

COPD DIAGNOSIS AND MANAGEMENT CHECKLIST

Anyone who smokes and/or has shortness of breath and sputum production could have COPD

C onfirm Diagnosis

Presence and history of symptoms:

- Shortness of breath
- Cough
- Sputum production

Smoking – history and willingness to quit:

- Smoker
 - Willingness to quit: high medium low
- Previous smoker
- Non-smoker
- Other smoking-related disease

Occupational Exposures:

- Yes No

Spirometry:

- Measure FEV₁ and FEV₁/FVC
 - COPD is defined as post-bronchodilator FEV₁/FVC <70% and FEV₁ <80% predicted.
- Assess reversibility of airflow limitation
 - Reversibility is defined as $\geq 12\%$ improvement in FEV₁ and at least a 200ml increase post Bronchodilator.
 - If fully reversible (to normal values) treat as asthma.
- Stages of COPD
 - FEV₁ % of predicted post-bronchodilator
 - Stage I - $\geq 80\%$ = Mild
 - Stage II - <80% = Moderate
 - Stage III - <50% = Severe
 - Stage IV - <30% = Very Severe
- If FEV₁ <50% predicted plus chronic respiratory failure, patient may have very severe Stage IV COPD even if the FEV₁ is >30% predicted whenever this complication is present.

O ptimize Health

- Review appropriate medication use
- Discuss barriers to adherence
- Review exercise status; encourage activity
- Check current device use
- Discuss nutrition
- Consider education/pulmonary rehab
- Consider referral to specialist

P revent Deterioration

Essential steps

- Annual influenza vaccination
- Pneumococcal vaccination
- Long-term home oxygen as indicated

Risk factor reduction

- Check current smoking status
- Determine home exposure to environmental tobacco smoke
- Advise of risks of smoking and benefits of stopping
- Refer to California Smokers' Helpline (800)662-8887 or (800)844-CHEW
- Advise about pharmacological treatments for nicotine dependence
- Address occupational exposures

D evelop Self-management Plan and Action Plan

- Assist in the development of self-management and action plans
- Schedule follow up visit
- Ensure understanding of exacerbations, importance of early action and treatment at home if possible

COPD FLOW SHEET

To prompt Tobacco/COPD status assessment and delivery of assistance

Patient ID:	Patient Name:	Date:
DOB:	Gender:	Alpha 1 antitrypsin measure:
Tobacco Status <input type="checkbox"/> Currently using tobacco <input type="checkbox"/> Quit <12 mos. ago. Not smoking now <input type="checkbox"/> Quit ≥12 mos. ago. Not smoking now <input type="checkbox"/> Never smoked	Tobacco Type (all that apply) <input type="checkbox"/> Cigarette <input type="checkbox"/> Cigar/Pipe <input type="checkbox"/> Smokeless amount/day _____	ETS Exposure # in household: _____
Tobacco History Age began: _____ # of quit attempts: _____ Quit attempts (Dates, successes, challenges, etc.): _____		
Visit Date:		
IMMUNIZATIONS		
Influenza		
Pneumococcal		
TOBACCO: Assess and Assist		
Status (each visit)		
Assist (brief counsel, medication-each visit)		
Helpline (provide resources)		
LABS		
FEV ₁ (pre/post as indicated)		
COPD Stage (per spirometry)		
SELF-MANAGEMENT SUPPORT AND PATIENT EDUCATION		
Self-Management goal setting (annual)	Date:	
Education session or referral	Date:	
Pulmonary Rehab referral	Date:	
Better Breathers referral	Date:	

GOLD Therapy at Each Stage of COPD

I: Mild	II: Moderate	III: Severe	IV: Very Severe
<ul style="list-style-type: none"> FEV₁/FVC <70% FEV₁ ≥80% predicted 	<ul style="list-style-type: none"> FEV₁/FVC <70% 50% ≤FEV₁ <80% predicted 	<ul style="list-style-type: none"> FEV₁/FVC <70% 30% ≤ FEV₁ 50% predicted 	<ul style="list-style-type: none"> FEV₁/FVC <70% FEV₁ <30% predicted or FEV₁ <50% predicted plus chronic respiratory failure
Active reduction of risk factor(s): influenza vaccination →			
Add short-acting bronchodilator (when needed) →			
Add regular treatment with one or more long-acting bronchodilators (when needed); Add rehabilitation		Add inhaled glucocorticosteroids if repeated exacerbations	

