

COUGH: IT'S-S-S-NOT THAT SIMPLE

Optimizing Management of Congestion and Cough in Cold, Flu, and Allergy Patients

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Complications Associated with Excessive Mucus Production

- Secondary bacterial infections
- Sinusitis
- Bronchitis
- Pneumonia

Cold vs Flu vs Allergy

SYMPTOM	COLD	FLU	ALLERGY
ONSET	Slower onset starts with scratchy or sore throat after 1-3 days of exposure	Abrupt onset after 2 days of exposure	Varies
DURATION	3-10 days	3-7 days but cough can persist up to 2 wks.	Days to months as long as exposed to the allergen
COUGH	Mild to moderate	Can become severe	Not often
SNEEZING	Very common	Sometimes	Very common
RUNNY OR STUFFY NOSE	Very common	Sometimes	Very common
HEADACHE	Rare	Very common	Rare
FEVER	Rare	Common and usually 100-102° F and lasts 3-4 days	No
GENERALIZED ACHES	Rare/mild	Very common and can be severe	No
SORE THROAT	Very common	Sometimes	Sometimes (postnasal drip)
RASH	No	No	Sometimes (esp. around mouth or eyes)
PRIMARY SEASON	August-April	Winter	March-September (seasonal) or year-round

OTC Medications for Cough and Congestion

CATEGORY	MECHANISM	TYPES	BENEFIT	RISK
EXPECTORANT	Thins/loosens mucus in airways	Guaifenesin (IR and ER)	Clears thick mucus	Rare nausea
COUGH SUPPRESSANTS	Suppresses cough reflex center of medulla (CNS)	Dextromethorphan	Control of persistent cough	Do not take with MAO inhibitors
DECONGESTANTS	Constricts blood vessels of nasal membrane	Phenylephrine, pseudoephedrine, oxymetazoline	Relieves "stuffy, congested" nose	Stimulant effect (increase of HR, increase of BP)
MULTI-DRUG COMBINATIONS	Multiple mechanisms depending on ingredient	Often combines decongestant, cough suppressant, expectorant +/- acetaminophen	Optimal symptomatic management	"Drug overlap" caution strongly to patient
ANTIHISTAMINES	Blocks histamine	1 st gen.-diphenhydramine, chlorpheniramine 2 nd gen.-loratadine, cetirizine, fexofenadine	Relieves allergy symptoms of rhinorrhea, sneezing, itching and watery eyes	Sedation in 1st gen.; can be drying, use caution in those prone to urinary retention and those with glaucoma
NASAL STEROIDS	Reduce inflammation of nasal/sinus membranes	Budesonide, fluticasone, triamcinolone	Peak benefit after few days; relieves nasal/sinus congestion and decreases mucus production	Nosebleed, headache; caution in glaucoma
MAST CELL STABILIZER	Prevents activation/release of inflammatory mediators (mast cells, leukotrienes, histamine)	Cromolyn sodium nasal spray	More ideal for prevention of allergy symptoms since takes average of 1 week to work	Nosebleeds, nasal burning, wheezing
NON-PHARM OPTIONS	Self explanatory	Nasal saline, neti pot, humidifier, lozenges, elevate head of the bed, hydration	Simple measures that loosen mucus. Lozenges that have menthol can decrease cough. All can be used in combination with other listed meds	Very safe (other than caution on hydration amount in CHF)

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Red Flags for Referral

- Dyspnea (shortness of breath) or wheezing
- Hemoptysis (coughing up blood)
- Cough of prolonged duration >3 weeks
- Chest pain or shoulder pain
- Dizziness
- Weight loss (since onset of symptoms)
- Fever (in cases of flu, prompt evaluation is important as prescribed antivirals must be prescribed within 2 days of onset to have optimal benefit)

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Duration of Cough in Determining Etiology - Acute vs Subacute

- Acute Cough (<3 weeks)
 - Infectious – URI (cold/flu), acute bronchitis, pneumonia (viral or bacterial)
 - Allergic
 - Cardiac disease – acute pulmonary congestion
 - Aspiration (especially among the elderly; occurs after sudden onset of choking)
- Subacute cough (3-8 weeks)
 - Postinfectious (especially viral, pertussis [whooping cough], mycoplasma, or chlamydia)

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Duration of Cough in Determining Etiology - Chronic (>8 weeks)

- Chronic sinusitis
- Asthma
- COPD
- GERD
- ACE inhibitor
- Cardiac – CHF
- OSA (Obstructive Sleep Apnea)
- Smoking

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Cold - Treat the Cough and Mucus

- Mobilize the Mucus!
- ER OTC guaifenesin helps prevent secondary infection
- Keep hydrated!
- Persistent cough – choose a combination that includes a cough suppressant, like dextromethorphan
- Include decongestant if sinus or ear pressure
- Nonpharmacologic treatments

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Flu - Treat the Cough and Mucus

- Sudden onset of fever, chills, and generalized aches
- Antiviral first 2 days of symptoms (to maximize efficacy)
- Treat symptoms with expectorant to mobilize mucus early to prevent secondary infection as well

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Allergies - Treat the Cough and Mucus

- Itchy, watery eyes and sneezing
- No fever
- OTC antihistamines for quick relief (but check medical history)
- Steroid nasal sprays or cromolyn sodium nasal spray for long-term maintenance/prevention of allergy symptoms
- Nasal saline and humidification
- Expectorant when cough is productive since antihistamines can cause drying/thickening of mucus secretions
- Refer to primary care if allergy symptoms are persisting despite OTC treatment – may require allergen immunotherapy

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