Cough | Assessment, Referral & Treatment

Symptom-based community pharmacy approach

ASSESS → IDENTIFY RED FLAGS → CLASSIFY COUGH → SELECT CARE

Comprehensive assessment, referral and treatment review

Overview & types of cough

COUGH REFLEX

Removes airway secretions or foreign material; most pharmacy presentations relate to viral RTIs.

PRODUCTIVE · WET

Sputum expelled from the lower respiratory tract; clearance helps ventilation and host defence.

NON-PRODUCTIVE · DRY

No sputum; generally has no useful physiological purpose and is often viral/self-limiting.

CHESTY · NO SPUTUM

Patient feels mucus in the chest despite no expectoration; manage this as likely productive.

Patient assessment | quick pathway

STEP 1 • DURATION

Most coughs improve with or without treatment.

Persistent cough beyond 2–3 weeks → investigate / refer.

Refer sooner if symptoms deteriorate.

STEP 2 • NATURE

Dry vs wet → ask about sputum.

Clear or white = mucoid. Yellow/green/brown sputum may occur in infection but DOES NOT by itself justify an antibiotic.

COPD + increasing purulent sputum may suggest bacterial exacerbation → REFER.

Associated symptoms | diagnostic clues

TB · SUSPECT

Chronic cough + haemoptysis + prolonged fever + weight loss + night sweats → refer.

ASTHMA · SUSPECT

Recurrent nocturnal cough ± wheeze, especially in children or with atopic family history.

HEART FAILURE · SUSPECT

Clear frothy sputum + breathlessness when lying down / at night ± ankle swelling.

UPPER AIRWAY COUGH SYNDROME

Postnasal discharge, swallowing mucus, throat clearing; allergic cause possible. Antihistamines/decongestants may help.

Other causes to recognise

CROUP

Harsh barking cough after cold-like illness ± inspiratory stridor / difficulty breathing. Especially infants → refer.

GERD

Heartburn and cough when recumbent; acid-lowering therapy may improve reflux-related cough.

SMOKING-RELATED COUGH

Any change in frequency, productivity or sound → refer to exclude serious disease.

DRUG-INDUCED COUGH

ACE inhibitors → chronic dry cough; consider alternative causes and refer for medication review.

ACE inhibitor–induced cough

COMMON CULPRITS

Enalapril

Perindopril

Lisinopril

Ramipril

PATTERN & ACTION

Dry persistent cough may begin within days, weeks or months.

Estimated frequency: 2–10% of users.

Refer; a prescriber may switch to an ARB (a “sartan”).

Do not independently discontinue or substitute prescribed ACE-inhibitor treatment.

Referral | red flags

RESPIRATORY

- Haemoptysis or rusty/bloodstained sputum
- Shortness of breath
- Chest pain
- Wheezing
- Whooping cough / croup

SYSTEMIC / HIGH-RISK

- Significant fever, malaise
- Frail older person
- Diabetes or heart disease
- Purulent sputum in COPD
- Recurrent night-time cough

DURATION / MEDICINE

- >2–3 weeks without improvement
- Deteriorating symptoms
- Suspected ACE-inhibitor cough
- Failed OTC treatment

Treatment timescale | counselling

PHARMACY ADVICE

Choose an appropriate symptom-based treatment only after excluding referral criteria.

Most uncomplicated coughs are self-limiting.

FOLLOW UP

If cough is not improving 2–3 weeks after onset → medical review.

Earlier referral if getting worse or if any red flag appears.

Non-drug care | demulcents

SOOTHING OPTIONS

- Nonmedicated lozenges reduce throat irritation.
- Honey + lemon, glycerol and other demulcents may coat the pharyngeal mucosa.
- Used for both dry and wet cough.
- Maintain good fluid intake.

DOSING & CAUTIONS

- Demulcents may be used 3–4 times daily if recommended.
- Generally inexpensive; symptomatic / soothing role.
- Avoid lozenges in children <3 years because of choking risk.
- Honey must not be given under 1 year.

Drug therapy | classification map

DRY · NON-PRODUCTIVE

ANTITUSSIVES

Codeine · Pholcodeine · Dextromethorphan

Sedating antihistamines in selected combinations: diphenhydramine, chlorphenamine

WET · PRODUCTIVE

EXPECTORANT

Guaifenesin (glyceryl guaiacolate)

MUCOLYTIC

Bromhexine

Evidence for OTC cough suppressants/expectorants is limited; some patients report symptomatic relief.

Antitussives | codeine & pholcodeine

CODEINE

Indication: dry cough.

Adverse effects: constipation, sedation, respiratory depression.