Chronic Obstructive Pulmonary Disease
- COPD ACTION PLAN -
Actions for you to take when your symptoms increase

Name: _____ Severity _____ Latest FEV₁ _____ Date _____

SYMPTOMS

- Breathe easily during usual activities
- Mucus is clear/white, easy to cough up, small in amount
- Able to think clearly
- Can do usual activities without getting tired



ACTION TO CONTINUE

1. Continue with your usual activities including physical activities
2. Take medicines as ordered by your health care provider

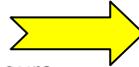
WORSENING SYMPTOMS

- More shortness of breath, wheezing or coughing as usual



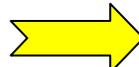
1. Take nebulizer treatment or rescue inhaler
2. Use pursed lip breathing and relaxation exercises
3. Pace yourself and limit activities
4. Contact your health care provider/doctor

- Mucus is thicker or stickier than usual
- Mucus is green, yellow or brown for more than 12 hours
- Blood in mucus
- Fever develops and is above 100.4



1. Increase fluids, if no fluid limit (non-caffeine drinks)
2. Consider medicine to thin mucus
3. Start antibiotic if ordered by your doctor
4. Call your doctor to inform about changes in symptoms

- More forgetful, restless, less able to concentrate
- Gained or lost weight for no reason; swelling in feet or ankles
- Tired and not able to finish usual activities without resting
- Feels that , in general, health has worsened
- Difficulty sleeping
- Morning headaches, dizzy spells or restlessness



1. Contact your doctor: _____
2. Call a family member, if available

SEVERE SYMPTOMS

- Breathing does not improve with treatment
- Chest pain
- Feel like you are going to faint
- Frightened by not being able to breathe
- Frightened by how tired or drowsy you feel
- Confusion



ACTIONS TO TAKE

1. Call your doctor NOW
Phone #: _____
2. Call 911 if unable to take to doctor or nurse right away OR go to the nearest (ER) emergency room

Medications recommended by your health care provider/doctor

Signature _____

Date _____

This survey asks questions about you, your breathing and what you are able to do. To complete the survey, mark an X in the box that best describes your answer for each question below.

1. During the past 4 weeks, how much of the time did you feel short of breath?

None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 2

2. Do you ever cough up any 'stuff,' such as mucus or phlegm?

No, never	Only with occasional colds or chest infections	Yes, a few days a month	Yes, most days a week	Yes, every day
<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 2

3. Please select the answer that best describes you in the past 12 months. I do less than I used to because of my breathing problems.

Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2

4. Have you smoked at least 100 cigarettes in your ENTIRE LIFE?

No	Yes	Don't know
<input type="checkbox"/> 0	<input type="checkbox"/> 2	<input type="checkbox"/> 0

5. How old are you?

Age 35 to 49	Age 50 to 59	Age 60 to 69	Age 70+
<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 2

How to score the survey: In the spaces below, write the number that is next to your answer for each of the questions. Add the numbers to get the total score. The total score can range from 0 to 10.

_____	+	_____	+	_____	+	_____	+	_____	=	_____
#1		#2		#3		#4		#5		TOTAL SCORE

If your total score is between 0 and 4: Although you may have a low score, if you experience problems with your breathing, please share the results of this survey with your doctor—along with your smoking history and breathing problems. Your doctor can help evaluate any type of breathing problem you may have (you may require a breathing test).

If your total score is between 5 and 10: You may have breathing problems that could be related to COPD (which includes chronic bronchitis and emphysema). The higher your score, the more likely it is that you have COPD. This is a serious lung disease that gradually gets worse over time. COPD is the 2nd leading cause of disability and 4th leading cause of death in the U.S. Please share the results of this survey with your doctor, who can help evaluate your breathing problems by performing a simple breathing test (known as spirometry) and confirm if you have COPD.

