

HEALTHCARE
PROFESSIONAL
USER GUIDE



COPD Assessment Test

Expert guidance on
frequently asked questions

Issue 3: February 2012

Introducing the COPD Assessment Test™ (CAT)

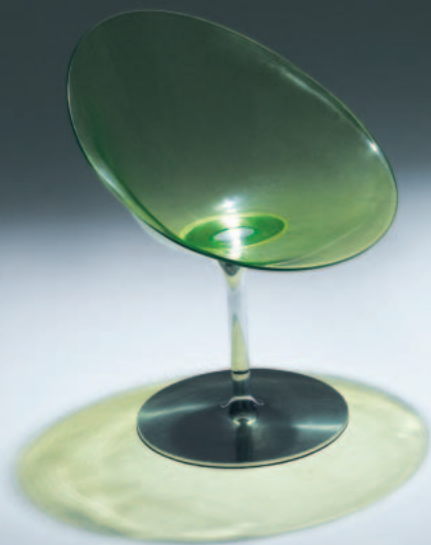
The COPD Assessment Test (CAT) is a patient-completed instrument that complements existing approaches to assessing COPD, such as FEV₁ measurement. It has been designed to provide a simple and reliable measure of health status in COPD and assists patients and their physicians in quantifying the impact of COPD on the patient's health. The CAT does not replace other COPD disease management tools such as smoking cessation or rehabilitation programmes.

The CAT has undergone a rigorous, scientific development process and the first validation studies show that it has properties very similar to much more complex health status questionnaires such as the St George's Respiratory Questionnaire (SGRQ)¹ that are used in research studies. It takes only a fraction of the time to complete, however, making it suitable for routine use. It is being used in COPD studies in Europe, USA and Asia.

Throughout its development, we have understood from discussions with primary care physicians, pulmonary specialists and patient groups from around the world that the precise way the CAT will be used will vary by healthcare setting and country. However, we felt

that some guidance for healthcare professionals on how to use and interpret CAT scores would be helpful. As such we have developed and updated this CAT User Guide, which is based upon our current knowledge of the CAT. We have refined our method of grading impact of COPD by CAT scores and provide a simple outline of potential management considerations/actions. These recommendations will be developed further as more evidence becomes available and clinicians gain more experience with the CAT. The guide is presented in the form of frequently asked questions in order to make it as accessible and applicable to your everyday practice as possible.

We look forward to hearing about your experiences using the CAT in your practice in the near future!



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On behalf of the CAT Development Steering Group

The COPD Assessment Test™ (CAT) – the basics

What is the CAT?

The CAT is a validated, short (8-item) and simple patient completed questionnaire, with good discriminant properties, developed for use in routine clinical practice to measure the health status of patients with COPD¹. Despite the small number of component items, it covers a broad range of effects of COPD on patients' health. Studies have shown that it is responsive to changes in the disease and to treatment like rehabilitation.^{6,8}

Why has the CAT been developed?

COPD represents a major burden on patients and healthcare systems. Despite the fact that it is projected to become the third leading cause of death by 2030², communicating the impact of COPD can be difficult and this can contribute to under-management of COPD in a significant proportion of people who may suffer increased disability and reduced quality of life as a result.

The care of COPD patients can only be optimised if there is a reliable, standardised measure of the overall effect of disease on each patient's health. Unfortunately, commonly used lung function measurements such as FEV₁ do not reflect the full impact of COPD.

As a result, there is a need for a simple-to-use tool which can measure the effect of COPD on the patient's health and enhance understanding between patients and physicians of the disease's impact, in order to manage patients optimally and reduce the burden of disease as much as possible. The CAT was developed to meet this need.

Development of the COPD Assessment Test™ (CAT)

How was the CAT developed?

