

## Prescribing oral mucolytics in primary care

### Suitable patients for initiating oral mucolytics in primary care

- COPD with chronic cough productive of sputum.
- Some patients with excessive mucous production and a respiratory diagnosis may benefit e.g. Bronchiectasis. *If there is diagnostic uncertainty seek specialist advice.*
- All other patient groups, including children, *only prescribe on recommendation from a specialist e.g. respiratory, palliative care.*
- Do not prescribe in patients with acute cough, or acute respiratory tract infections

### Key points

- ✓ **Does the patient have a chronic cough productive of sputum that is difficult to expectorate?** Mucolytics may help symptom management by thinning and reducing the volume of mucous production. They do not work as cough suppressants or expectorants and should not be used to prevent exacerbations in COPD.
- ✓ **Ensure other interventions (see considerations below) are offered and optimised prior to prescribing mucolytics.**
- ✓ **Prescribe oral mucolytics on a trial basis (acute prescription).** It is difficult to predict which patients may benefit from mucolytic treatment.
- ✓ **Review at 4 to 8 weeks to determine if achieving any benefit.** Benefit is improved expectoration, reduced discomfort from retained secretions, reduced coughing frequency.
- ✓ **STOP if no perceived benefit.** Ongoing treatment continues risk of side-effects without benefit to patient.
- ✓ **Reduce to maintenance dose** in patients on carbocisteine who have shown symptomatic benefit.

### Considerations before offering oral mucolytics

#### In all patients before offering oral mucolytic medication:

- Offer stop smoking advice and support.
- Educate on the importance of good [oral hydration](#) and advise to increase as appropriate.
- Advise patient on increasing general physical activity and offer pulmonary rehabilitation, where appropriate.
- Offer advice on Airway Clearance and the [Active Cycle of Breathing\\*](#). This [video](#) is available demonstrating the Active Cycle of Breathing

\*taught as part of pulmonary rehabilitation.

- In patients with COPD** - Ensure inhaler treatment is [optimised](#) and patient has good inhaler technique.
- In patients with bronchiectasis** –. Ensure patient has been educated by a physiotherapist in Airway Clearance Techniques and consider other treatments prior to oral mucolytics.

## Choice of oral mucolytic

### What is the evidence of benefit for mucolytics in COPD?

- Studies of mucolytics in COPD were conducted in patients who were not receiving current NICE/GOLD recommended inhaled therapy.
- There is no good evidence that mucolytics impact health-related quality of life and symptoms in COPD. NICE specifically recommends that mucolytics should not be used routinely to prevent exacerbations in stable COPD.
- There is no evidence for the prescribing of one mucolytic in favour of another.

### Cost-effective choices in adults

#### Carbocisteine 375mg oral capsules

- Starting dose:  
2 x 375mg caps three times a day (total 2.25g daily)  
*Acute Prescription*
- Review at 4 to 8 weeks:
  - STOP if no benefit
  - If benefit:  
Reduce to 2 x 375mg caps twice a day (total 1.5g daily)  
maintenance *Repeat Prescription*

Do not use in patients with:

- Active peptic ulcer disease,
- Risk of GI bleeding
- Swallowing difficulties

#### Acetylcysteine 600mg effervescent tablets

- Starting dose:  
1 x 600mg tablets daily *Acute Prescription*
- Review at 6 to 8 weeks:
  - STOP if no benefit
  - If benefit:  
Continue 1 x 600mg tablets daily maintenance *Repeat Prescription*

Note: If oral antibiotics required, take them 2 hours before or after acetylcysteine. Contains >100mg Sodium per tablet

Do not use in patients with:

- Bronchospasm or history of asthma
- Fluid or sodium restriction

Review mucolytic treatment at COPD Annual Review, or as clinical condition changes.  
STOP if no productive cough or symptomatic improvement.

#### Alternative formulations:

*Patients with swallowing difficulties:*  
Carbocisteine 750mg/10ml oral solution 10ml sachets sugar free

*Children under 15 years:*  
Carbocisteine 250mg/5ml oral solution 300mls

#### References:

Leicestershire Medicines Strategy Group [Mucolytic Prescribing](#)  
NENC Clinical Networks [NENC At a Glance Consensus Guide – Mucolytics in Adults](#)  
NICE [NG115](#) Chronic obstructive pulmonary disease in over 16s: diagnosis and management  
Scottish Government: [Quality prescribing for respiratory illness 2024 to 2027 – draft guidance](#).  
Davies L, Calverley P. The evidence for the use of oral mucolytic agents in chronic obstructive pulmonary disease (COPD). [British Medical Bulletin 2010; 93: 217-227](#).