



AN **IPCRG** INITIATIVE

QUESTION & CHALLENGE CARDS

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Respiratory Group •

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INTRODUCTION

The International Primary Care Respiratory Group is leading a social movement to create a desire for change in the management of chronic obstructive pulmonary disease (COPD), guided by the question *'What does good quality COPD care look like?'*

COPD is a chronic disease affecting millions of people globally but is not widely recognised by patients or clinicians. Smoking & air pollution are the most common causes. People with COPD are also at higher risk of other health problems.

COPD is diagnosed by spirometry after bronchodilation when FEV_1/FVC is less than 70%.¹

The disease's severity is based on symptoms and number of exacerbations in the previous year.

Once diagnosed, COPD will require ongoing supported self-management. However, many people with COPD may lack knowledge about their condition, proper inhalation techniques, and strategies for managing their symptoms such as breathlessness, cough, sometimes with phlegm, wheezing and fatigue.

The most important prevention and treatments for COPD are smoking cessation, avoiding air pollution, physical activity, and the cornerstone of pharmacotherapy - bronchodilation.

1. FEV_1 : the volume exhaled in the first second of a forced expiratory manoeuvre.
FVC: total air volume that can be forcefully exhaled after taking the deepest breath possible.

INTRODUCTION

IPCRG identified several gaps in the understanding of and care for people with COPD, and has produced two tools to help fill these gaps. The first is the COPD Wheel, which focuses on how to explain COPD to someone with the condition and a summary of the current management guidelines, and the second is these Question & Challenge Cards.

These cards can be used by stakeholders to start conversations about COPD. Some offer information, and some ask provocative questions to create more awareness of shortcomings in knowledge and understanding about COPD in these areas:

- COPD conversation starters
- The importance of bronchodilation in treating COPD
- The importance of correct inhaler technique and adherence
- Who benefits from inhaled corticosteroids (ICS)
- Differential diagnosis of asthma & COPD

This is a pilot edition for testing (May 2024). Created and designed by IPCRG. An educational grant from Boehringer Ingelheim enabled IPCRG to develop and test this tool. For feedback visit tinyurl.org/copdcardsfeedback

QUESTION & CHALLENGE CARDS

These cards are a way to trigger conversations and for you to share your thinking with others. We invite you to use them to start a discussion!

INSTRUCTIONS

1. Split into pairs or small groups
2. Choose a card from the pack
3. Read the question or comment
4. Take a few minutes to discuss the question or comment on the card and note down your key discussion points
5. Compare your discussion points with the answer provided (if applicable), and reflect
6. Choose another card and follow steps 3 and 4 above
7. Feedback your discussion points to the full team/meeting
8. You may find it useful to look at the COPD Wheel too

Note: *some of these cards will prompt you to discuss controversial or provocative statements. We do not endorse these statements, but you may encounter views such as these and therefore they are worth reflecting on.*



AN **IPCRG** INITIATIVE

Question & Challenge Cards

COPD conversation starters



Refer to COPD Wheel

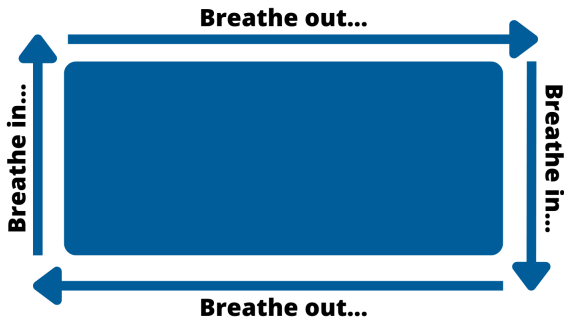
(www.ipcr.org/copdwheel)



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How could someone with COPD regulate their breathing if they are feeling breathless or stressed?



Adapted from <https://dukinfieldmedicalpractice.co.uk/wp-content/uploads/2020/06/Post-COVID-19-information-pack-5.pdf> (accessed 27/04/2022)

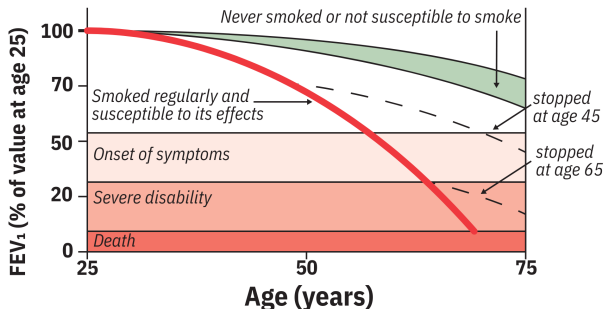
Breathing in a rectangle can be done anywhere to help someone with COPD to relax their breathing or mood:¹

- Visualise or look at a rectangle
- Following the short side, breathe in through the nose
- Breathe out through the mouth as you follow the longer side
- This expels old air and provides a distraction.
- Specific timings do not matter as long as you exhale for longer than you inhale.

What other advice could you give?