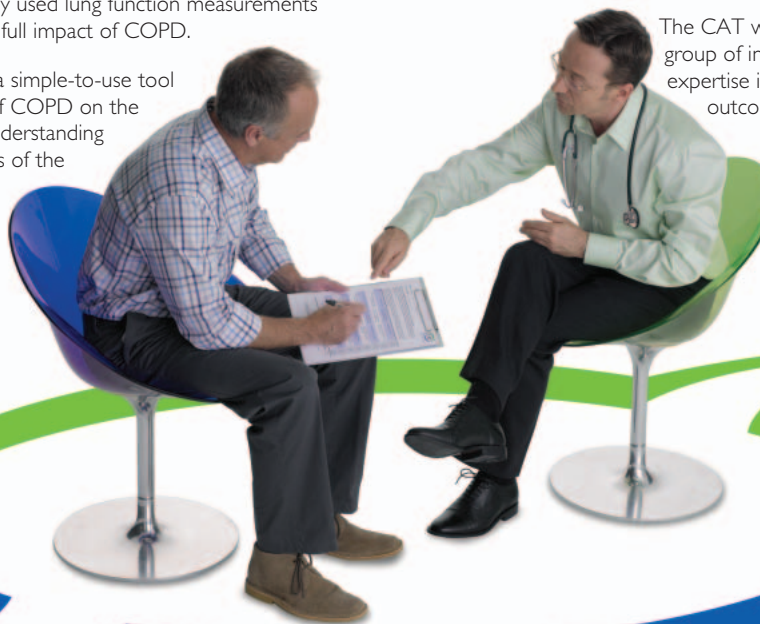
The development of the CAT has involved well accepted methodologies used to develop psychometric tools.^{1,3} The initial item generation process involved literature reviews, physician interviews and, most importantly, patient input.³ A structured, rigorous scientific approach was then used in the item reduction process to select the best items and generate the final 8-item questionnaire.¹

The CAT has been initially validated in prospective studies conducted in the USA and Europe¹ and in China⁴ but we believe that it is globally applicable.

The CAT has been translated and validated for use in more than 50 languages other than English. Only validated translations of the CAT should be used. For further details on validated translations please visit www.CATestonline.org.

Who developed the CAT?

The CAT was developed by a multidisciplinary group of international experts who have expertise in developing patient reported outcomes tools/questionnaires. The group included pulmonary specialists, primary care physicians and representatives from patient bodies. Patients with COPD were integral to the development and validation of the tool. The CAT development was commissioned and funded by GlaxoSmithKline.



Using the CAT in everyday practice: why, who and when?

Why should I use the CAT?

The CAT is a short, simple questionnaire which is quick and easy for patients to complete. It provides a framework for discussions with your COPD patients and should enable you and them to gain a common understanding and grading of the impact of the disease on their life. It should also help you to identify where COPD has the greatest effect on the patient's health and daily life. As a result you may be better informed when discussing and making management decisions with your patients and be able to ensure that his or her health status is as good as it can be.

Where and how does the CAT fit into the clinical assessment of COPD?

The CAT provides a reliable measure of the impact of COPD on a patient's health status.^{1, 12} It therefore provides supplementary information to that provided by other aspects of COPD clinical assessment recommended by current management guidelines (i.e. assessment of exacerbation risk and degree of airway obstruction, assessed using spirometry).⁹

The CAT does not replace COPD treatments but can help you monitor their effects, e.g. rehabilitation programmes or recovery from an exacerbation.^{6, 8}

For which patients is the CAT suitable?

The CAT is suitable for completion by all patients diagnosed with COPD.

Can the CAT be used in all COPD patients irrespective of disease severity?

Yes. The CAT has been developed and validated in COPD patients of all severities. Stable patients of all severities (defined by FEV₁) and exacerbating patients were included in the development population.^{1, 3, 6}

Does the CAT replace spirometry?

No. The CAT is not a diagnostic tool. Spirometry is essential for the diagnosis of COPD. The CAT and spirometry are complementary measures which can be used together in the clinical assessment of a patient's COPD to ensure that they are being optimally managed.

Can I use the CAT to diagnose COPD?

No. The CAT is a scientifically developed tool for measurement of health status. It is not a diagnostic instrument, unlike FEV₁ measurement - which is needed to confirm the diagnosis of COPD, as well as to assess the degree of airway obstruction.

Will the CAT help me make management decisions regarding any co-morbidities which my COPD patients may also have?

