predominantly used in chronic Pseudomonas infections although gentamicin may be used in patients with other pathogens. Monitor for any signs of ototoxicity or renal toxicity. These should be continued for 6-12 months with hearing changes and U+Es checked every 6 months by secondary care. Subacute bronchospasm can occur over the first few doses. To review at least every 6 months by primary care and annually by specialists.

▲TLS Amber medications and should be started by specialist with prescribing responsibility handed to primary care after 3 months as per the Shared Care Protocols

* Must have a baseline ECG for QT interval prior to initiating by specialists. Can also cause hearing decrement, gastrointestinal and hepatic side effects (see BNF for further details).

Healthier Together

Improving health and care in Bristol, North Somerset and South Gloucestershire

BNSSG Bronchiectasis Guidelines (2023)

4. Management of Exacerbations

- ☑ Check if patient has a self-management plan or treatment plan from secondary care
- ☑ Withold prophylactic oral antibiotics during acute treatment but continue nebulised antibiotics
- ☑ **Decision to initiate antibiotic therapy should be guided by clinical presentation not sputum culture alone**

Mild

Send sputum sample for culture and sensitivity (specify it is for bronchiectasis)

Start empirical antibiotics while awaiting results. **Previous sputum microbiology results can guide initial choice of antibiotics.**

For 14 days
1st line: **Amoxicillin 1g TDS**
If penicillin allergic or on macrolide prophylactically: **Doxycycline 100mg BD**
If *P.aeruginosa* colonisation: **Ciprofloxacin 750mg BD***

When sputum results come back, check to ensure appropriate antibiotic is being used.

Only change antibiotic if no clinical improvement.

Severe

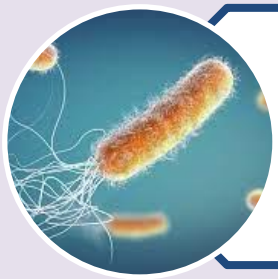
Features of a more severe exacerbation requiring hospital treatment include:

- **Breathlessness with raised respiratory rate (>25/min)**
- **Circulatory/respiratory failure**
- **Cyanosis or confusion**
- **Temperature > 38°C**
- **Unable to take oral therapy**
- **Unresponsive to appropriate oral antibiotics**

Refer to hospital A&E, Medical team or HOT clinic
If in doubt, please discuss with secondary care respiratory colleagues

5. Eradication Therapy of P. Aeruginosa (at first growth)

Primary care to initiate eradication therapy - refer for urgent secondary care assessment if eradication fails.



Fluroquinolone MHRA Safety Alert

Tendon damage (including rupture) has been reported with quinolones and can occur 48 hours after starting treatment and for several months after stopping. Stop and review treatment if experiencing new joint pain. Patients being treated with a corticosteroids are at higher risk of tendon damage, advise additional caution if codministration is deemed necessary .

See MRHA Alert for new restrictions and further caution for use

Alternative eradiction therapies may include extended antibiotic nebuliser therapy or intravenous antipseudomonal antibiotic therapy. This is managed by secondary care.

BNSSG Medicines Optimisation team with North Bristol Trust and UHBW Hospitals Trust. Approved BNSSG Area Prescribing and Medicines Committee XXX 2021. Review XXX 2023

Healthier Together
Improving health and care in Bristol, North Somerset and South Gloucestershire

BNSSG Bronchiectasis Guidelines (2023)

6. Important Considerations

- **If the patient is not exacerbating, antibiotics are not required even if a pathogen is isolated from sputum**
- COVID, flu and one-off pneumococcal vaccination
- Patients should keep at least one sputum pot at home
- Sputum test biannually done in primary care
- AFB should be checked at least once in all bronchiectasis patients and again in the event of any clinical decline or suggestive radiological changes
- Consider aspiration in those with risk factors or suggestive symptoms.
- If resistant exacerbation, send sputum for acid-fast bacilli.
- Review co-morbidities and treat as appropriate – in particular GORD and sinus disease
- Emphasise importance of chest clearance and physio for productive patients at every review
- Refer for oxygen assessment if O_2 saturation ≤ 92% on air on more than one occasion without an exacerbation
- Refer for pulmonary rehabilitation if MRC Dyspnoea score is ≥3 – see contact details below
- Support patients by signposting to the Asthma + Lung UK resources
- Patients should have a written self-management plan. See link above.
- Dietetic assessment should be offered to those with a low BMI
- Annual review template can be found on Ardens toolkit 'Bronchiectasis (v13.5)' in primary care.
  It should include:
  - ☑ Smoking status
  - ☑ Number of exacerbations in the last year
  - ☑ Breathlessness status
  - ☑ Sputum volume and character
  - ☑ Consider sputum pots and stand-by antibiotics where appropriate in patients who have ≥ 2 exacerbations per year or ≥ 1 hospital admission who can recognise symptoms and act appropriately on them

Pulmonary Rehabilitation Contacts

Refer for pulmonary rehabilitation if MRC Dyspnoea score is ≥3

All BNSSG referrals are via Sirona Community Respiratory Team on sirona.respiratory@nhs.net.
For advice call 0333 230 1471.

Local to North Bristol Trust referrals are via ICE and fax. leep@nbt.nhs.uk Fax: 0117 4142003. For advice call LEEP Cossham on 0117 4142010 or Sirona 01225 831463

Oxygen Contacts

Bristol/North Somerset/South Glos Sirona Community Respiratory Team referrals on sirona.respiratory@nhs.net or call 0333 230 1471 for advice.

North Bristol North Bristol NHS Trust Specialist Team 0117 414 2011 or email nbn-tr.nbthomeoxygenservices@nhs.net