1. IPCR. COPD Magazine. Available at: <https://www.icprg.org/copdmagazine>. Accessed May 2024.

How can you use this graph in your communications? Try out these sentences:



- Everyone's lungs become weaker/lung function declines as we get older.
- What have you heard about smoking and COPD? The damage to your lungs cannot be undone, but quitting smoking can slow down the decline. It will improve the quality, and extend the length, of your life, so the sooner you quit the better.
- If you are diagnosed with COPD, continuing to smoke makes your lungs get worse faster.
- This graph suggests that you can gain many lung benefits if you stop smoking now. You'll notice your breathing improves and your lungs won't be exposed to tar, carbon monoxide and the other toxins in smoking.^{1,2}

1. Fletcher C, Peto R. Brit Med J 1977; 1: 1645-1648.

2. IPCRG. Tobacco dependence. Available at: www.ipcr.org/themes/tobacco-dependence. Accessed May 2024.

Try out these supportive statements, backed up by this graph:

- What's the longest period you've stopped smoking before? What benefits did you notice? Can you remember why you went back? [Praise every effort.] Advise: Did you know the best way to stop is a combination of support and treatment?
- It's never too late to stop smoking. What have you tried in the past to reduce your symptoms such as breathlessness, fatigue or cough? On a scale of 1-10, how motivated would you say you are right now to stop? How confident are you?
- You should never quit quitting. If you already succeeded at quitting smoking, rest assured that you did the right thing.^{1,2}



1. IPCRG. Tobacco dependence. Available at: www.ipcr.org/themes/tobacco-dependence. Accessed May 2024.

2. Reproduced from Parkes G et al. BMJ. 2008;336:598-600 (figure 2) with permission from BMJ Publishing Group Ltd.

Smoking is a lifestyle choice: do you agree?

This is incorrect.

Tobacco dependence is a long-term and relapsing condition that often starts in childhood, and smoking cessation is the most important intervention in COPD.

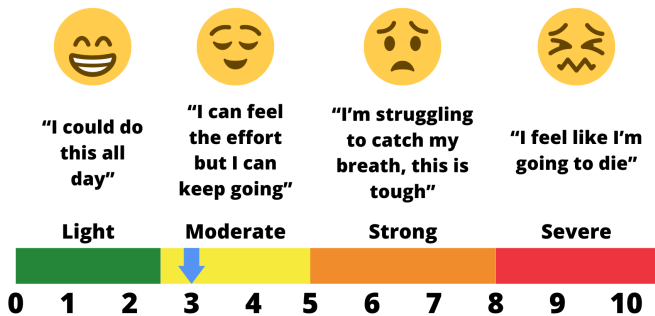
Smoking is classified within WHO ICD-11 as Disorders due to use of nicotine, and therefore within the substance use or addictive behaviours classification.¹

Find resources to help people quit tobacco here: www.ipcr.org/themes/tobacco-dependence²

1. World Health Organization. International Classification of Diseases. Available at: icd.who.int/browse/2024-01/mms/en#268445189. Accessed June 2024.

2. IPCRG. Tobacco dependence. Available at: www.ipcr.org/themes/tobacco-dependence. Accessed May 2024.

What is a safe and appropriate level of breathlessness for someone with COPD when physically active?

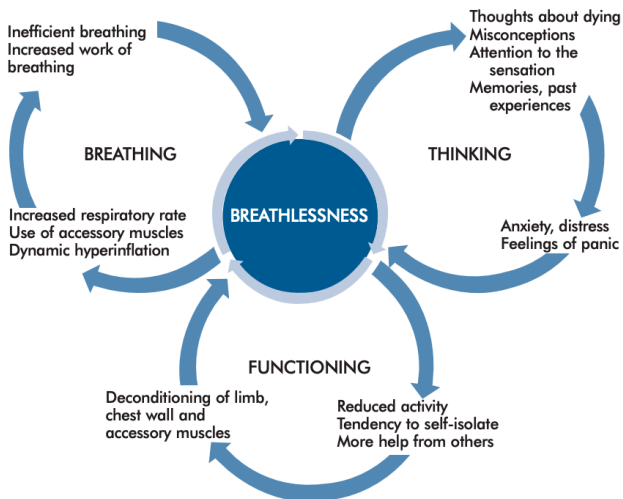


When doing physical activity, a person with COPD should aim for the light end of moderate breathlessness (3 on the Borg Scale). At this level, they should still be able to speak a sentence like *"I had jam on toast for breakfast"* but at a slower pace than usual. This level will improve breathing and build muscle while avoiding discomfort.^{1,2}

1. Hareendran A et al. Int J Chron Obstruct Pulm Dis 2012; 7: 345-355.

2. ICPRG. COPD Magazine. Available at: <https://www.icprg.org/copdmagazine>. Accessed May 2024.

What are the emotional and behavioural responses to breathlessness, and how can these affect the symptom of breathlessness?



Emotional and behavioural responses to breathlessness can cause vicious cycles.

Anxiety caused by breathlessness can make the breathing worse. Breathlessness can cause a decline in physical activity that ultimately contributes to further breathlessness.¹

1. Spathis A et al. NPJ Prim Care Respir Med 2017; 27(1): 27. See <https://www.btf.phpc.cam.ac.uk/>



What tests can be performed to diagnose someone with COPD?

Spirometry measures airflow in and out of the lungs. The key measures are the volume of air a person can exhale and the speed (flow) at which they do so. **It is mandatory for diagnosing and monitoring COPD and its progression.**

If you are treating someone with COPD who was not diagnosed with spirometry, organise spirometry for them now.¹

1. IPCRG. Desktop Helper No.14. Available at: <https://www.ipcrg.org/dth14>. Accessed May 2024.

How do you explain COPD to someone who has just been diagnosed?

