

Do you prescribe antibiotics for respiratory tract infections?

An everyday conundrum in general practice

Appropriate prescribing of antibiotics for patients with respiratory tract infections (RTI) is a key component of improving antimicrobial stewardship in New Zealand. Most respiratory tract infections, particularly those affecting the upper respiratory tract, are viral in origin and self-limiting. Antibiotic treatment should ideally be reserved for specific subsets of patients with bacterial respiratory tract infections such as community acquired pneumonia, or used if the potential for complications for that person are high or if the infection is not resolving within an expected timeframe.

It would be assumed, therefore, that the management of people presenting with respiratory tract infections is relatively straight forward and the decision not to prescribe an antibiotic an easy one to make. However, every day, and often several times a day, primary care clinicians see a range of people with symptoms that are consistent with a number of possible respiratory tract infections, and many factors can influence their decision about whether or not to prescribe an antibiotic. It has been reported that approximately 60% of all antibiotic prescribing in primary care in the United Kingdom is for patients with respiratory tract symptoms,¹ and although there are no similar New Zealand figures, it is likely that comparable prescribing trends occur here.

Both clinical and non-clinical factors can influence treatment decisions for patients with respiratory tract infections. The initial clinical evaluation, i.e. history and examination, can provide information about the probable cause of the patient's

symptoms but it is often difficult to distinguish clinically between viral and bacterial infections. A fear of not "missing" the diagnosis of a significant bacterial infection may mean that if there is clinical uncertainty, clinicians err on the side of caution and prescribe. This may be an appropriate response, particularly if the risk of not doing so is high, e.g. non-specific respiratory symptoms and signs in a patient who is immunosuppressed. In other situations, clinical guidance may recommend that an empiric antibiotic is appropriate, e.g. a child with a sore throat who has risk factors for rheumatic fever, or a student who has symptoms and signs that may suggest meningitis.

Non-clinical factors can also complicate management decisions. Often there is expectation and pressure from the patient for an antibiotic because they perceive that it will improve their symptoms – sometimes the clinician will assume that the patient wants an antibiotic. Other factors that may impact prescribing decisions include: the day of the week (the "Friday afternoon consultation"), important life events ("I'm flying tomorrow", "I have a major examination/singing competition"), and previous experiences affecting either the clinician or the patient, particularly any that have had bad outcomes.

Whatever decision is made, a key factor is to effectively communicate the reasons for this decision to the patient, and to provide advice about non-antibiotic strategies for the patient to manage their symptoms. Good clinician-patient communication has been shown to reduce the rates of

antibiotic prescribing for respiratory tract infections both at the initial consultation and during future consultations.²

To try to shed some light on what actually happens in consulting rooms around the country, we asked a number of health professionals for their thoughts and opinions on their approach to the management of people with respiratory tract infections.

Q: What key clinical and non-clinical factors do you take into account in the initial assessment of a patient with a respiratory tract infection and when deciding if a patient needs an antibiotic?

Duration, severity and progression of symptoms appear to be the key factors for primary care clinicians when deciding whether a patient with a RTI requires an antibiotic. Important signs on examination include chest sounds, temperature, respiratory rate and hydration status, along with characteristics of cough if present, and whether the patient appears systematically unwell. Other clinical factors which are taken into consideration include co-morbidities (e.g. if the patient has COPD), immune status and previous history of complications with a RTI.

The most frequently cited non-clinical factors which affect the decision to prescribe an antibiotic were the patient's living and social circumstances, including whether there are other vulnerable people present in the household, and the patient's ability to re-consult or access after-hours services if required. Important life events and patients concerns and expectations also factor into the decision to prescribe antibiotics for some clinicians.

"For a patient to need an antibiotic (rather than want or request one) I would need to have a bacterial diagnosis, such as pneumonia, or enough symptoms and delay to consider sinusitis or otitis media. I don't think there is such a thing as a secondary bacterial infection. Coloured sputum is not an indication for an antibiotic unless there are other signs and symptoms that make one think of pneumonia. A sick looking patient may make me err on the side of giving an antibiotic but then I should be thinking of admitting the patient."

What diagnostic tests, if any, would you perform and why?

There was general agreement that laboratory investigations are not routinely required for patients presenting with a non-complicated RTI. The exception to this was taking a throat swab in a patient presenting with a sore throat, with risk factors for rheumatic fever. If a patient was very unwell, if they had persistent symptoms or if there were significant concerns, investigations may include full blood count, CRP, referral for

chest x-ray if indicated and occasionally sputum culture if cough is persistent.

