

COPD EXACERBATION RISK SLIDER AIDE-MEMOIRE

The Chronic Obstructive Pulmonary Disease (COPD) Exacerbation Risk Slider Tool has been developed as part of a national movement led by the Primary Care Respiratory Society (PCRS) and AstraZeneca. It aims to stimulate conversations about managing and preventing COPD exacerbations, a national and global problem for COPD that far too often goes unchallenged. COPD exacerbations can have detrimental effects on COPD outcomes and patient quality of life.

These guidance notes provide the purpose of the COPD Exacerbation Risk Slider and considerations when using and discussing the tool with patients.

Good luck with your conversations using the COPD Exacerbation Risk Slider and thank you for participating in the programme.

Purpose of COPD Exacerbation Risk Slider

A key focus within the National COPD action plan is to reduce clinical inertia and focus on prevention. This includes proactive management of patients to prevent and reduce future risks of exacerbations, disease progression, and mortality.

GOLD 2024 states that the goals for treatment of COPD exacerbations are to minimize the current exacerbation's negative impact and prevent subsequent events². During a COPD review and following a COPD exacerbation, appropriate measures for exacerbation prevention should be promptly initiated². Preventative measures may help reduce lung function loss, delay disease progression, and reduce mortality and morbidity risks^{4,5,6}. It may also help to reduce the inappropriate use of oral corticosteroids and/or antibiotics.

The COPD Exacerbation Risk Slider is a tool that assesses the risk of future COPD exacerbations based on current risk factors and clinical considerations.

- Use proactively when reviewing a COPD patient, when performing an annual review, and post-COPD exacerbation

The risk categories were put together as a consensus by PCRS, from various studies that show that previous exacerbations (the biggest risk factor for future COPD exacerbations), SABA use, dyspnoea, validated symptom questionnaires (MRC and CAT scores), lung function and other related co-morbidities are all independent risk factors for COPD exacerbations. Currently there is no clinical study, validated evaluation or confirmed consensus on exactly which risk factors in combination will cause a COPD exacerbation. However, we assume a combination of these risk factors are likely to result in a COPD exacerbation, detrimental to patient outcomes as discussed below.

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A study by Suissa et al. 2012³ found that in 73106 patients hospitalised for the first time for a COPD exacerbation, 50% and 75% of patients had died after 3.6 years and 7.7 years respectively. These high mortality rates highlight the importance of proactively preventing COPD exacerbations.

The COPD Exacerbation Risk Slider is a guide to prevent future exacerbations and optimise COPD outcomes. They do not replace local or national guidelines, or individual clinical judgement.

What are the consequences of COPD exacerbations?

- One moderate exacerbation can increase the risk of hospitalisation by 21% and risk of death by 18% within one year¹¹.
- One moderate/severe exacerbation can cause permanent lung function decline^{5,6}.
- Can impact co-morbidities i.e. increased risk of cardiovascular events such as myocardial infarction⁷.
- Reduced quality of life for patients.
- Increased health care resource utilisation:
 - The second most common cause of emergency admissions and hospitalisations across the UK¹⁰.
 - 24.4% of patients were readmitted within 30 days of discharge from hospital, 43.1% within 90 days⁸.

What are the potential benefits of early diagnosis and early treatment of an exacerbation?

- Delay disease progression and reduce risk of morbidity and mortality.
- Reduce healthcare resource utilisation and hospital admissions.
- Improve overall quality of life for patients.

What are the risks of inappropriate OCS use?

- In patients with severe exacerbations, systemic corticosteroids can improve lung function (FEV1), oxygenation, and shorten recovery time including hospitalisation duration².
- However, frequent, and/or inappropriate use of rescue packs may have adverse effects due to the risks associated with systemic oral corticosteroids, and antibiotic antimicrobial resistance.
- Side effects of oral corticosteroids (OCS) can include pneumonia, osteoporosis, cataracts, weight gain, sleep disorder, anxiety and depression⁹.
- Use the COPD exacerbation risk slider to optimise management and potentially reduce avoidable rescue packs where possible.
- Ensure rescue packs are reserved for appropriate patients, and patients are aware of how to use them.