Try using the explanations below:¹



Chronic: a long-term health condition that does not go away



Obstructive: Your airways are narrowed, it's harder to breathe out quickly and air gets trapped in your chest



Pulmonary: It affects your lungs



Disease: A medical condition

How else might you explain COPD?

1. IPCRG. COPD Wheel. Available at: www.ipcrg.org/copdwheel. Accessed May 2024.

How do you explain to someone why they have COPD?

Take a look at these prompts.¹ Which factors are most relevant to your patient?

Pollution



Small lungs

Chemical exposure

Asthma

Tobacco smoking accounts for over 70% of COPD cases in high-income countries. In low- and middle-income countries (LMICs) tobacco smoking accounts for 30-40% of COPD cases, and household air pollution is a major risk factor.²

What other factors could contribute to the development of their COPD?

1. IPCRG. COPD Wheel. Available at: www.ipcrg.org/copdwheel. Accessed May 2024.

2. WHO. Fact Sheet: COPD. Available at: [https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-\(copd\)](https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd)). Accessed May 2024.

Can someone who has never smoked cigarettes still develop COPD?

Yes: chronic exposure to wood smoke, occupational smoke, chemicals, or pollution, along with prolonged uncontrolled asthma and genetic factors can all lead to COPD.

What options does someone with COPD have for treatment?



Reduce risk factor exposure



Get recommended vaccinations



Use your inhaler



Healthy diet & nutritional support



Take other prescribed medicines



Physical activity & pulmonary rehab

People with COPD benefit from vaccines, non-pharmacological and pharmacological interventions to help them manage their condition and their symptoms.¹ Discuss all with them and refer as appropriate.²

1. IPCRG. COPD Wheel. Available at: www.ipcr.org/copdwheel. Accessed May 2024.

2. IPCRG. Desktop Helper No. 3. Available at: <https://www.ipcr.org/dth3>. Accessed May 2024.

Do you know that GOLD now recommends 6 vaccinations to protect people with COPD? Can you name them and what they protect against?

1. Influenza
2. SARS-CoV-2 (COVID-19)
3. Pneumococcal (community-acquired pneumonia)
4. Respiratory syncytial virus (RSV)
5. Tdap (pertussis/whooping cough) if not vaccinated in adolescence
6. Herpes zoster (shingles)¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

How would you communicate these consequences to someone with COPD who you are treating?

1



Oxygen



Reduced
quality of life



Lung surgery

How do you explain the need to be physically active to someone who is very breathless?

Try this:

Your lungs and respiratory muscles are just like any other muscle in your body: just as you exercise to strengthen your arms or legs, physical activity strengthens the muscles involved in breathing. By exercising regularly, you are giving your lungs and respiratory system a workout, making them stronger and more efficient. Weak muscles use more oxygen than strong muscles to do the same work. Pulmonary rehabilitation and exercise improve the way the muscles work, using oxygen more effectively.¹

1. IPCRG. How We Breathe. Available at: <https://www.ipcr.org/howwebreathe>. Accessed May 2024.

What are the most common comorbidities of people with COPD in your setting? List as many as you can.

The most common comorbidities are:

Tobacco dependence, cardiovascular diseases, muscle weakness, osteoporosis, anxiety, depression, lung cancer, metabolic syndrome, diabetes, gastroesophageal reflux, bronchiectasis, obstructive sleep apnoea

How might these affect your treatment decisions?

Visit [ipcrg.org/dth10](https://www.ipcrg.org/dth10) (Desktop Helper & associated case studies) to learn more about rational use of medicines.¹



1. IPCRG. Desktop Helper No. 10. Available at: <https://www.ipcrg.org/dth10>. Accessed May 2024.

How do you explain to your patient what an exacerbation is and how to recognise it?

Try this:

“An exacerbation, or ‘flare-up’, is a sudden worsening of your symptoms. It can last for days or even weeks. You might notice feeling more breathless, more coughing or more phlegm/sputum than before, or you may feel more tired or have trouble sleeping, and/or feel confused. Someone else in your household may notice before you do, so make sure they know to look out for these signs.

To avoid needing to go to hospital, get in touch with us. You may need treatment with antibiotics and/or oral corticosteroids.”^{1,2}

See www.beflareaware.com

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

2. Celli BR et al. Am J Respir Crit Care Med. 2021; 204(11): 1251-1258.

What are the main risk factors that can lead to COPD?

COPD results from gene-environment interactions occurring over an individual's lifetime. The main environmental exposures contributing to COPD are smoking tobacco and inhalation of toxic particles and gases from household and outdoor air pollution. Other environmental and host factors, including abnormal lung development and accelerated lung ageing, can also contribute.

The most relevant (albeit rare) genetic risk factors are mutations in the SERPINA1 gene that lead to α -1 antitrypsin deficiency.

Inform your population and patients about these risk factors and take action!¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

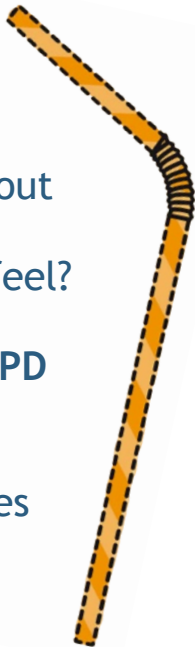
Looking to the long-term, what do patients want their clinician to ask them about?

