LOWER RESPIRATORY TRACT INFECTIONS
Bronchiectasis in Adults
(CKS – Bronchiectasis)

Clinical features
An exacerbation of bronchiectasis is a sustained worsening of symptoms from a person's stable state. This could include increased cough, increased sputum volume or viscosity with or without increasing wheeze, breathlessness, haemoptysis, or systemic upset.
The patient must have a diagnosis of bronchiectasis made on previous thin section computed tomography scan (CT).

Core pathogens
Exacerbations can be viral or non-infective.
Streptococcus pneumoniae, Haemophilus influenzae, Moraxella catarrhalis, Staphylococcus aureus, Pseudomonas aeruginosa

Management
Nottinghamshire Bronchiectasis Self-Management Plan here

Refer for urgent admission if there are signs of a serious illness e.g., pneumonia, sepsis, or cardiorespiratory failure.

Obtain a sputum sample for bacterial culture before prescribing antimicrobials.
- If sputum cultures show Pseudomonas aeruginosa for the first time, consider specialist referral for eradication therapy.
- If known to be colonised with multi-resistant bacteria such as Pseudomonas, refer for specialist advice as empirical treatment unlikely to be active and may require IV therapy.

Seek specialist advice if:
- Symptoms do not improve with repeated courses of antimicrobials.
- Resistance to oral antimicrobials.
- Person cannot take oral medicines (explore options for IV antimicrobials at home or in the community).

Treatment
Offer an antimicrobial to people with an acute exacerbation considering previous sputum culture and sensitivity results.

People who may be at higher risk of treatment failure include people who have had repeated courses of antibiotics or a previous sputum culture with resistant or atypical organisms.

If the person is taking long-term antibiotics, advise them to stop, and prescribe an antibiotic from a different class.

Empirical antimicrobial choice for ADULTS with bronchiectasis and NO previous sputum growth of *Pseudomonas Aeruginosa* (whilst sputum culture results are awaited) in order of preference:

Antibiotic[1]	Dosage	Duration
First line choice (not in penicillin allergy):		
Amoxicillin	**Adult:** 500mg three times a day	14 days
Second line choice:		
Doxycycline[2] (Not suitable in pregnancy)	**Adult:** 100mg twice a day on day one, then 100mg once daily.	14 days
Third line choice (not in penicillin allergy):		
Co-amoxiclav	**Adult:** 625mg three times a day	14 days
Fourth line choice:		
Clarithromycin[3] (Not in patients taking azithromycin prophylaxis)	**Adult:** 500mg twice a day	14 days

[1]See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, renal impairment, pregnancy, breastfeeding.
[2]Doxycycline is not suitable for pregnant women.
[3]Withhold statins whilst on clarithromycin course. Avoid if the patient is at risk of QTc prolongation.

Empirical antimicrobial choice in adults WITH a previous sputum growth of CIPROFLOXACIN SENSITIVE *Pseudomonas aeruginosa* (whilst sputum culture results are awaited). If previous or current ciprofloxacin resistant *Pseudomonas aeruginosa* seek specialist advice as no other oral options.

Antibiotic[1]	Dosage	Duration
Ciprofloxacin **Note:** fluoroquinolones can cause long-lasting (up to months or years), disabling, and potentially irreversible side effects, sometimes affecting multiple systems, organ classes, and senses. Please refer here for further information on MHRA alerts.	**Adult:** 750mg twice a day	14 days
[1]See BNF and BNFC for appropriate use and dosing in specific populations, e.g., hepatic, renal impairment, pregnancy, breastfeeding.		

Further review of choice of antibiotic treatment WITH sputum culture results and response to initial therapy.
Sputum culture results are reported with suitable agents to use as treatment.
In line with new European reporting requirements, the microbiology laboratory report susceptibility results in three categories: S, DS (I) or R.

"S" = susceptible at a standard dosing regimen.
This means there is high likelihood of therapeutic success using standard doses and dosing intervals.

"DS" or "I" = dose dependent susceptible.
This means there is high likelihood of therapeutic success if antibiotic exposure is optimised by using higher doses or increasing dosing frequency. Click here for recommended doses and frequency for organisms with "DS" or "I" susceptibility.

"R" = resistant.
This means there is high likelihood of therapeutic failure using this antibiotic.

If there is no suitable sensitive oral option - consider specialist referral for IV treatment.

Other
APC supporting guideline for the prescribing of nebulised Colistimethate (Colomycin®)