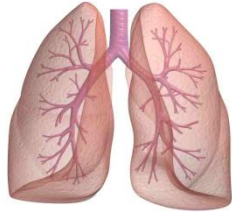


A. Lunglife Background



A lunglife reading reveals details about the patient's lung health. Smoking accelerates the age-related decline in lung function, being the major cause of COPD (Chronic Obstructive Pulmonary Disease.) A healthy respiratory system can exhale a large amount of air quickly and easily. If the readings are significantly lower than those of comparable healthy people, or if the bronchial tubes could be obstructed or more narrow. A low lunglife reading means you are exhaling less or slower than a healthy person.

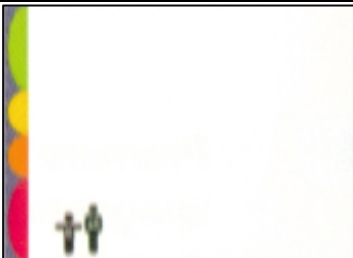
B. Monitor & Patient Setup | Entering - AGE, HEIGHT, GENDER, & POPULATION GROUP



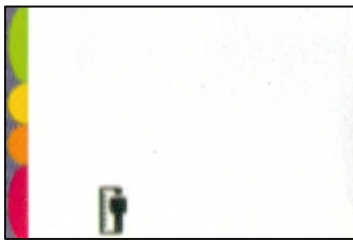
1. **Switch the device on by pressing the round on/off button.**

-Navigation Keys:

- Use the *up* ▲ and *down* ▼ *arrow keys* to navigate through options. To *move faster*, either up or down, simply *press and hold* the corresponding *arrow keys* until the desired number appears on screen.
- Use the *return arrow* ← key to enter your selection and move to next menu.

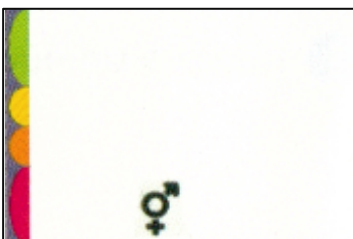


2. **Select the user's age.** Use the ▲ and ▼ keys to change the age, and press ← to set the value.



3. **Select the user's height.** Use the ▲ and ▼ keys to change the height, and press ← to set the value.

-Note: The test is compatible with both **inches** and **centimeters**. If the value selected is greater than 100, the monitor assumes the test will be done in centimeters. If the value selected is less than 100, the monitor assumes that the test will be done in inches.



4. **Set the user's gender.** Change the gender using the ▲ and ▼ keys, and press ← to set the value.

-Note: Male = ♂ | Female = ♀

No.	Population Group
1	European
2	Asian
3	African
4	Chinese
5	Japanese

5. **Select the user's population group.** The population group is determined by the user's ethnicity. Set the population group by using the ▲ and ▼ keys to select the correct *number* corresponding with the chart to the left, , and press ← to set the value.

C. Performing the Test



1. **Attach a new coVita mouthpiece to the monitor.** The mouthpiece should fit snugly to ensure that breath does not escape before it reaches the wheel.

2. **Explain to the user the proper breath technique:**

Breathe in as deeply as possible. Fill your lungs with as much air as possible. Be sure your lips are closed over the end of the tube. Exhale as quickly as possible. Blow the air into the tube like a straw. Blow hard and fast for at least six seconds. Exhale as forcefully as possible until the lungs are emptied.

-**Tip:** Some people find it helpful to pinch their noses or use a nose clip when exhaling into the monitor. Also, sitting is recommended, due to some people becoming lightheaded.

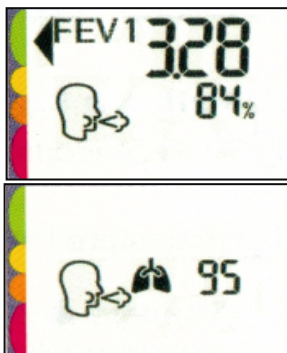
-**Note:** An “!” will appear on the screen for a “bad blow.” Reasons a bad blow may be detected are a cough, delayed start, etc. Do not obstruct the tube opening with your tongue, teeth, dentures or lips.

-**Also:** Breaths that are forceful but too short (shorter than 1-2 seconds) or long but too unassertive will fail to produce accurate results.