- 1 You need my baseline: who I am, my functional status and my goals. Otherwise, many of our conversations take too long or are meaningless.
- 2 Ask “What is a usual day’s activity like for you? What have you had to give up or modify over the last few years? What do you not want? e.g. I never want to go to a nursing home.”
- 3 Ask “What are your thoughts about your life over the next year or if your COPD gets worse?” during in-person visits where the clinician can read body language and give more support.
- 4 Ask “What do you & your family want us to know and put in your medical record about your goals and future plans?”
- 5 Many of us don’t know what we don’t know, or what to ask. Help by sharing information, a website link or someone to talk to.
- 6 If you ask then LISTEN to our answers.¹

How do you teach clinical colleagues to know what COPD feels like?

Try breathing in and out through a straw for 2 minutes. How did it feel? Consider that this is how people with COPD live every day.¹

What other techniques do you use?

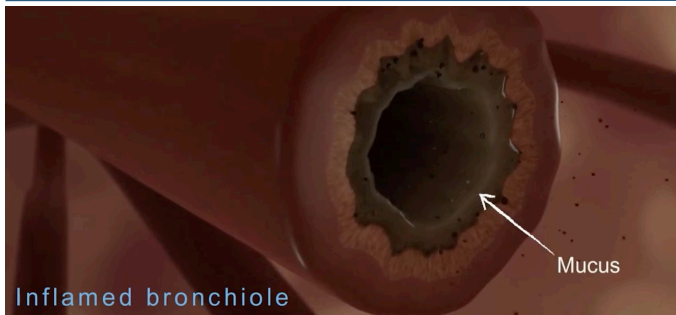


1. The European COPD Coalition. Advocacy Toolkit. https://www.ipcrg.org/sites/ipcrg/files/content/attachments/2020-02-10/ECC_Advocacy_Toolbox.pdf Accessed May 2024.

How does COPD affect the lungs?

The most common reason for obstruction is swelling or inflammation inside our airways or tubes. The lining and walls of the tubes are damaged from persistent or recurrent irritation from common irritants such as tobacco or cooking smoke, or allergens. This leads to inflammation.¹

See www.ipcrg.org/howwebreathe



Inflamed bronchiole

Mucus

1. IPCRG. How We Breathe. Available at: www.ipcrg.org/howwebreathe. Accessed May 2024.

What are the main goals for treating COPD?

The main treatment goals for COPD are to **reduce symptoms and the future risk of exacerbations**.¹

The management strategy for stable COPD should be predominantly based on the assessment of symptoms and the history of exacerbations.

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.



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Importance of bronchodilation in treating COPD

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What are bronchodilators?

Bronchodilators are medicines that widen the airways by relaxing the muscles in the lungs and bronchi.

They either:

1. Relax the airway smooth muscle by stimulating the β_2 -adrenoceptors with β_2 -agonists
or
2. Block the bronchoconstrictor effects of acetylcholine on the muscarinic receptors in the airway smooth muscle with **muscarinic antagonists (antimuscarinics)**¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

What are the benefits of bronchodilators for people with COPD?

When inhaled correctly...

Symptoms and wellbeing:

- Reduce COPD symptoms such as breathlessness
- Improve quality of life
- Improve exercise capacity

Risk improvement:

- Improve lung function (increase FEV₁)
- Reduce air trapping (hyperinflation) both at rest and during exercise
- Improve the effectiveness of pulmonary rehabilitation
- Reduce the rate of exacerbation and exacerbation-related hospitalisation¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

What do SABA, SAMA, LAMA and LABA stand for?

- **SABA:** short-acting β_2 -agonist
- **SAMA:** short-acting muscarinic antagonist
- **LABA:** long-acting β_2 -agonist
- **LAMA:** long-acting muscarinic antagonist

Short-acting medicines have an effect of 4-6 hours, while long-acting medicines last 12-24 hours.^{1,2}

1. Higgins BG et al. Eur Respir J 1991; 4(4): 415-420.
2. Cazzola M et al. Respir Med 2013; 107(6): 848-853.

Name some short- and long-acting bronchodilators.

- **SABA:** salbutamol, terbutaline
- **SAMA:** ipratropium
- **LABA:** formoterol, salmeterol, indacaterol, olodaterol, vilanterol
- **LAMA:** aclidinium, glycopyrronium, tiotropium, umeclidinium

Name some effective combinations of short-acting and long-acting bronchodilators.

SABA+SAMA:

- salbutamol + ipratropium

LABA+LAMA

- formoterol + aclidinium,
- formoterol + glycopyrronium
- indacaterol + glycopyrronium
- olodaterol + tiotropium
- vilanterol + umeclidinium

When should short-acting and long-acting bronchodilators be prescribed in stable COPD?

Long-acting bronchodilators are recommended as first-line treatment (except for those with very occasional breathlessness).

When initiating treatment with long-acting bronchodilators, the preferred choice is a combination of a LAMA and a LABA. In persons with persistent breathlessness on a single long-acting bronchodilator, treatment should be escalated to two.