The COPD screener you took has been tested and validated in a general population of patients 35 years and older.

Spirometry Tests

A spirometry is a functional test of the lungs. The most important spirometry test is the [FVC](#) (Forced Vital Capacity).

Other tests include the [CV](#) (Vital Capacity or Slow Vital Capacity) and [MVV](#) (Maximum Voluntary Ventilation).

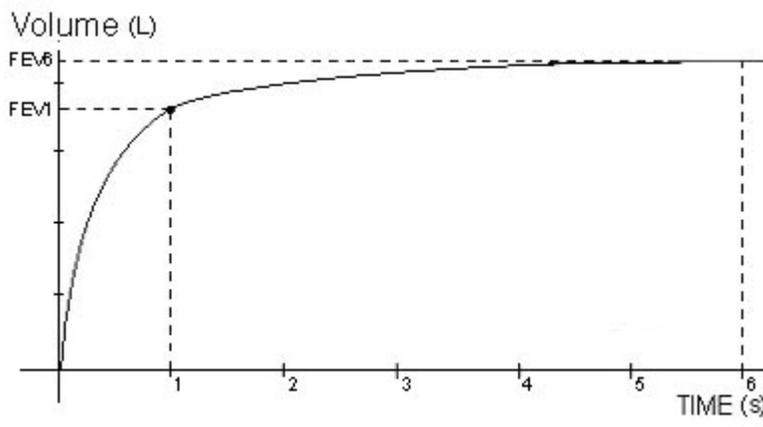
Forced Vital Capacity

The Forced Vital Capacity consists of a forced expiration in the spirometer. The patient either sits or stands. He inspires fully and expires all the air out of the lungs as fast as he can.

The results of the test are compared to the predicted values that are calculated from his age, size, weight, sex and ethnic group.

Two curves are shown after the test: the flow-volume loop and volume-time curve.

The Volume-Time curve explained:



The volume expired in the first second of the FVC test is called FEV1 (Forced Expiratory Volume in the first second) and is a very important parameter in spirometry.

The FEV1% is the FEV1 divided by the VC (Vital Capacity: see next spirometry test on this page) times 100: $FEV1\% = FEV1/VC \times 100$. Nowadays $FEV1/FVC \times 100$ is also accepted as FEV1%.

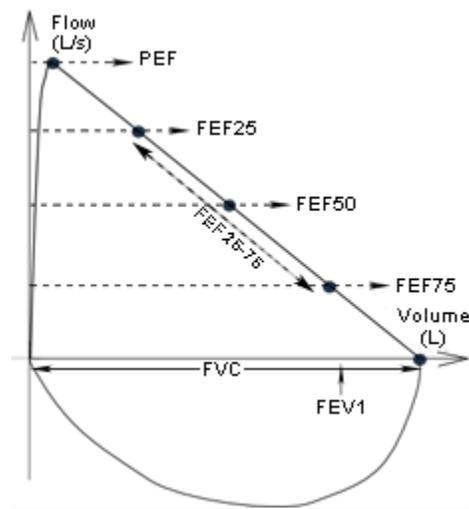
A healthy patient expires approximately 80% of all the air out of his lungs in the first second during the FVC maneuver.

A patient with an obstruction of the upper airways has a diminished FEV1%.

A FEV1% that is too high is suggestive for a restriction of the pulmonary volume.

After 6 seconds a second parameter is obtained: FEV6. This is more and more used as an alternative for FVC. FEV1/FEV6 can then be used instead of FEV1/FVC.

The Flow-Volume loop explained:



This is the most important curve in spirometry.

A normal Flow-Volume loop begins on the X-axis (Volume axis): at the start of the test both flow and volume are equal to zero. Directly after this starting point the curve rapidly mounts to a peak: Peak (Expiratory) Flow. If the test is performed correctly, this PEF is attained within the first 150 milliseconds of the test. The Peak Flow is a measure for the air expired from the large upper airways (trachea-bronchi).

After the PEF the curve descends (=the flow diminishes) as more air is expired. After 25% of the total expired volume, the parameter FEF25 is reached.