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Clinical considerations using the COPD risk slider (front page):

Exacerbations

- Determine quantity for the last 12 months.
- Can the patient recognise a COPD exacerbation?
- Discuss with the patient any undocumented exacerbations or any previously unrecognised exacerbations.
- Consider previous exacerbations both documented and undocumented, OCS prescriptions (short courses) and rescue packs.

SABA inhalers

- Determine quantity for the last 12 months.
- Discuss SABA use with the patient.
- Consider documented and undocumented SABA inhaler prescriptions.
- Consider SABA inhaler size i.e. 100 dose or 200 dose inhaler.

Symptoms; Medical Research Council (MRC) Score and COPD Assessment Test (CAT)

- Use validated questionnaires to determine symptom control.

Smoker/ ex-smoker

- Current smoker.
- Ex- smoker; use clinical judgement.
- Use clinical judgement for other types of smoking e.g. vaping etc.

FEV1

- Use if available, and most relevant/ current reading.

Activity

- Consider each patient's activity capability.
- Co- create a goal with the patient on what this looks like and use clinical judgement.

CVD/ other co-morbidity

- Consider co-morbidities relevant to COPD such as the following:
 - Cardiovascular disease including ischaemic heart disease, heart failure, myocardial infarction, and stroke.
 - Asthma
 - Other respiratory conditions e.g. lung cancer and bronchitis.
 - Reflux
 - Mental health disorders e.g. anxiety, depression etc .

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Eosinophils

- In patients with frequent exacerbations and elevated blood eosinophils addition of ICS to double bronchodilator regimen should be considered².
 - Please refer to COPD exacerbation risk slider, GOLD 2024 and/ or local guidance for more information regarding blood eosinophil levels.
- In patients on no therapy or on monotherapy, consider commencing or stepping up to dual therapy first².
 - Use GOLD 2024 and local guidelines.
- Link to GOLD 2024 report <https://goldcopd.org/2024-gold-report/>

Other considerations (back page):

Environmental and Occupational Hazards¹²

- Workers in certain industries may be exposed to hazardous airborne pollutants and chemicals such as gases, fumes and dust.
- Examples include exposure to silica dust in mining or construction, welding fumes, chemical solvents, pesticides and diesel exhaust.
- These substances can irritate and damage the respiratory system and increase the risk of developing or worsening COPD.
- For more information <https://www.hse.gov.uk/copd/causes.htm>

How to use COPD Exacerbation Risk Slider:

What is the current level of risk of a lung attack (COPD exacerbation)?

To determine risk level of the patient, first confirm number of exacerbations in the previous 12 months and then secondary to this, do they have ≥ 2 further risk factors?

Risk	AT RISK	HIGH RISK	VERY HIGH RISK
Exacerbations**	0	1-2	>2
SABA*	3-5	6-9	>10
MRC	1-2	≥ 3	≥ 3
Using exac history and ≥ 2 or more of the following--			
CAT	< 10	10-20	>20
Smoking	Non smoker	Smoker current/ex	Smoker current/ex
FEV1 pred	> 80%	50-79%	< 50%
Activity	Active	Inactive	Inactive
CVD/other comorbidity	No	Yes	Yes

Treat based on risk and eosinophil levels:

- In **HIGH RISK** or **VERY HIGH RISK** patients with EOS ≥ 100 cells/ μ L consider ICS
- ICS is recommended where EOS ≥ 300 cells/ μ L
- ICS is not recommended in patients with EOS <100 cells/ μ L

Document in clinical records the reason for continuing ICS treatment.

*In previous 12 months; + Includes exacerbations and number of acute OCS prescriptions/ rescue packs.