SABA should be prescribed to all patients with COPD as a rescue medication for immediate symptom relief.¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

Why are drugs to treat COPD mainly inhaled rather than taken orally?

Inhaled medicines go directly to the lungs, increasing the effectiveness and speed of onset of low doses and therefore reducing possible side-effects.

In some cases, oral agents are needed for a systemic effect, such as antibiotics (azithromycin, erythromycin), phosphodiesterase-4 inhibitors (roflumilast), methylxanthines (aminophylline, theophylline, etc).¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

**LAMA+LABA is the right
treatment for most people
with COPD: discuss.**

**82% of people with COPD
experience breathlessness and
25% face exacerbations.^{1,2}**

**LABA+LAMA is the recommended
first-line treatment when
available, affordable and when
the risk of side-effects is low.³**

1. Müllerová H et al. PLoS One 2014; 9(1).
2. Kardos P et al. Respir Med 2017; 124: 57-64.
3. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

What is usually the best inhaled therapy for a newly-diagnosed, symptomatic person with COPD?

LAMA+LABA¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

If COPD symptoms persist despite proper use of combined bronchodilators, should an inhaled corticosteroid (ICS) be added?

No. ICS should ONLY be added in the presence of exacerbations and high eosinophil counts (≥ 300 cells/ μL for initial therapy, ≥ 100 cells/ μL when already on LAMA+LABA).^{1,2}

In the absence of these conditions, step back and:

1. Review medication adherence & inhaler technique
2. Consider changing inhaler device(s) to suit person
3. Re-visit non-pharmacological interventions
4. Consider whether symptoms are caused by co-morbidities

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.
2. Quint JK et al. NPJ Prim Care Respir Med 2023; 33: 27.

How do bronchodilators reduce the rate of exacerbations?

Direct effects on airflow: reduced hyperinflation; increased airway diameter; improved respiratory mechanics; increase threshold for development of symptoms.

Indirect mechanisms: improved secretion clearance through better airway latency; anti-inflammatory properties (reduced sputum production and cytokine release).¹

1. Wedzicha JA et al. Eur Respir J 2012; 40: 1545-1554.



COPD
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QUESTION & CHALLENGE CARDS

Importance of correct
inhaler technique and
adherence



See [www.ipcrg.org/resources/
inhaler-resources](http://www.ipcrg.org/resources/inhaler-resources)

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What are the most important considerations when choosing an inhaler?

Education and training in inhaler technique are vital when treatment is via the inhaled route. The choice of inhaler should be individually tailored to the patient's ability and preference, depending on access, cost and prescriber. The best device is one that the patient can and will use.

Proper inhalation technique should be taught, demonstrated and checked at each visit. Inhaler technique and adherence to therapy should be checked before concluding that the current therapy is insufficient.¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

Why is good inhaler technique important?

Since most drugs used to treat COPD are inhaled, good inhaler technique optimises a therapy's benefit:risk ratio.¹

Poor technique may prevent the correct dosage from reaching the lower respiratory tract. This can lead to worse quality of life, worse prognosis and increased risk of hospitalisation.²

Inhaler technique and adherence to therapy should be assessed before concluding that the current therapy is inappropriate.³

1. Schreiber J et al. BMC Pulm Med 2020; 20: 222.
2. Kocks J et al. BMC Pulm Med 2023; 23: 302.
3. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

Why is inhaler training/coaching important? How often should it be done?

Many patients do not use their inhalers correctly and poor inhaler technique is one of the most common reasons for poor response to treatment/treatment failure (along with adherence).¹

Good inhaler technique is essential to enable the correct dosage of the inhaled therapy to reach the right place to secure the expected effect. Leaflets included in device packaging are insufficient to provide proper inhaler training.²

Physical/video/web-based training and the ‘teach-back’ approach (asking the patient to demonstrate) are effective but become less effective over time. At each visit, re-check if the inhaler is being correctly used.³

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.
2. Klemmeier T et al. Eur Respir J 2019; 54: PA1479.
3. Klijn SL et al. NPJ Prim Care Resp Med 2017; 27: 24.

Do your patients use their inhalers competently?

Patients generally overestimate the adequacy of their technique: over two-thirds make at least one error when using an inhaler.¹

Incorrect technique can only be uncovered by asking the patient to demonstrate it. Regular observation and coaching will improve technique over time.²

1. Press VG et al. J Gen Intern Med 2012; 27(10): 1317-1325.
2. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

What errors are commonly made when using an inhaler?

Errors vary by inhaler, but common mistakes include:¹

- Dose preparation
- Exhalation prior to inhalation
- Coordination
- Problems with inspiratory flow
- Duration of inhalation
- Holding breath

Critical errors in inhaler use can significantly reduce the drug's delivery to the lungs, reducing the treatment's effectiveness.²

See [www.ipcrg.org/
resources/inhaler-
resources](http://www.ipcrg.org/resources/inhaler-resources) for videos.



1. Sulaiman I et al. Am J Respir Crit Care Med 2017; 195(10): 1333-1343.
2. Usmani OS et al. Respir Res 2018; 19: 10.

People with COPD who are non-adherent to treatment don't really care about their health: discuss!

