

Cough in children in the era of COVID-19

Context and purpose of document

Cough is a very common symptom in children. The common causes of cough in childhood are usually benign and self-limiting. Only a minority of children need evaluation or treatment for troublesome cough. While cough is a prominent symptom of COVID-19, disease will usually be mild in children, and there will be a significant overlap in symptoms between regular viral infections and COVID-19. This will make it difficult to determine on a clinical basis whether a child's cough is a sign of COVID-19.

This winter, coughing in children will be a symptom that will prompt restrictions in school attendance, isolation of children from their peers and testing for COVID-19. This is likely to have knock on effects on the wider family in terms of school and work. Some episodes of coughing in children, for example that associated with common colds in healthy children, are going to be unavoidable, however there are a group of children with more cough than usual in whom a cause may be present that can be managed successfully. In this group of children, reducing unnecessary coughing over the winter is likely to lead to less clinical concern for COVID-19, less likelihood of interruption of school attendance, normal social activities and family life. One of our goals this winter will be to ensure that this group of children are appropriately managed.

Although common, many of the causes of excess coughing in children are reasonably benign, and there can be poor understanding and some confusion in relation to the different patterns and appropriate management of these. A clear understanding of patterns of respiratory symptoms in children is important for both parents and healthcare professionals.

The purpose of this document and accompanying literature is to ensure that parents have a clear understanding of the common patterns of abnormal coughing in children.

Typical upper respiratory infections in children

The cough associated with a typical upper respiratory infection will last for a few days alongside the other typical symptoms such as sore throat, nasal congestion and low-grade temperature. These symptoms usually all resolve together within a few short days without treatment. The vast majority of such infections in children are caused by viruses. Some episodes of infection in children are more severe in the short term and require assessment by a doctor during the illness. Most episodes, independent of their severity should be completely resolved within a week or so. In some children a cough can persist, gradually improving, for a number of weeks before resolving completely.

What are the patterns of excessive symptoms seen in some children?

The two patterns of excessive symptoms commonly seen in children involve irritative symptoms and airway infection symptoms.

Irritative symptoms

Some children in the context of normal upper respiratory symptoms will have excessive, irritating and incessant coughing. This is usually dry, occurs mostly at night and with exercise and can go on for many weeks after the episode. In some children it can occur for much of the winter because of repeated viral infections. These symptoms suggest inflammation in the airways (breathing tubes).

Airway infection Symptoms

Chesty coughing is common in the first days or week(s) of an episode but usually reduces quickly after this shortly after the resolution of the coryzal symptoms. In some children productive/chesty coughing can persist for weeks or months afterwards.

Presentation with these symptoms suggests that something other than routine viral respiratory infection is occurring.

Common causes of troublesome coughing in children

Some of the common causes of excessive coughing in children include:

- *Asthma*
The cough in asthma is irritative and caused by airway inflammation. It tends to occur particularly at night or with exercise, tends to flare at times, particularly with colds, but can disappear between episodes. It tends to go on for weeks after colds.
- *Persistent bacterial bronchitis*
Persistent bronchitis usually starts with a typical viral respiratory infection. While the nasal and throat symptoms settle, the cough persists. The cough with persistent bronchitis is a productive/wet cough. It is low grade but continuous every day for more than 6 weeks. Children tend to be systemically well despite the cough
- *Habit cough*
Habit cough usually starts with a cold or other respiratory infection. As the rest of the symptoms settle the cough remains. The cough with habit cough is dry and can be barking. It is prominent during the day but absent completely during sleep – this is the key feature. It goes on for months and occurs every day.
- *Whooping cough (pertussis)*
Whooping cough is associated with an illness initially with fever, troublesome cough and sometimes nasal symptoms. As the initial symptoms settle the cough persists, occurring day and night, and gradually reducing in severity over 3-6 months. It is unresponsive to treatment.

If one of these patterns is present, children should be assessed to determine whether they require treatment.

Accompanying documents

This document should be reviewed in conjunction with the following CHI information leaflets for parents:

- Parent information leaflet - Habit cough
- Parent information leaflet - Persistent Bacterial Bronchitis
- Parent information leaflet – Understanding Asthma in young children