Q: How do you manage patient expectations about antibiotics?

"Every upper RTI is an opportunity for education and re-enforcing key messages [about antibiotics]."

There is no standard approach to managing expectations, as patients have a variety of beliefs about antibiotics, ranging from those who have come from countries where receiving an antibiotic is standard to those who are concerned that taking an antibiotic will affect their immunity. It is a useful approach to ask the patient about their expectations regarding antibiotics early in the consultation.

Clinicians felt that it was important to explain the following key messages about antibiotics to patients:

- The majority of RTIs are viral and self-limiting and do not require antibiotic treatment
- Antibiotics usually do not alter the course of illness in a non-complicated RTI
- The over-prescribing of antibiotics contributes to antibiotic resistance, which means that antibiotics might not work when they are needed, which is not only bad for the individual but also for the community as a whole
- Antibiotics are associated with adverse effects, e.g. diarrhoea, nausea, and in rare cases more serious outcomes such as allergic reaction
- Being prescribed an antibiotic in the past for a RTI does not necessarily mean that one is required in this case

Patient leaflets were thought to be useful in managing patient expectations, improving health literacy and complementing a verbal discussion to help patients understand why an antibiotic is not required for a RTI.

 An example of a patient leaflet for the common cold and other respiratory tract infections is available from: <http://m.patient.media/pdf/4459.pdf>

"Starting the conversation by discussing the symptoms presented including auscultation and ENT observations as well as repeating the symptoms back to the person that they have described is a good way of letting them know you have heard them and take all their concerns seriously. E.g. 'So I have found that your chest is clear, your ears are looking fine and your throat is not inflamed but I do understand this has been making you feel very unwell and you naturally are concerned'. Then stating that these

symptoms point to an URTI, which is almost always viral in nature and will resolve without exposure to antibiotics. Explaining that as a clinician you are negligent if you prescribe inappropriately and there are certain checks and balances you also need to follow. Explain that all antibiotics carry side-effects, just like all other medicines, and therefore the scales must be topped heavily toward obvious benefit."

If the patient specifically asks for an antibiotic, how do you respond to the request?

"My experience is that those people who are more demanding are the people that are less likely to need them."

If the decision why an antibiotic is, or is not, being prescribed is effectively explained and communicated, this will be satisfactory to the patient in most cases. Discussing the key messages listed above, along with giving a firm and clear opinion that the patient does not need an antibiotic, are pivotal in the process of changing the expectations of patients who arrive at the consultation anticipating that they will leave with an antibiotic prescription.

However, no matter how well these messages are conveyed to the patient, there will inevitably be occasions when conflict arises and a more in-depth discussion is needed. One general practitioner suggests using the REBELS communication approach (see below) to overcome any differences in opinion.

"I will generally start by asking why they feel antibiotics will be of benefit. Then move onto the reasons I think we should or why we shouldn't. I always re-enforce the problems with overprescribing and the fact the antibiotics won't make any difference if there is no indication. I find a conversation about resistance developing with overuse very useful in these circumstances."

 For further information about REBELS, see: www.rnzcgp.org.nz/assets/documents/Publications/Archive-NZFP/Aug-2008-NZFP-Vol-35-No-4/HawkenAug08.pdf

Q: If you decide not to prescribe an antibiotic, what information do you give the patient to help them understand and accept your decision?

What advice do you offer the patient about managing symptoms?

Symptomatic management strategies are frequently based around the patient's preference and what has worked for them previously. A shared decision-making process, following the patient's lead if it was reasonable, was one suggested strategy. Useful questions to ask the patient included: What have you tried in the past? Would you like to be prescribed analgesics? Is there anything else you think would help?

Management strategies most often recommended to patients include: rest, hydration, analgesics (paracetamol and ibuprofen), short-term xylometazoline +/- ipratropium-based nasal drops/sprays (e.g. Otrivin), salbutamol inhaler (if indicated), saline gargle, throat lozenges, antiseptic mouthwashes, chest rubs, steam inhalation and lemon and honey drinks. Over-the-counter (OTC) cough medicines were considered by most to have limited benefit and while not actively discouraged, were not recommended. Some clinics offer patients printed information about symptomatic treatments.

What type of follow up do you usually put in place?