Not true! Individuals fail to adhere to the treatment for many reasons, including:¹

- Cost of medication
- Difficulty accessing pharmacy
- Lack of understanding of importance of treatment and treatment schedule
- Confusion about medication for acute symptoms vs maintenance
- Fear of side-effects
- Too many medications
- Depression

While non-adherence is less common than in asthma, patients with COPD have symptoms that require regular inhaler use so education is needed to help them understand how inhalers work/their value in preventing worsening.²

1. American Medical Association. Available at: <https://www.ama-assn.org/delivering-care/patient-support-advocacy/8-reasons-patients-dont-take-their-medications>. Accessed May 2024.
2. Let's Talk Respiratory. Available at: <https://www.letstalkrespiratory.com/hcp/types-of-non-adherence-in-respiratory-disease/>. Accessed May 2024.

Non-adherence to inhaler use is always intentional: do you agree?

Intentional non-adherence occurs when people decide not to start or continue treatment due to perceptual barriers (beliefs and preferences) influencing their motivation. This should not be overlooked.

Unintentional adherence can occur when practical barriers, such as forgetfulness or failure to understand the instruction, prevent an individual from being able to adhere.¹

1. Journal of Prescribing Practice. Available at: <https://www.prescribingpractice.com/content/clinical-focus/medicines-adherence-in-respiratory-disease/>. Accessed May 2024.

Why might someone with COPD become non-adherent to their inhaled medication?

Think about:

- Healthcare team and system-related factors
- Social and economic factors
- Condition-related factors
- Therapy-related factors
- Patient-related factors^{1,2}

1. Makela MJ et al. *Respir Med* 2013; 107(10): 1481-1490.
2. *Journal of Prescribing Practice*. Available at: <https://www.prescribingpractice.com/content/clinical-focus/medicines-adherence-in-respiratory-disease/>. Accessed May 2023.

What are the consequences of non-adherence for people with COPD?

Non-adherence may lead to poorly-controlled symptoms, reduced quality of life, higher rate of severe exacerbations, hospitalisation, unnecessary escalation of therapy and increased healthcare expenditure.^{1,2}

1. Van Boven JF et al. *Respir Med* 2014; 108(1): 103-113.
2. Bourbeau J et al. *Thorax* 2008; 63: 831-838.

What factors should be considered before making the decision to change (step down or step up) the COPD inhaler(s) prescription?

It is important to assess inhaler technique and adherence to therapy before concluding that the current therapy is inadequate or ineffective. Diagnosis, comorbidities and triggers should also be considered.¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

When prescribing an inhaled treatment, the choice of molecule is more important than the device. Do you agree?

The perfect molecule won't be right if it requires a patient to use a device they are not comfortable using. The choice of inhaler should involve the person with COPD, taking into account their individual characteristics.

Ask yourself:

- Do you have all device types in your practice?
- Do you show them to patients and ask for their input when deciding which device to prescribe?
- Do you assess a person's ability to use the device (e.g. dexterity)?

Remember - the most effective inhaler is one that the patient can and will use.^{1,2}

1. RightBreathe Repository. Available at: <https://www.rightbreathe.com/?s=>. Accessed May 2024.
2. The Pharmaceutical Journal. Available at: <https://pharmaceutical-journal.com/article/ld/best-practice-principles-for-inhaler-prescribing>. Accessed May 2024.

What should you look out for when assessing a patient's ability to perform the correct inhaler technique for their device?

- If considering a dry powder inhaler (DPI), check if the patient can inhale forcefully and deeply. If there is doubt, assess objectively or choose an alternative device.
- Metered dose inhalers (MDIs) and soft mist inhalers (SMIs) require coordination between device triggering and inhalation, and also require a slow, deep inhalation. Add a spacer/VHC or choose another device.
- Consider a nebuliser for patients unable to use an MDI, SMI or DPI.¹



www.ipcrg.org/resources/inhaler-resources

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

What factors should be considered when deciding which device is appropriate?

- Shared decision-making
- Availability of the drug in the device
- Assessment of patient beliefs, preferences and satisfaction with current and previous devices
- Minimisation of the number of different device types - ideally use just one
- No switching without clinical justification or proper follow-up
- Patient cognition, dexterity and strength
- Assessment of the patient's ability to use the correct inhalation technique
- Size, portability and cost
- Smart inhalers can be useful to address adherence or technique problems
- Only prescribe devices you and the clinical team know how to use¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

List the steps for correct inhaler technique.

1. Preparing	<ul style="list-style-type: none">• Check dose counter (if present)• Shake inhaler (if applicable)
2. Priming	<ul style="list-style-type: none">• Prime device for use• Open inhaler/remove cap
3. Exhaling	<ul style="list-style-type: none">• Exhale gently away from the mouthpiece
4. Mouth	<ul style="list-style-type: none">• Place mouthpiece in mouth, tilt chin and close lips around the mouthpiece to form a tight seal
5. Inhaling	<ul style="list-style-type: none">• Inhale slow and steady (MDI, SMI)• Inhale quick and deep (DPI)¹
6. Breath holding	<ul style="list-style-type: none">• Remove inhaler from mouth and hold breath for up to 5 seconds
7. Closing & repeating	<ul style="list-style-type: none">• Close inhaler/replace cap• Repeat as necessary

Review and reinforce this technique at each appointment. See IPCRG inhaler resources:



1. MDI: metered dose inhaler; SMI: soft mist inhaler; DPI: dry powder inhaler

**Dry powder inhalers (DPIs) are
always better than metered
dose inhalers (MDIs):
do you agree?**

The best inhaler is the one that
contains the **right drugs/
molecules** for your individual
patient with COPD, which the
individual is **willing to, able to
and does** use correctly.

