

# How evidenced based and up to date are our cough guidelines?

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Problem coughing is thought to be one of the commonest causes for medical consultations as it generates much anxiety in patients and reduces quality of life. Coughing is an important protective reflex and patients with inadequate cough will experience recurrent chest infections with areas of the lung consolidated and collapsed. Simply trying to suppress coughing is therefore often illogical. However, because coughing is distressful both patients and their doctors feel under pressure to do something resulting in the widespread use of cough medicines many of which, while available over the counter, do not work. It is important that doctors, when faced with a patient with problem coughing, attempt to make a diagnosis so that disease specific treatment if available can be started. Unfortunately, even when a specific diagnosis has been made there is sometimes no effective therapy available. This is true of the prolonged coughing in pertussis in young adults. While doing this the doctor needs to decide whether the patient has features of a serious chronic disease or simply has a transient condition that will almost certainly resolve (e.g., prolonged coughing after an upper respiratory tract infection). The majority of respiratory illnesses are associated with coughing and some extra-pulmonary causes are known to be associated with cough such as gastro-oesophageal reflux, psychogenic cough and external auditory canal wax stimulating Arnold's reflex. Because there are so many differing causes for cough misdiagnosis is very possible. Given that there are many different causes of coughing of which some are trivial and transient and some coughs may indicate the presence of a

serious underlying pathology it is important for doctors to have a structured approach (1). Cough clinical guidelines, therefore, should help busy working clinicians to have an approach to patients who present with problem coughing and their overarching aim is to improve patient care. Cough guidelines should be trust worthy and evidence based, they should be presented in a useable format and highlight areas of uncertainty where further research is needed.

In the paper "A Critical Review of the Quality of Cough Clinical Practice Guidelines" published in *Chest*, Jiang *et al.* (2) have provided the first comprehensive assessment of the quality and methodology rigour of the recent cough guidelines. In their analysis, they used the Appraisal of Guidelines for Research and Evaluation II (AGREE II) (3). The AGREE II domains included: (I) scope and purpose, (II) stakeholder involvement, (III) rigour of development, (IV) clarity and presentation, (V) applicability, (VI) editorial Independence and (VII) an overall assessment. By using this approach, Jiang *et al.* have done a really excellent job of providing an overview of the strengths and weaknesses for each of the guidelines. The American College Chest Physicians (ACCP, *Chest*) 2006 and the partially modified version 2014 (4,5) come out as a clear winner in terms of the AGREE II score. The *Chest* ACCP guidelines scored very highly in all domains of the AGREE II scores and the overall assessment was that they are highly recommended. I would agree with this conclusion. Jiang *et al.* also identified that there is still a significant lack of evidence base for practice recommendations and that many of the current

guidelines are in need of updating.

Jiang *et al.* state that the ‘usefulness of guidelines primarily depends on the quality, rigorous methodology, and transparency of development’ (2). However, while writing this Commentary I have reflected on how I have used the highly rated *Chest* ACCP guidelines since they were published in 2006 and 2014—I have used them as an excellent reference source rather than as a clinical tool. In this guideline there are hundreds of references to back up the hundreds of evidence based (and often expert opinion based) statements. While greatly valuing these guidelines in many ways I can understand a commentator who wrote that they ‘choke on evidence’ (6). Clinical usability is thus important for both the general practitioner and respiratory specialist. There are major challenges for developers to produce high quality guidelines while ensuring that they remain usable. Jiang *et al.* support the use of a hybrid model for providing advice using both well conducted consensus expert opinion based and evidenced based statements in situations where the published evidence is of low quality or non-existent. This approach seems sensible as it removes the annoying rigid concluding statements such as ‘insufficient evidence’ to make a statement—such statements are mainly useful for showing future research areas.

To widen the discussion regarding the usefulness of clinical cough guidelines it is important to consider whether using the cough guidelines actually lead to improved health care for individual patients. There are few research publications that compare patients assessed and treated according to a guideline compared to those assessed and treated without the use of a guideline. Chang *et al.* has attempted to study this in an Australian multicentre randomised controlled trial and found that the management of children with chronic cough, in accordance with a standardized algorithm, improves clinical outcomes and the earlier this is started the better (7).

I’m not aware of any studies that compare the use of the different guidelines to determine which one is best. It is possible that a locally produced lower quality guideline (according to AGREE II) but produced in a very usable format could provide a better result for patients than the

use of the highly recommended *Chest* guidelines.

In summary, the paper by Jiang *et al.* provides an excellent and detailed critique of the strengths and weaknesses of the current cough guidelines. They recognise that most need updating and they recommend that the *Chest* ACCP guidelines are used as the exemplar.

The challenge will be to update these guidelines into quality documents while ensuring that they are usable for the busy working clinician.

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## Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

## References

1. McGarvey LP, Heaney LG, Lawson JT, *et al.* Evaluation and outcome of patients with chronic non-productive cough using a comprehensive diagnostic protocol. *Thorax* 1998;53:738-43.
2. Jiang M, Guan WJ, Fang ZF, *et al.* A Critical Review of the Quality of Cough Clinical Practice Guidelines. *Chest* 2016;150:777-788.
3. AGREE Next Steps Consortium. The AGREE II instrument. Available online: [www.agreetrust.org](http://www.agreetrust.org)
4. Irwin RS, Baumann MH, Bolser DC, *et al.* Diagnosis and management of cough executive summary: ACCP evidence-based clinical practice guidelines. *Chest* 2006;129:1S-23S.
5. Irwin RS, French CT, Lewis SZ, *et al.* Overview of the management of cough: CHEST Guideline and Expert Panel Report. *Chest* 2014;146:885-9.
6. Cough guidelines choke on evidence. *Lancet* 2006;367:276.
7. Chang AB, Robertson CF, van Asperen PP, *et al.* A cough algorithm for chronic cough in children: a multicenter, randomized controlled study. *Pediatrics* 2013;131:e1576-83.

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