Primary Care Respiratory Society
Get Winter Wrapped

The Appropriate Use of Rescue Packs

An updated version of the discussion **Fran Robinson** had on the use of rescue packs with **Professor John Hurst** *Honorary Consultant at the Royal Free London NHS Foundation Trust and Professor of Respiratory Medicine at University College (UCL) London*

NICE recommends prescribing rescue packs for patients with COPD at risk of having an exacerbation, which has resulted in them becoming widely used.[1,2] But are they always prescribed and used appropriately?

"It is easy to prescribe a patient antibiotics and steroids and say 'go away and take them when you feel an exacerbation is coming on'", says Professor John Hurst, Honorary Consultant at the Royal Free London NHS Foundation Trust and Professor of Respiratory Medicine at University College (UCL) London.

But this is not an effective strategy because it may result in misuse of the medication unless you back the prescription up with education about how and when (and when not) to use the medication. "A rescue pack is more than just a prescription, it needs to be tied in to other aspects of a patient's care," he says.

Professor Hurst, who has clinical and research interests in exacerbations of COPD, says there is insufficient evidence to show that rescue packs in themselves are safe and cost effective at reducing hospital admissions. However, there is Cochrane evidence to show that self-management is associated with outcomes such as a reduction in hospitalisation.[3] But there is a big difference between effective self-management and the simple prescription of a rescue pack.

"The problem is that, when looking at the effectiveness of rescue packs from a research perspective, it is more complicated than just investigating the outcome of prescribing steroids and antibiotics to be taken at home. This is because a rescue pack should be linked with an educational intervention and the impact of that complex intervention, and assessing fidelity to the intervention, is more difficult to assess."

According to Professor Hurst, rescue packs are both over- and under-used. "We certainly see some GPs who feel uncomfortable prescribing them, and that is OK if you can facilitate a patient's urgent access to the practice when they are developing an exacerbation. Indeed, in some ways that might be a better standard of care than giving them a rescue pack to take at home – but this is very difficult to implement for many practices, and increasingly so with the impact of COVID-19."

"Other clinicians are comfortable with giving patients rescue packs on repeat prescription and ensuring that the patient is well educated about when and how to use them. However, if patients do not understand the risks of overusing the medication, they may run the risk of long-term complications. Overuse of steroids is linked with adrenal suppression, osteoporotic fractures, diabetes, pneumonia, psychosis, thinning skin and cataracts, and overuse of antibiotics (or not taking them for the full course) risks antimicrobial resistance both in the individual patient and in our society."

Identifying patients who are suitable for rescue packs

So how do you select the patients who will benefit from a rescue pack? "It is about recognising which patients are willing and able to self-diagnose and start treatment at the start of an exacerbation and seek support in doing so. You are asking a patient to differentiate an exacerbation from the day-to-day ebb and flow of symptoms, and that can be challenging for healthcare professionals, let alone those living with COPD. So this is not just about self-management; it is also about self-diagnosis and patients are not trained diagnosticians. They know more about their own symptoms than anybody else, of course, but some people can misinterpret their day-to-day symptom variations as an exacerbation."

Professor Hurst says it is patients who are susceptible to frequent exacerbations (at least two a year) who are most likely to benefit

from rescue packs. These patients will know what an exacerbation feels like. “There isn’t any point giving a rescue pack to a patient who hasn’t had an exacerbation before because they will not have experienced those symptoms before, and they will be at less risk of future events,” he says.

Before considering prescribing a rescue pack, Professor Hurst says the clinician must first make sure that all the high value interventions for COPD have been employed to reduce the risk and consequences of exacerbations. These include smoking cessation, influenza vaccination, pneumococcal vaccination, pulmonary rehabilitation and optimisation of pharmacotherapy to ensure the patient is using the right combination of inhalers.

Then the clinician must assess whether the patient is willing and able to take the rescue medication as directed and has been well educated on how and when to use it.