Addiction, abuse and misuse risk. Caution in asthma / impaired respiration.

FDA (2018): prescription opioid cough/cold products restricted to ≥18 years.

PHOLCODEINE

Historically used for dry cough.

Compared with codeine, pholcodine may cause less constipation and dependence; it can cause drowsiness.

IMPORTANT safety update: pholcodine-containing medicines have been withdrawn in several jurisdictions due to risk of perioperative anaphylaxis.

Antitussives | dextromethorphan

ROLE

Cough suppressant for dry cough.

Usually non-sedating at therapeutic doses.

Avoid in children younger than 12 years.

ADULT DOSE

10–20 mg every 4 hours

OR

30 mg every 6–8 hours

MAXIMUM: 120 mg/day

Check medicine combinations and drug interactions; dextromethorphan can cause serotonin toxicity with serotonergic drugs.

Expectorant | guaifenesin

INDICATION & ROLE

Glyceryl guaiacolate = guaifenesin.

Expectorant for wet / productive cough.

It is the FDA-approved OTC expectorant.

DOSAGE

ADULTS

200–400 mg every 4 h; max 2.4 g/day

CHILDREN 6–12 YEARS

100–200 mg every 4 h; max 1.2 g/day

For paediatric medicines, follow local age restrictions and approved product labelling.

Mucolytic | bromhexine

BROMHEXINE

Used in respiratory disorders with productive cough; mucolytic action helps reduce mucus viscosity.

ORAL DOSE: 8–16 mg three times daily.

Check age, formulation and local product labelling before use.

Additional constituents | other drug classes

THEOPHYLLINE

Bronchodilator present in some combination products.

Avoid in OTC cough therapy: wheezing or breathlessness requires assessment and referral.

Narrow therapeutic index also warrants clinical caution.

ORAL SYMPATHOMIMETICS

Pseudoephedrine · Phenylephrine

Used for concomitant nasal blockage, not cough alone.

May increase BP, stimulate the heart and alter glucose control.

Caution/avoid: hypertension, IHD/angina, diabetes, hyperthyroidism.

Additional constituents | antihistamines

SEDATING H1 ANTIHISTAMINES

Examples: diphenhydramine, chlorphenamine.

May appear with antitussives for night-time dry cough.

Adverse effects: drowsiness, dry mouth, constipation and other anticholinergic effects.

COUNSELLING POINTS

Avoid or use caution in glaucoma and prostatic enlargement.

Combination with an expectorant is generally illogical.

Non-sedating antihistamines generally do not help symptomatic cough.

Children | OTC cough & cold restrictions

UNDER 6 YEARS · RESTRICTION

BNF-based restriction: do NOT give OTC products containing

H1 antihistamines: brompheniramine, chlorphenamine, diphenhydramine, doxylamine, promethazine, triprolidine.

Antitussives: dextromethorphan, pholcodine.

ALSO RESTRICTED UNDER 6

Expectorant: guaifenesin.

Decongestants: phenylephrine, pseudoephedrine, ephedrine, oxymetazoline, xylometazoline.

Never combine multiple cough/cold products with overlapping ingredients.

Ages 6–12: consider only after basic care and limit treatment to ≤5 days.

Children | preferred supportive care

COMFORT

- Encourage fluid intake
- Treat fever or pain with age-appropriate paracetamol or ibuprofen

NOSE & THROAT

- Saline nasal drops for dried secretions and congestion
- Simple glycerol-based soothing mixture

HONEY & REVIEW

- Warm honey + lemon only for children >1 year
- Refer if viral cough persists 2 weeks or is worsening

Key revision algorithm

COUGH → HISTORY + DURATION + TYPE + ASSOCIATED SYMPTOMS

RED FLAGS / HIGH RISK?

YES → REFER for medical assessment.

No OTC treatment should delay referral.

NO RED FLAGS?

Supportive care ± selected symptom relief; review age, pregnancy, comorbidities and other medicines.

Persistent >2–3 weeks, changing symptoms, or treatment failure → clinical reassessment.

References & safety note

PRIMARY REFERENCES

1. Blenkinsopp et al. Symptoms in the Pharmacy, 10th ed. (2025).
2. American Pharmacists Association. Handbook of Nonprescription Drugs, 20th ed. (2020).
3. Paul Rutter. Community Pharmacy, 6th ed. (2026).
4. BNF 90; Martindale, 36th ed.

Additional safety considerations include: no honey below 1 year; pholcodine regulatory withdrawal; and dextromethorphan serotonergic interactions. Verify medication status, labelling and local guidance before clinical use.