IPCRG practice driven answers on COVID-19 and respiratory questions

Is there an algorithm for diagnosing chronic cough in children?

What the research says

Chronic cough in children is defined as a cough persisting for at least 4 weeks. The most common causes of chronic cough in children include asthma, protracted bacterial bronchitis and upper airway cough syndrome (in children >6 years) (Michaudet and Malaty 2017). Initial treatment should focus on the underlying cause (if one is found). A detailed and systematic approach is therefore required. There are currently a number of evidence-based algorithms for the diagnosis of chronic cough in children (Chang et al 2020; Kardos et al 2020; Morice et al 2019).

What this means for your clinical practice

- Begin with a thorough history, physical examination and chest X-ray to identify specific causes
- Consider spirometry (if available and age appropriate) followed by a trial of treatment with ICS (400 µg/day budesonide equivalent) or treatment for upper airway cough syndrome. If cough improves proceed with evaluation for asthma
- If no improvement, cease ICS and proceed with evaluations for asthma and consider other potential causes, consider antibiotics (productive cough) and referral for specialist evaluation

Useful links and supporting references

Chang AB, et al. Managing chronic cough as a symptom in children and management algorithms. CHEST Guideline and Expert Panel Repors. Chest 2020;158:303–29.

Michaudet C, Malaty J. Chronic cough: evaluation and management. Am Fam Phys 2017;96:575–80.

Morice AH, et al. ERS guidelines on the diagnosis and treatment of chronic cough in adults and children. Eur Respir J 2019;55.

Satia I, et al. Chronic cough: Investigations, management, current and future treatment. Can J Respir Crit Care Sleep Med 2021;5:404-16. Available at: https://www.tandfonline.com/doi/full/10.1080/24745332.2021.1979904. Accessed April 2022

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Children (aged <14 years) (Chang et al 2020; Michaudet and Malaty 2017; Morice et al 2019): Cough duration >4 weeks

Begin with a detailed history and physical examination:
 	
• Recent respiratory viral infection
• Cough characteristics
• Risk factors (exposure to tobacco smoke or other pollutants)
• Assess for potential causes:
  ○ Asthma
  ○ Protracted bacterial bronchitis
  ○ Upper airway cough syndrome (in children >6 years)
  ○ Environmental triggers
  ○ Foreign body inhalation
  ○ Gastroesophageal reflux disease (GERD)
  ○ Pertussis
  ○ Postinfectious bronchospasm
  ○ Cystic fibrosis
	Obtain chest X-ray
	
	Next step:
	• **Spirometry**

Initial management	Watch, wait and review in 2 weeks and/or spirometry (if available and age appropriate) followed by a trial of therapy with ICS (400 µg/day budesonide equivalent) or nasal lavage/ICS If cough is improved, consider tapering ICS and review in 2–4 weeks; proceed with evaluation for asthma and undertake appropriate evaluation
No improvement	**Non-productive cough:** Cease ICS, proceed with evaluation for asthma and other potential causes **Productive coug**h: Cease ICS and consider protracted bacterial bronchitis and treat with antibiotics • If still no improvement, consider referral for specialist evaluation

ICS, inhaled corticosteroids

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