No. The CAT is a disease-specific tool to measure the impact of COPD on patients. It will not provide an assessment of co-morbid conditions or provide information to help guide any management decisions for co-morbid conditions.

How does the CAT compare with other health status measures used in COPD?

The CAT has very similar discriminative properties to the much more complex SGRQ which is often used in clinical trials showing that it will be able to measure the impact of COPD on individual patient's health. However, the CAT is much simpler and quicker to complete. This similarity enables us to describe what a patient's CAT score may mean and, more importantly, to interpret changes in CAT score.

Practical use of the CAT

When do I give the CAT to my patients to complete?

Experts involved in the development of the CAT recommend that you ask a COPD patient to complete a CAT questionnaire when they arrive for a check-up appointment for their COPD or immediately before attending. The CAT test can be completed and printed from the CAT website and takes only a couple of minutes. Patients could complete it whilst waiting to see you or at home prior to consultation. The completed CAT questionnaire can then provide a framework for your consultation.

Where can I access the CAT questionnaire?

You can download the CAT questionnaire from www.CATestonline.org

Will patients require much instruction to complete the CAT?

The content of the CAT questionnaire has been driven by COPD patients. It comprises 8 simple questions that most patients should be able to understand and answer easily. You should not need to assist patients to complete it. In fact it is much better if they complete this independently.

What is the scoring range of the CAT?

The CAT has a scoring range of 0-40.

What do CAT scores mean?

The implication of the CAT scores needs to be considered in relation to an individual's disease severity. Several studies have indicated that the relationship between lung function (FEV₁) and health status scores is generally weak.^{5,10} As recognised by the GOLD strategic document the lung function, exacerbation frequency and health status (CAT or mMRC) are complementary⁹ and all together help to define the severity of the disease in a particular patient.

How frequently should the CAT be used in patients?

The CAT Development Steering Group and the GOLD strategic document recommend that patients routinely complete the CAT questionnaire every 2 to 3 months to detect changes and trends in CAT score.⁹

What change in CAT score is meaningful?

Research is currently ongoing to define ranges of CAT score severity and to better understand the minimal clinically relevant change (often referred to as the Minimum Clinically Important Difference or MCID) in a CAT score from one visit to the next. There is a strong correlation between the CAT and SGRQ. Based on a minimal clinically important difference of 4 in the SGRQ, we believe that a difference or change of 2 or more suggests a clinically significant difference or change in health status.¹² We emphasise that this needs to be confirmed by further scientific studies, but we are confident that it is a reasonable indicative value of the MCID based upon current knowledge.

Can CAT be used to set a target score?

Since COPD is a progressive disease, a fixed target score for all patients cannot be set. In Practice, a target for improvement in individual patient CAT scores may be set, based on an holistic assessment of the patient. We believe a change of 2 units suggests a meaningful difference.

What if my patient's CAT score gets worse?

Based on the correlation with SGRQ the CAT score would not be expected to decrease by more than 1 unit per year.⁷ Worsening scores may indicate that patients are experiencing exacerbations that they have not reported to you. CAT scores may also worsen where a patient has stopped or is not taking their treatment effectively. Check inhaler technique as well as adherence to treatment. Where rapid disease progression is suspected, referral for specialist opinion may be required.

In addition, for each scenario, the CAT Development Steering Group has proposed some potential management considerations:¹¹