3. **Repeat the test two more times.** This makes sure the tests results were not a fluke but an accurate representation of lung health.

4. **Show the user the “best test.”** Select the ← key to display this result.

D. Viewing the Results



1. **Force Expiratory Value (FEV1) or volume per second and % predicted values will appear.**

2. Press ▲ key 1x to view the Peak Expiratory Value (PEF).

3. Press ▲ key 1x to view the estimated lung age.

4. Turn the device “off” by holding the “on/off” button for 3 seconds or press and release “on/off” button to enter information for the next test subject.

5. **Return to the most recent test.** After the monitor is turned on, hold ← for 3 seconds. The most recent results will appear. Press and hold ← for 3 seconds again to begin a new test.

-**Note:** See charts F, G, H, I for graphic comparisons.

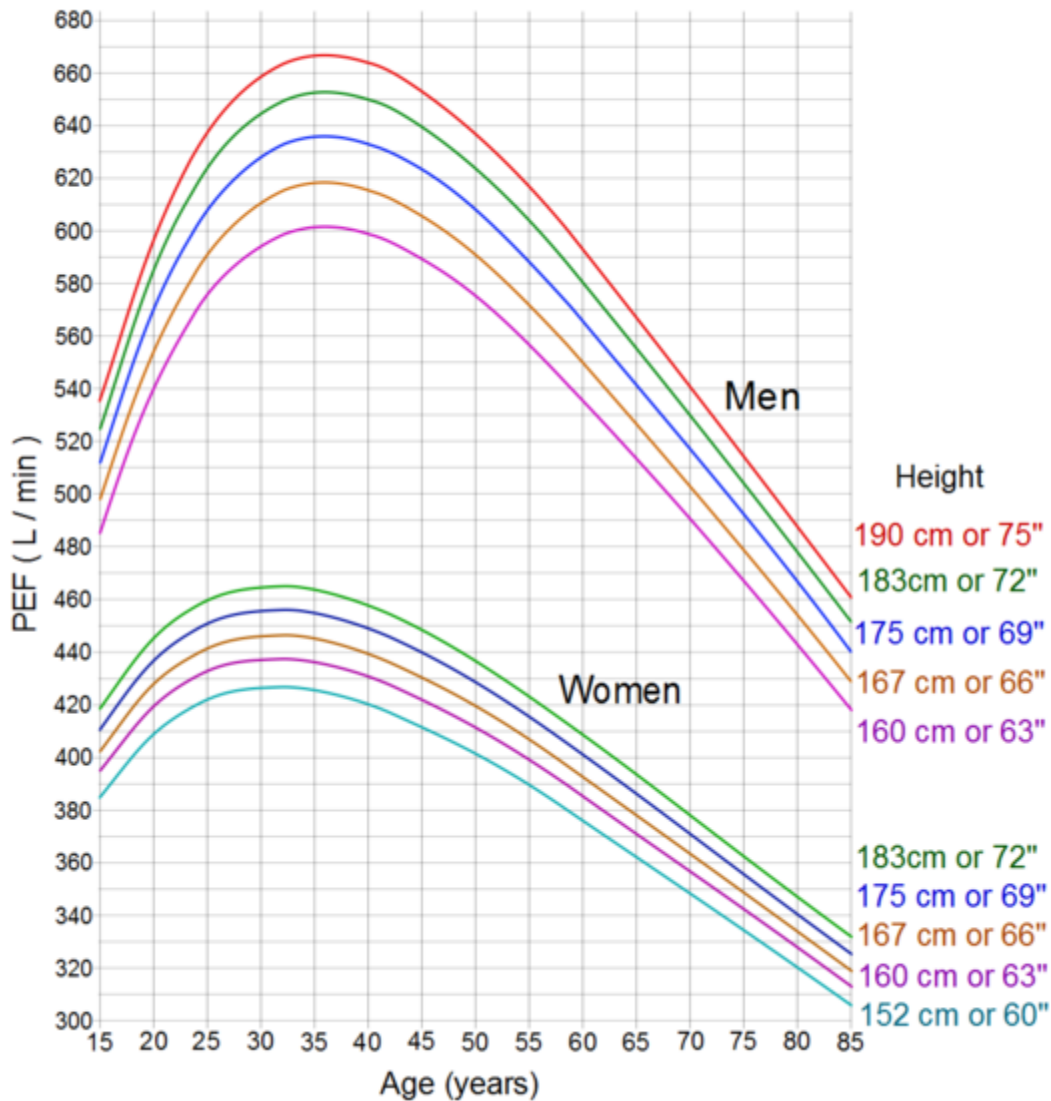
E. Infection Control



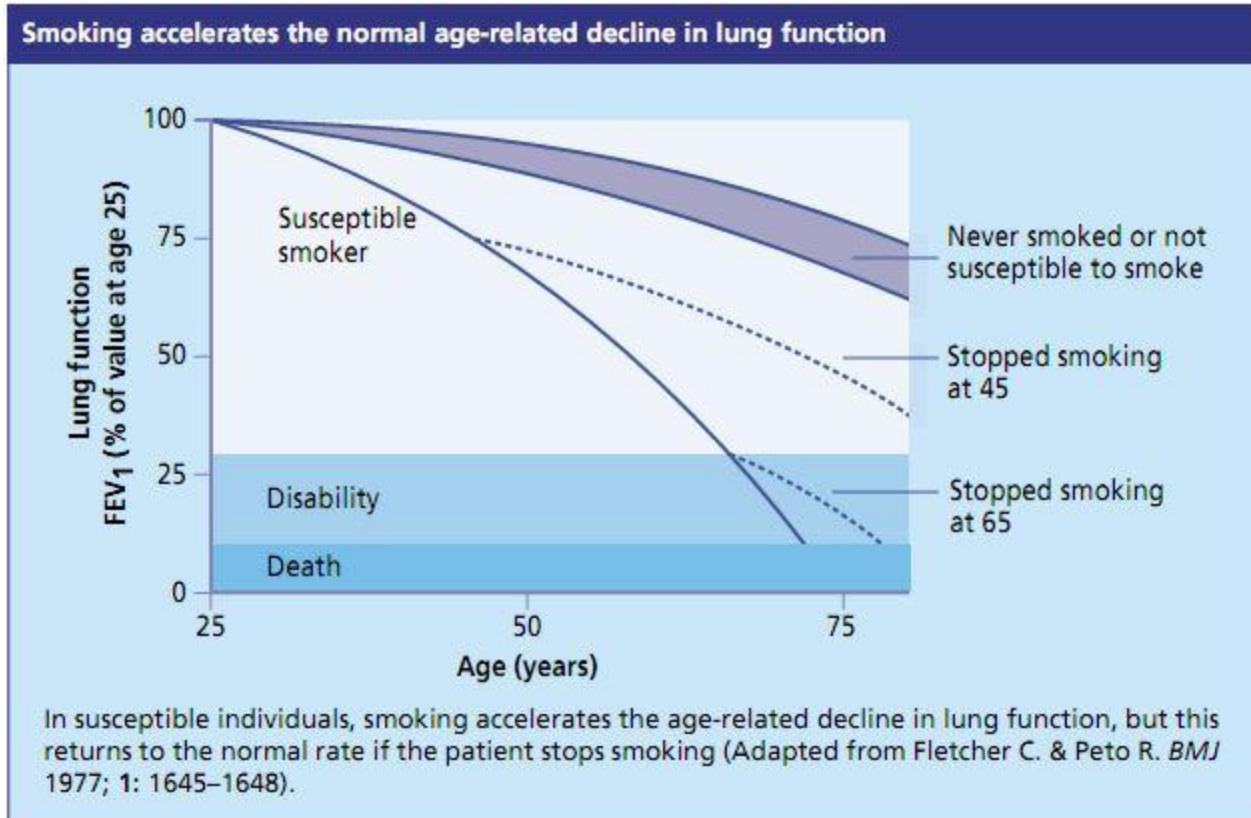
Cleaning the monitor: Using a disinfecting wipe, clean the outside surfaces of the monitor, especially the mouthpiece area. The device should be cleaned every week. coVita supplies alcohol free wipes and hand sanitizers.

F. Peak Expiratory Flow (PEF)

Normal values for peak expiratory flow (PEF)
EN 13826 or EU scale



G. Force Expiratory Value (FEV1)



Continued....

H. Male | Chart

PREDICTED NORMAL VALUES

These values apply to Caucasians.
Reduce values by 7% for Asians and by 13% for Afro-Caribbeans.

