

THINKING MORE CAREFULLY ABOUT RESPIRATORY INFECTIONS

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Among the commonest presentations to family physicians are upper respiratory infections and related symptoms such as cough. So we should treat these conditions well, just like any other illness. Most of the literature has focussed on whether to prescribe antibiotics, and now we all know that very few respiratory infections benefit from them, so we should be extremely sparing in their use. Many doctors take the attitude: it will resolve by itself, so don't worry about it. But many people find the symptoms annoying or even distressing, and distract them from their activities. Symptom relieving drugs seem to be helpful, yet few doctors know the science of prescribing them, and this is often done badly, partly because it has been difficult to ascertain the science underlying treatment of these "trivial disorders". Few medical schools or training programs teach about them.

How much of our workload these conditions comprise depends on the system in which we work: in countries such as Malaysia and Hong Kong they are a higher proportion than in countries like Australia and UK.¹ This is a change: 50 years ago, respiratory infections were much more common presentations there also. Yet it is doubtful that there has been any change in the number of infections experienced by each individual, child or adult. More likely it is a different response. The difference appears to originate in social expectations, mediated by the payment systems for doctors and medications. Where doctors dispense, primary care medicine is seen as a shopkeeper's role, and patients place greatest value on the medication rather than the consultation. In such countries, many patients perceive the number of drugs prescribed as a measure of the doctors' worth. Consequently many doctors respond with multiple prescribing, often of compound drugs: what they think patients want rather than what they need. Most of these drugs are also available over the counter, and in developed countries that have separated the roles of prescriber and dispenser, doctors do not prescribe them, since advising about them is largely the responsibility of the pharmacist.

Understandably, lifesaving drugs for serious disease are emphasised in medical school and little attention is given to these "trivial" drugs. Yet they are important. Many patients

take them several times a year. They cause side effects, and interfere with other treatments that we do prescribe, so their effects are not trivial. Indeed on occasion children are poisoned and require hospitalisation.

Because they have been available for so long, much of the science about these drugs was developed long ago, before current standards for efficacy and safety were required, or even devised. Thus the literature at times contains inadequate background: for example on the efficacy of compound analgesics.² At times absurd conclusions can be drawn, as shown by the report that a Cochrane review showed that codeine is not effective against cough, because there are no randomised trials to prove it.³ Narcotics were accepted as effective against cough long before randomised trials were invented, and they work, albeit with well-known side effects of constipation, and respiratory depression.

Fortunately, the American College of Chest Physicians has recently reviewed the literature about cough in great depth, and come up with thought-provoking Evidence-based Clinical Practice Guidelines, published as a supplement to *Chest*.⁴ Interestingly, the level of much of the evidence is rated as low, even as low as "expert opinion" or "case studies" and as Family Physicians; we may look at their priorities with some scepticism, since these authors are working from a filtered specialist viewpoint. Our expert opinion about the types of patients we deal with may be as good as theirs.

One of the most interesting recommendations is that postnasal drip should be renamed as Upper Airway Cough Syndrome (UACS). This new name is likely to gradually replace the old name, so as readers of this journal you can be ahead of most other sources! After an acute common cold, chronic cough may follow because the viral infection triggers an inflammatory response that persists long after the infection has gone. Such an inflammatory response may present in the lower airways as asthma or in the upper airway as UACS. Sadly, this is an indefinite syndrome, so it is difficult to diagnose, and there are no specific findings that diagnose it absolutely. It is most useful as a pointer to management strategies.

The Guidelines include useful algorithms for diagnosis of acute cough (less than 3 weeks), subacute cough (3 to 8 weeks) and chronic cough (over 8 weeks). For children < 15 years, chronic cough is defined as more than 4 weeks.

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UACS is prominent as a likely cause of all types of cough, along with Asthma, and gastro-oesophageal reflux disease, alone or in combination for patients who are not smokers or taking ACE inhibitors. Non-asthmatic eosinophilic bronchitis is a newly recognised cause, and there is a long list of rarer causes. Up to 25% of patients still have cough 14 days after commencement of the upper respiratory syndrome. Subacute cough is likely due to post-infectious cough of this type, but may be caused by pertussis. Unlike usual approaches in the American specialist literature, this group recommends initial empiric treatment for these conditions: as GPs have been doing all along. Also, unlike many guidelines that focus on one disease, they recommend, "due to the possibility of multiple causes, maintain all partially effective treatment."

Even for gastro-oesophageal reflux, these guidelines recommend that because diagnostic tests are inadequate, observing the clinical response to empiric treatment with PPI anti-acid therapy is usually the best strategy. Response may be slow, and may also require pro-kinetic treatment for three months before it is appropriate to undertake further investigation.

This group found very limited data on many common treatments. They cite only one study of antihistamine/decongestant (brompheniramine/pseudoephedrine) that reduced clinical symptoms and cough in upper respiratory infections, whereas terfenadine and loratidine do not. Naproxen reduced cough and other symptoms, suggesting that inflammatory responses are an important part of the cause of cough. In children, the few studies available did not demonstrate value of antihistamines so they are not recommended. Nor are decongestants and the popular combination medications.

There is limited evidence for narcotics as cough suppressants for cough caused by infections, so this group does not recommend them for symptom reduction in acute infections, only for short-term symptom reduction in chronic bronchitis. Mucolytic and mucokinetic agents have "no consistent favourable effects" so are not recommended. Even for suppressing cough due to lung cancer, narcotics are not proven, though recommended. Levodropropizine and moguisteine are two newer drugs that are peripherally active against cough from chronic causes, but not acute infections, but they are not widely used, or even available in many countries.

These reviews leave us with rather a limited set of recommendations, and the first response may be despair. However, absence of evidence is not evidence that drugs do not work. Not only that: while drugs may not appear to work well on a group of people because many do not respond, they may still work well for individuals.

So what should we do in practice? Rather than arbitrary shotgun compound mixtures, whose effects and side effects are impossible to unravel, I now recommend that patients buy single-component medications: an antihistamine, pseudoephedrine, dextromethorphan syrup, and an NSAID or paracetamol, so that each patient can test the effect of each, and adjust their doses independently. This is necessary both for pharmacodynamic differences between patients, and change during the progress of the disease, that often starts with a runny nose, moves on to fever and headache, with blocked nose, then sore throat. As the nose begins to clear, the cough may become severe, and gradually subside after many more days, when all other symptoms are gone. Each stage needs a different symptom management approach, and patients can learn to do this for themselves.

In my clinical practice it appears that the effective dose for pseudoephedrine for symptom relief of the common cold is widely variable: some patients may find 30mg twice a day enough, others may take the standard dose, and some may take twice that to get the effect they need. Consequently we must advise patients to find their own effective dose that does not give side effects. Older antihistamines with their cholinergic action may be particularly helpful at night, when their sedative side effects are also beneficial. It may be that most patients who find them useful have undiagnosed allergic disease, causing UACS, and such people may comprise as many as 20% of the population

This definition of the current state of knowledge may act as a wakeup call. These conditions are seen by family physicians, and we should be doing the studies, either in single practices, or more likely in research groups, producing real data from our own front line. If family medicine does not do it, we will continue to be defined by other specialist's data, point of view, and inappropriate recommendations.

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