Do you think most healthcare professionals (HCPs) have good knowledge about the proper use of inhalers? Can they use them correctly?

Many HCPs do not demonstrate correct inhaler technique:

“HCPs demonstrated inadequate knowledge of the proper use of inhalers. The poor understanding of the correct use of these devices may prevent these professionals from being able to adequately assess and teach proper inhalation techniques to their patients”.¹

However, this can easily be changed with appropriate training!

1. Plaza V et al. J Allergy Clin Immunol Pract 2018; 6(3): 987-995.

Using a spacer with a pressurised metered dose inhaler (pMDI) will increase drug delivery compared with using a pMDI alone. True or false?

True.

Using a pMDI alone with best technique may deliver only 10-15% of the emitted dose to the airways. Adding a spacer may increase this to 20%.¹

1. Vincken W et al. ERJ Open Res 2018; 4(2): 00065-2018.



AN **IPCRG** INITIATIVE

QUESTION & CHALLENGE CARDS

Who benefits from inhaled corticosteroids (ICS)

International Primary Care

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Est. 2001

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work locally
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When should you consider prescribing ICS to someone with COPD?

Initial therapy: ≥ 2 moderate exacerbations or ≥ 1 leading to hospitalisation AND blood eosinophil count ≥ 300 cells/uL

Follow-up therapy: already prescribed LAMA+LABA, having further exacerbations, blood eosinophil counts ≥ 100 cells/uL

Before prescribing ICS, check inhaler technique, assess adherence, and try non-pharmacological interventions (smoking cessation, reduction of exposure, shielding measures, vaccinations, self-management)^{1,2}

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.
2. Lipson DA et al. N Engl J Med 2018; 378(18): 1671-1680.

In low doses, ICS is almost risk-free: discuss.

Even in low doses, long-term ICS use is consistently associated with local and systemic adverse effects. However, in the right patients (e.g. asthma features), the benefits far outweigh the risks.

ICS use is associated with an increased risk of pneumonia, so indications of use should be according to guidelines (see COPD Wheel: www.ipcrg.org/copdwheel).¹⁻³

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.
2. Miravittles M et al. Eur Respir Rev 2021; 30(160): 210075.
3. IPCRG. COPD Wheel. Available at: www.ipcrg.org/copdwheel. Accessed May 2024.

What side-effects are associated with long-term ICS therapy?

Long-term ICS use may be associated with a range of local and systemic side effects:

- Oropharyngeal candidiasis
 - Hoarse voice
 - Skin thinning and easy bruising
 - Cataracts
 - Pneumonia
 - New onset and progression of diabetes
 - Decreased bone density, osteoporosis, osteopenia, fractures
 - Non-tuberculous mycobacterial infections
 - Increased risk of tuberculosis
- In cases of poor inhaler technique, systemic side effects may be more pronounced especially if the prescriber increases dosage when symptom control is poor.^{1,2}

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.
2. Miravittles M et al. Eur Respir Rev 2021; 30(160): 210075.

For someone newly-diagnosed with COPD and experiencing exacerbations, two long-acting bronchodilators should be the first choice of therapy: discuss.

In most cases, appropriate bronchodilation combined with non-pharmacological interventions can prevent future exacerbations. However, triple therapy should be considered only if the individual has a eosinophil count of ≥ 300 cell/uL. Patients should be reviewed to assess clinical response after initiation.¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

When should ICS withdrawal be considered for people with COPD?

Consider the individual's exacerbation history and blood eosinophil count. Only someone with a high exacerbation rate over one year and an eosinophil count ≥ 300 cells/ μL should continue treatment; individuals not meeting these criteria should be considered for ICS withdrawal.

Withdrawing ICS can be considered if pneumonia or other considerable side-effects develop. If blood eosinophils are ≥ 300 cells/ μL , de-escalation is more likely to be associated with the development of exacerbations. Carefully consider the dose of ICS used to reduce the possibility of ICS-related side effects seen at higher doses.¹

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

ICS withdrawal must be gradual in COPD patients where it's not clinically indicated: discuss.

ICS can be abruptly withdrawn in most cases:

“Literature search found that three studies stopped ICS abruptly while one study withdrew gradually. The absence of meaningful differences in outcomes between these studies suggests that ICS can be abruptly withdrawn in the majority of cases.”¹

1. Chalmers JD et al. Eur Respir J 2020; 55(6): 2000351.

Name some comorbidities that must be considered with caution when starting ICS treatment.

Pre-diabetes and diabetes, osteoporosis, bronchiectasis, pneumonia, mycobacterial infections, tobacco dependence.^{1,2}

1. IPCRG Desktop Helper No. 10. Available at: www.ipcrg.org/dth10. Accessed May 2024.
2. Miravittles M et al. Eur Respir Rev 2021; 30(160): 210075.

When introducing ICS to someone with COPD, it should be introduced as a separate device to their LABA/LAMA inhaler: discuss.

The number of different device types should always be minimised.¹

Single inhaler therapy is often more convenient and effective, improving adherence.