Abbreviations: COPD, Chronic Obstructive Pulmonary Disease; EOS, eosinophils; ICS, inhaled corticosteroids; OCS ADR's, Oral Corticosteroid Adverse Drug Reactions; CAT, COPD Assessment Test; FEV1, forced expiratory volume in 1 second; MRC, Medical Research Council Questionnaire; CVD, Cardiovascular Disease; SABA, short-acting β_2 -agonist; RSV, respiratory syncytial virus.

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Start a conversation with a colleague. This can be over a cup of coffee or why not start your practice meeting with a discussion on COPD exacerbations? Before showing them the COPD Exacerbation Risk Slider, challenge your colleagues to write down an answer to one of these questions.

- What are your goals and objectives when managing COPD patients? Does this include exacerbation prevention?
- What are the implications of COPD exacerbations?
 - Consider COPD outcomes, QOL for the patient and NHS resources.
- What are some of the risk factors that can increase exacerbation risk?

Now hand your colleagues their slider and get them to move the slider to their chosen category. Would they now change their answer? What are their thoughts?

Have a conversation with a patient.

- Are you able to recognise when you're having a COPD exacerbation?
- How do you usually manage your COPD exacerbations?
- Are you aware of the implications of COPD exacerbations, and why preventing them where possible is important?

Patients may not be able to prevent all COPD exacerbations, but managing the risk factors may help to reduce the quantity and severity over time.

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How to prevent the risk of future lung attacks (COPD exacerbations):

These treatments and plans should be revisited at every review, for each risk group:

- Check inhaler technique and medication adherence
- Offer treatment and support to stop smoking
- Offer pneumococcal, influenza, COVID-19 and RSV vaccinations
- Refer to pulmonary rehabilitation if appropriate
- Co-develop a personalised self-management plan
- Optimise treatment for comorbidities
- Signpost to mental health services if appropriate
- Consider occupational and environmental hazards

REMEMBER patients with an increased risk of exacerbations in the next 12 months include those who have:

- A past history of COPD exacerbations
(identify cause and trigger of these exacerbations where possible)
- Raised EOS counts and are not on ICS therapy
- Both COPD and cardiovascular disease

PRIORITY for all risk groups

- Lifestyle advice
- Activity advice
- Ensure self-management plan in place
- Exacerbation management advice
- Signpost to education resources such as Asthma and Lung UK
- Regular review
- Consider ceasing ICS if no indication

HIGH PRIORITY

- Titrate therapy if appropriate *(consider ICS in exacerbating patients (see front page))*
- If no additional benefit of ICS to LAMA/LABA therapy or ADR'S to ICS, discontinue
- Prescribe rescue pack if clinically indicated *(monitor OCS ADR's with prolonged use)*
- Repeat CAT test at 4 weeks and escalate to GP/Nurse specialist if required

VERY HIGH PRIORITY

- Titrate therapy *(consider ICS in exacerbating patients (see front page))*
- Prescribe rescue pack if clinically indicated *(monitor OCS ADR's with prolonged use)*
- Consider referral to specialist care if patient has a high frequency of exacerbations and/or uncontrolled symptoms despite treatment optimisation

Please note: This is an awareness piece and provides guidance only on a collection of risk factors, with the objective of supporting the direction of patient management. It DOES NOT replace local guidelines.

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When you have had the initial conversation with a person with COPD/nurse/GP/pharmacist turn over the COPD risk slider to show the reverse side and hold a new conversation about the risk category.

- Which risk category does the patient fall under?
- What modifications can be made to a patient's management to help reduce the risk of future COPD exacerbations?
 - Consider all pharmacological and non-pharmacological management.
 - Individualise to each patient.
- How can you work together (clinician and patient) to reduce future risk and improve overall COPD outcomes?

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Acronyms

COPD: Chronic pulmonary obstructive pulmonary disease

CVD: Cardiovascular disease

ICS: Inhaled corticosteroid

EOS: Eosinophils

OCS: Oral corticosteroids

SABA: Short-acting beta2 agonists

LAMA: Long-acting muscarinic agonist

LABA: Long-acting beta agonist

FEV1: Forced expiratory volume

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Appendix

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