Halfway the curve (when the patient has expired half of the volume) the FEF50 is reached: Forced Expiratory Flow at 50% of the FVC.

After 75% the parameter FEF75 is reached.

The mean flow between the points FEF25 and FEF 75 is also a very important parameter and is called the FEF2575. This is actually the first parameter that will decline in many respiratory diseases.

It is important to realise that there is no time axis on the flow-volume loop so one can not interpret time intervals. A healthy patient will expire between 70 and 90% of the FVC in the first second of the test. This means that he takes roughly about 5 seconds to expire the last 10 to 30 % of the FVC. The point where the FEV1 is reached is shown on the curve as an illustration.

When the flow reaches zero, the FVC is reached (Force Vital Capacity): the patient has blown out as much air as he can.

After this it is recommended that the patient makes a complete and forced inspiration (to obtain a closed flow-volume loop), but the test can be interpreted without this as well.

The morphology of the flow-volume loop is very important. To the trained eye the flow-volume loop tells immediately if the test was well done.

If the flow-volume loop is concave, a bronchial obstruction can be suspected (ie. in the case of COPD).

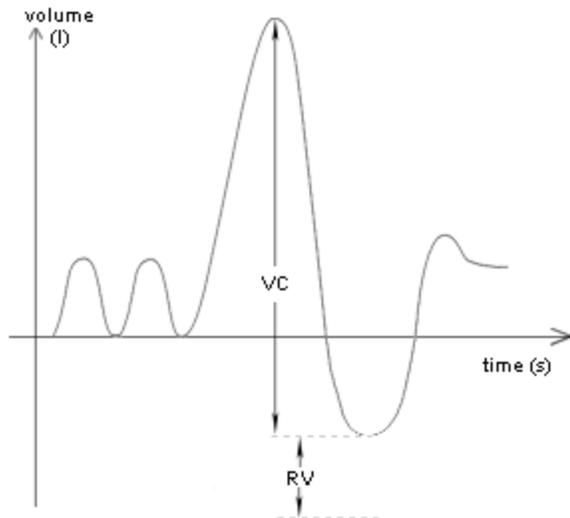
(Slow) Vital Capacity:

This test resembles the FVC. The difference is that the expiration in the spirometer is done slowly. The patient inspires fully and than slowly expires all the air in his lungs (Inspiratory Vital Capacity) or the other way around: the patient expires fully and inspires slowly to a maximum (Expiratory Vital Capacity).

Even if the patient has expired fully, there is always some air left in the lungs. This is the Residual Volume. The total Lung Capacity is equal to the (F)VC + the Residual Volume. The Residual Volume is about 20-25% of the Lung Capacity.

It is impossible to measure the RV with a spirometer. More sophisticated methods like the helium dilution test or body plethysmography are needed to measure the RV.

If the VC is different from the FVC a collapse of the small airways is suspected (if both tests were performed correctly).



Maximum Voluntary Ventilation:

For this test the patient inspires and expires in the spirometer over and over again as fast as he can, during at least 12 seconds.

This is no longer a very common test as it can be dangerous for some people.

Sometimes the MVV is still done in athletes.

Partnership HealthPlan of California

Pulmonary Rehabilitation Questionnaire

Patient's Name: _____ Date: _____

M or F Weight: _____ Height: _____ Age: _____ DOB: _____

	YES	NO
Does the patient have severe, stage III COPD, demonstrated by FEV1 of less than 50% of predicted value. Pulmonary Function Testing (PFT) results must be submitted with TAR.	<input type="checkbox"/>	<input type="checkbox"/>
Does the patient have decreased quality of life due to problems with control of COPD?	<input type="checkbox"/>	<input type="checkbox"/>
Does the patient have worsening pulmonary symptoms?	<input type="checkbox"/>	<input type="checkbox"/>
Has maximized pharmaceutical treatment been used?	<input type="checkbox"/>	<input type="checkbox"/>
Is the patient no longer smoking cigarettes or at least actively quitting by evidence of use of tobacco cessation product?	<input type="checkbox"/>	<input type="checkbox"/>
Is the patient unable to walk more than 300 feet?	<input type="checkbox"/>	<input type="checkbox"/>