There are also licensing considerations - ICS alone isn't licensed in COPD.

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.



AN **IPCRG** INITIATIVE

QUESTION & CHALLENGE CARDS

Differential diagnosis of asthma & COPD

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From a treatment point of view, why does differentiating COPD from asthma matter?

People with COPD and asthma require different pharmacological and non-pharmacological treatment strategies.

Most common pathway:

COPD: LAMA + LABA -> +ICS if needed
Asthma: ICS + LABA -> +LAMA if needed

There are risks associated with the unnecessary prescription of ICS for people with COPD.^{1,2}

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

2.GINA. Global Initiative for Asthma. Available at: <https://ginasthma.org/reports/>. Accessed May 2024.

Anyone can have asthma, but COPD only affects people in late-middle age: do you agree?

Asthma can manifest at any age after exposure to triggers such as allergens, but COPD is a progressive disease that usually develops in late-middle age after long-term exposure to risk factors such as smoking.^{1,2}

Note: COPD can be seen in younger people with genetic alpha-1 anti-trypsin,¹ or in cases of smoked substance misuse (heroin, crack cocaine, GM cannabis).³

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

2.GINA. Global Initiative for Asthma. Available at: <https://ginasthma.org/reports/>. Accessed May 2024.

3.Walker PP et al. Chest 2015; 148(5): 1156-1163.

How would you distinguish between a typical person with asthma vs COPD?

Typical person with asthma:

- May occur at any age
- Highly variable symptoms
- Co-morbidities: allergic rhinitis, atopic dermatitis

Typical person with COPD:

- Diagnosed late-middle age after long periods of risk factor exposure (smoking, indoor air pollution)
- Persistent, progressive symptoms
- Co-morbidities: cardiovascular and metabolic conditions¹

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

Spirometry is important when diagnosing COPD, but not necessary for asthma. Discuss.

A COPD diagnosis should be considered in any person with breathlessness, a chronic cough or sputum production, a history of recurrent lower respiratory tract infections and/or a history of exposure to risk factors.

However, spirometry showing a post-bronchodilator $FEV_1/FVC < 0.7$ is mandatory to establish the diagnosis of COPD.¹

An asthma diagnosis is based on the history of characteristic symptom patterns and evidence of variable expiratory airflow limitation. This should be documented from positive bronchodilator reversibility testing (spirometry) or be excessive variability in twice daily PEF over 2 weeks or through other tests.

Normal spirometry does not rule out asthma if, for example, the patient is asymptomatic at the time of the test.

1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

Differentiating asthma from COPD is irrelevant because the symptoms are so similar: true or false?

False. While both diseases have similar symptoms, their basic pathophysiology differs significantly and they require different treatments: asthma treatment should be anti-inflammatory while the main COPD treatment is bronchodilation.

When treating someone with COPD, which main aspects of their medical history should be considered?

A medical history of someone known or suspected to have COPD should include:^{1,2}

- Risk factor exposure
- Past medical history
- Family history of COPD or other CRDs
- Pattern of symptom development
- History of exacerbations or previous hospitalisations for respiratory disorders
- Presence of comorbidities
- Impact of disease on individual's life
- Social and family support available
- Possibilities for reducing risk factors, especially smoking cessation

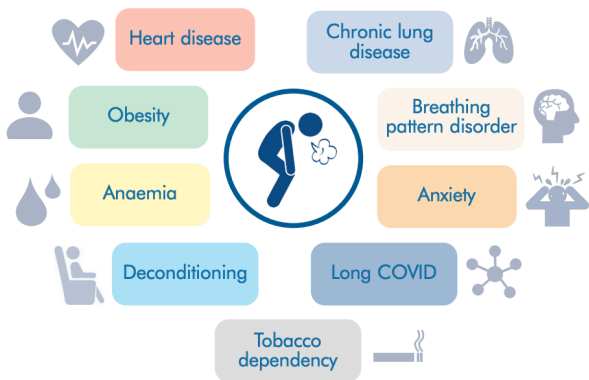
What else would you ask about?

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

2.IPCRG. COPD Wheel. Available at: <https://www.icprg.org/copdwheel>. Accessed May 2024.

Which diseases should be considered in a differential diagnosis of COPD?

Breathlessness, a main symptom of COPD, can also be caused by conditions such as: asthma, congestive heart failure, bronchiectasis, tuberculosis, obliterative bronchitis, diffuse panbronchiolitis, lung cancer, interstitial lung diseases, thyroid problems.^{1,2}



1. GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.

2. IPCRG. Desktop Helper No.17. Available at: <https://www.ipcr.org/dth17>. Accessed May 2024.

Have you also considered common risk factors for lung cancer?

Asthma and COPD share a number of common risk factors with those for the development of lung cancer:¹

- Age >55 years
- Smoking history >30 pack years (e.g. 1 pack per day for 30 years, or 2 packs per day for 15 years: see www.smokingpackyears.com)
- Presence of emphysema by CT scan
- Presence of airflow limitation $FEV_1/FVC < 0.7$
- BMI <25 kg/m²
- Family history of lung cancer

Remain aware of lung cancer as an option when diagnosing asthma or COPD.

1.GOLD. Global strategy for prevention, diagnosis and management of COPD. Available at: <https://goldcopd.org/>. Accessed May 2024.