Education

Patients need to be taught:

- How to recognise the start of an exacerbation (eg, whether there has been a change in the volume, purulence or colour of the phlegm they produce normally and whether they are experiencing a change in breathlessness or wheeze).
- About the risks and benefits of the treatment
- Alarm symptoms – things to be alert for that are not typically part of an exacerbation or things that might mean something different is going on.
- They must contact their healthcare professional if they have started their treatment to alert them that they have become unwell
- As a safety net, patients should be told that, if their symptoms feel different from their usual exacerbation, then taking the rescue may not be the right thing to do and they must also call for help from their community respiratory team or GP

Is it time to stop prescribing rescue packs in COPD?

This is a question Professor Hurst will addressed in a previous presentation to the PCRS-UK conference. “No is the answer, but we can and must do it better,” he says. “We need to do more research into the subject otherwise, if we don’t address this question, we will be having the same discussion in 10 and 20 and 30 years’ time. The studies are not going to be easy and they will be expensive, but they are needed if we want to improve what we are currently doing,” he argues.

One study already in the pipeline is a National Institute for Health Research (NIHR) Heath Technology Assessment (HTA) Programme proposal for research into the use of sputum colour charts which could help patients more accurately detect a change in their sputum symptoms before starting a course of antibiotics.

There is also promising evidence that the prescription of steroids may be better guided by looking at blood eosinophils. Point-of-care meters may in future be used in primary care to assess the blood eosinophil counts of patients. This will help primary care clinicians to more accurately assess whether a patient will benefit from prednisolone at the time of exacerbation.

Learning points

- Patients who are most likely to benefit from a rescue pack are those at risk of frequent exacerbations (at least two a year) and who can recognise when an exacerbation is starting
- Before prescribing a rescue pack:
  - First make sure all the key high-value interventions for COPD have been employed to reduce the risk and consequences of exacerbations and that the patient has a self-management plan
  - Assess whether the patient is willing and able to take the medication as prescribed
  - Make sure the patient has been educated about the risks and benefits of treatment and of overusing the medication
  - Ensure the patient has a safety net: advise them that, if their symptoms feel different from their usual exacerbation, then taking the rescue may not be the right thing to do and they must also call for help from their community respiratory team or GP

NICE recommendations[1,2]

Patients at risk of having an exacerbation of COPD should be given self-management advice that encourages them to respond promptly to the symptoms by following their action plan, which may include:

- Adjusting their short-acting bronchodilator therapy to treat their symptoms
- Taking a short course of oral corticosteroids if their increased breathlessness interferes with activities of daily living
- Adding antibiotics if their sputum changes colour and increases in volume of thickness beyond their normal day-to-day variation
- Telling their healthcare professional – patients should contact a primary healthcare professional if they start treatment with a home supply of medication patients and should be advised to contact a healthcare professional if their symptoms do not improve

What should be in a COPD rescue pack?[1,3]

Patients at risk of having an exacerbation of COPD should be given a course of antibiotic and corticosteroid tablets to keep at home for use as part of a self-management strategy. These may be:[3]

- Prednisolone 30 mg once daily for 7–14 days
- Empiric antibiotic (or based on last sputum result):
  - Amoxicillin 500 mg three times daily for 5 days ***or***
  - Doxycycline 200 mg first day then 100 mg daily for total 5 day course ***or***
  - Clarithromycin 500 mg twice daily for 5 days

For now, Professor Hurst says the best option for patients with COPD is to ensure they have a really good self-management plan, and are empowered to manage their disease through attendance at a pulmonary rehabilitation programme. Those who would benefit from having rescue packs at home should be prescribed them with the necessary educational support and safety netting.

References
1. Chronic obstructive pulmonary disease in over 16s: diagnosis and management. NICE guideline NG115, July 2019. https://www.nice.org.uk/guidance/NG115
2. Clinical Knowledge Summaries: Chronic obstructive pulmonary disease. NICE guideline, Revised November 2019. https://cks.nice.org.uk/chronic-obstructive-pulmonary-disease
3. Chronic obstructive pulmonary disease (acute exacerbation): antimicrobial prescribing. NICE guideline NG114, December 2018

Date of Preparation: September 2020 Version 1