Most clinicians advise patients to come back, or to phone the practice, if their condition deteriorates or if their symptoms do not resolve (the exact timeframe for this is dependent on specific patient risk factors). There was, however, acknowledgement that some patients would be unable to afford the cost of re-consultation. Ensuring that the patient is aware of the likely duration of symptoms is important, e.g. it may take five to ten days before they start to feel better and cough might persist for four to six weeks. It is also important that patients (or caregivers) understand "red flag symptoms" to watch out for, e.g. fever, drowsiness, vomiting, diarrhoea, rash or breathing difficulties, and to know what to do if these occur, e.g. ensuring that the patient has access to after-hours medical treatment and Healthline.

"The trick is that you always want to say that people should come back if they do not improve but people can often not afford to do this. Providing ways like contacting the nurse if feeling worse or taking their own temperature at home and monitoring alongside the usual cares like rest, hydration, eating well, sleep are the 'medicines' most suited."

Q: Have you experienced any negative consequences of not prescribing an antibiotic? This could include, for example, patient dissatisfaction or a poor clinical outcome.

"Yes I had a patient recently who got pneumonia and he now sees a colleague who is a big prescriber of antibiotics."

The development of wheeze or lower RTI symptoms, especially in children, is one of the most frequent reasons for patients re-consulting, who were not originally prescribed antibiotics. Most clinicians reported that they had few negative outcomes of not prescribing an antibiotic to a patient with a RTI, most likely because the patient had returned when their condition deteriorated or they had used the "safety net" of giving the patient a prescription for an antibiotic to use later if necessary (also see: "Back pocket prescriptions").

In terms of patient dissatisfaction, one clinician noted that tourists were a particular patient group that were often unhappy to not be given an antibiotic if they have had to pay a large consultation fee to see the doctor. This was especially the case if they have had to visit another doctor, often in a different location, if their condition did not improve. Another clinician noted that patients seen in an after hours clinic are often much more dissatisfied with not receiving an antibiotic, and this may be attributed partly to not having an established patient-doctor relationship, as well as to the cost and perceived urgency of the consultation.

Q: Do you think the use of back pocket prescriptions (delayed prescribing) is a useful strategy?

"It is a useful first step in weaning patients of their 'false' belief in the need for antibiotic."

"Back pocket prescriptions can be a stepping stone (or perhaps trying to 'sow the seed') to changing health seeking behaviour."

Most clinicians expressed some support of the strategy of providing a patient with a RTI who did not require an immediate antibiotic, with a prescription for an antibiotic that they could fill at a later date if it became necessary. However, clear communication about when the antibiotic should, and should not, be used was essential. This strategy may not be useful for every patient, depending on individual circumstances. For example, for some patients, giving a delayed prescription would save them the time and cost of returning for a consultation, which they may be unlikely or unable to do. But for other patients, giving a back pocket prescription for an antibiotic after trying to explain why they do not currently require an antibiotic, can give a mixed message. It can also be challenging to effectively communicate how to appropriately use the prescription in people with lower levels of health literacy or English as a second language. Some patients will feel reassured knowing they have a prescription to use if they need it, but others will just use it anyway without fully understanding if it is appropriate.

"We do have to respect that it can be inconvenient and expensive for patients to come to the doctor so I think we should give them a prescription if it may be needed in the near future, and educate them when to take the antibiotics"

Under what circumstances would you consider writing a "back pocket" antibiotic prescription?

Back pocket prescriptions are most often considered for patients who have had symptoms for more than a few days or patients with co-morbidities which could increase their risk of

developing complications. Travellers, non-registered patients and patients with unreliable living arrangements were more likely to be given a back pocket prescription. These prescriptions were also more likely to be given later in the week, to cover the weekend. Some clinicians also admitted to using the strategy of a delayed prescription if they had difficulty convincing the patient they did not require an antibiotic. A delayed prescription could also be a safety net for the clinician too, when an initial diagnosis is unclear.

"At our practice I am trying to institute a policy of no antibiotics to start with if not felt to be clinically relevant, but give the patient the option of ringing the nurse back if deteriorating and a prescription is then generated for no cost"

"In patients who are culturally used to getting antibiotics (often those of Indian/Asian cultures who expect medicines from clinicians) – I try to use back pocket prescriptions to save debate – but generally they cash in the script anyway"

"Yes, I give a back pocket prescription where there is initial uncertainty and it is not unreasonable clinically. I would give an antibiotic with narrow spectrum/low side effect/low risk of increasing community resistance"

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If you would like to have your say, you can contribute your responses to these questions at:

www.bpac.org.nz/bpj/2015/june/debate.aspx

References

1. National Institute for Health and Care Excellence (NICE). Prescribing of Antibiotics for Self-Limiting Respiratory Tract Infections in Adults and Children in Primary Care. London: NICE, 2008.
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