Male			Height						
			5'3" 160cm	5'5" 165cm	5'7" 170cm	5'9" 175cm	5'11" 180cm	6'1" 185cm	6'3" 190cm
Age	38-41 years	FVC	3.81	4.10	4.39	4.67	4.96	5.25	5.54
		FEV ₁	3.20	3.42	3.63	3.85	4.06	4.28	4.49
	42-45 years	FVC	3.71	3.99	4.28	4.57	4.86	5.15	5.43
		FEV ₁	3.09	3.30	3.52	3.73	3.95	4.16	4.38
	46-49 years	FVC	3.60	3.89	4.18	4.47	4.75	5.04	5.33
		FEV ₁	2.97	3.18	3.40	3.61	3.83	4.04	4.26
	50-53 years	FVC	3.50	3.79	4.07	4.36	4.65	4.94	5.23
		FEV ₁	2.85	3.07	3.28	3.50	3.71	3.93	4.14
	54-57 years	FVC	3.39	3.68	3.97	4.26	4.55	4.83	5.12
		FEV ₁	2.74	2.95	3.17	3.38	3.60	3.81	4.03
	58-61 years	FVC	3.29	3.58	3.87	4.15	4.44	4.73	5.02
		FEV ₁	2.62	2.84	3.05	3.27	3.48	3.70	3.91
	62-65 years	FVC	3.19	3.47	3.76	4.05	4.34	4.63	4.91
		FEV ₁	2.51	2.72	2.94	3.15	3.37	3.58	3.80
66-69 years	FVC	3.08	3.37	3.66	3.95	4.23	4.52	4.81	
	FEV ₁	2.39	2.60	2.82	3.03	3.25	3.46	3.68	

For men over 70 years predicted values are less well established but can be calculated from the equations below (height in cms; age in years):

FVC = (0.0576 x height) - (0.026 x age) - 4.34 (SD: ± 0.61 litres)

FEV₁ = (0.043 x height) - (0.029 x age) - 2.49 (SD: ± 0.51 litres)

I. Female | Chart

PREDICTED NORMAL VALUES

These values apply to Caucasians.

Reduce values by 7% for Asians and by 13% for Afro-Caribbeans.

Female			Height						
			4'11" 150cm	5'1" 155cm	5'3" 160cm	5'5" 165cm	5'7" 170cm	5'9" 175cm	5'11" 180cm
Age	38-41 years	FVC	2.69	2.91	3.13	3.35	3.58	3.80	4.02
		FEV ₁	2.30	2.50	2.70	2.89	3.09	3.29	3.49
	42-45 years	FVC	2.59	2.81	3.03	3.25	3.47	3.69	3.91
		FEV ₁	2.20	2.40	2.60	2.79	2.99	3.19	3.39
	46-49 years	FVC	2.48	2.70	2.92	3.15	3.37	3.59	3.81
		FEV ₁	2.10	2.30	2.50	2.69	2.89	3.09	3.29
	50-53 years	FVC	2.38	2.60	2.82	3.04	3.26	3.48	3.71
		FEV ₁	2.00	2.20	2.40	2.59	2.79	2.99	3.19
	54-57 years	FVC	2.27	2.49	2.72	2.94	3.16	3.38	3.60
		FEV ₁	1.90	2.10	2.30	2.49	2.69	2.89	3.09
	58-61 years	FVC	2.17	2.39	2.61	2.83	3.06	3.28	3.50
		FEV ₁	1.80	2.00	2.20	2.39	2.59	2.79	2.99
	62-65 years	FVC	2.07	2.29	2.51	2.73	2.95	3.17	3.39
		FEV ₁	1.70	1.90	2.10	2.29	2.49	2.69	2.89
66-69 years	FVC	1.96	2.18	2.40	2.63	2.85	3.07	3.29	
	FEV ₁	1.60	1.80	2.00	2.19	2.39	2.59	2.79	

For women over 70 years predicted values are less well established but can be calculated from the equations below (height in cms; age in years):

$$FVC = (0.0443 \times \text{height}) - (0.026 \times \text{age}) - 2.89 \text{ (SD: } \pm 0.43 \text{ litres)}$$

$$FEV_1 = (0.0395 \times \text{height}) - (0.025 \times \text{age}) - 2.60 \text{ (SD: } \pm 0.38 \text{ litres)}$$