CAT score	Impact level	Broad clinical picture of the impact of COPD by CAT score	Possible management considerations
>30	Very high	Their condition stops them doing everything they want to do and they never have any good days. If they can manage to take a bath or shower, it takes them a long time. They cannot go out of the house for shopping or recreation, or do their housework. Often, they cannot go far from their bed or chair. They feel as if they have become an invalid.	<p>Patient has significant room for improvement</p> <p>In addition to the guidance for patients with low and medium impact CAT scores consider:</p> <ul style="list-style-type: none"> Referral to specialist care (if you are a primary care physician) <p>Also consider:</p> <ul style="list-style-type: none"> Additional pharmacological treatments Referral for pulmonary rehabilitation Ensuring best approaches to minimising and managing exacerbations
>20	High	COPD stops them doing most things that they want to do. They are breathless walking around the home and when getting washed or dressed. They may be breathless when they talk. Their cough makes them tired and their chest symptoms disturb their sleep on most nights. They feel that exercise is not safe for them and everything they do seems too much effort. They are afraid and panic and do not feel in control of their chest problem.	<p>Patient has room for improvement – optimise management</p> <p>In addition to the guidance provided for patients with low impact CAT scores consider:</p> <ul style="list-style-type: none"> Reviewing maintenance therapy – is it optimal? Referral for pulmonary rehabilitation Ensuring best approaches to minimising and managing exacerbations Reviewing aggravating factors – is the patient still smoking?
10-20	Medium	COPD is one of the most important problems that they have. They have a few good days a week, but cough up sputum on most days and have one or two exacerbations a year. They are breathless on most days and usually wake up with chest tightness or wheeze. They get breathless on bending over and can only walk up a flight of stairs slowly. They either do their housework slowly or have to stop for rests.	<ul style="list-style-type: none"> Smoking cessation Annual influenza vaccination Reduce exposure to exacerbation risk factors Therapy as warranted by further clinical assessment.
<10	Low	Most days are good, but COPD causes a few problems and stops people doing one or two things that they would like to do. They usually cough several days a week and get breathless when playing sports and games and when carrying heavy loads. They have to slow down or stop when walking up hills or if they hurry when walking on level ground. They get exhausted easily.	
5		Upper limit of normal in healthy non-smokers	

What effect does an exacerbation have on CAT scores?

We know from the first CAT validation study that CAT scores in patients with moderate-severe exacerbations are approximately 5 units higher than in those who have stable COPD.¹ In this study patients responding to treatment for their exacerbation reduced their CAT score by 2 units in 14 days, whilst patients who did not respond had no change in score.⁶ Research studies have also shown that it may take many weeks for patients to recover fully from a single moderate-severe exacerbation and some patients may never recover fully. Therefore another potential application of the CAT may be to assess the degree of recovery following an acute exacerbation by re-assessing the CAT score 2-3 months after the event.

Will I be able assess response to therapy with the CAT?

We know that the CAT has good repeatability¹, which is similar to that for the FEV₁ and, based upon our current knowledge, we believe that the relative size of its response to therapy will also be similar to that of the FEV₁. In a study of patients undergoing rehabilitation, CAT scores decreased by 3 units over 42 days in patients reporting an improvement in their COPD. In patients who reported worsening of COPD over the same period CAT scores increased by 2 units.⁶ In assessing whether an *individual patient* has had a worthwhile response to a specific therapy, a thorough individual assessment taking a number of factors into account – including change in CAT score – will be required. However, the CAT *will* provide a measure of the individual patient's health that will be very useful in initial assessment and for following medium to long-term trends. It should also provide a prognostic measure of future health resource use in *individual patients*. The design of the CAT may also allow clinicians to readily identify areas of a patient's health that are more severely impaired than others, such as mood, daytime physical function or sleep.

Can I just use a few of the questions included in the CAT?

No. The CAT should be used in its entirety. The CAT was validated as an 8-item questionnaire and the questions should not be split up or used independently of each other which will reduce the integrity and measurement properties of the questionnaire. However, responses to the individual items can be used to provide you with an indication of the areas of the patient's health that are more affected than others. For example, one patient may have higher scores for cough and sputum, whereas another may have highest scores for the items about activity or sleep.

Is the CAT free to use?

Yes. The CAT is available and free to use globally (no charges will be associated with its use).

Do I need permission to use the CAT?

No. The CAT can be used for clinical or research purposes without permission, as long as you respect the integrity of the test. All trademark and copyright information must be maintained as they appear on the bottom of the CAT questionnaire. However for commercial use you should seek permission from GSK.

Is the CAT available in different languages?

Yes. The CAT is available in more than 50 different languages. Only approved translations of the CAT questionnaire should be used to ensure the validity and measurement properties of the questionnaire are maintained. For further details on validated translations please visit www.CATestonline.org.

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COPD Assessment Test

Improving COPD communication,
supporting care

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