

Spirotel Spirometer

This Health Fact explains how to check your lung function. After having a lung transplant you will need to check your lung function every day. Many patients who have rejection do not feel any different. Patients often are not aware they are rejecting their new lungs. Rejection causes swelling in the airways of the lungs. A decrease in your lung value is a sign of rejection.

You have been given a Spirotel spirometer to look at your lung function. Using this tool, you will look at:

- **Forced expiratory volume in one second (FEV1):** This measures the volume of air that is exhaled during the first second that you are forcing air out of your lungs.
- **Peak expiratory flow (PEF):** This measures how fast the air comes out of your lungs.

How to Use the Spirotel Spirometer

1. Take the cap off the spirometer and place the mouth piece in.
2. Press the on button on the bottom of the device.
3. Make sure you are sitting straight up.
4. When you are ready to perform your test, push the SPIRO button on the screen.
5. “INSPIRE all the air EXPIRE with force all the air” will show on the screen.
6. As soon as you see this message, take the deepest breath you can. Fill your lungs full of air. Then blow the air out of your lungs as fast and as hard as you can. Do this until you cannot blow any more out.

7. You will hear a series of rapid beeps while you are blowing out. Then you will hear a solid long beep. When you hear the long beep, take a deep breath in.
8. When you are done with the test, the spirometer will display your results. Record all the numbers in your transplant binder.
9. You will need to do this test two more times. Record the highest numbers for your FEV1 and PEF on your record sheet.
10. Press and hold the power button on the bottom of the unit. This will shut the device off.

How to Check Your Spirometry Results

You will be looking for a 10% decline in your results. Swelling in the lungs may be caused by things other than rejection. For instance, a cold or infection can also cause swelling. With a 10% or more decrease in your spirometry numbers, you need to call your transplant coordinator. The transplant coordinator will figure out what is causing the drop. With rejection, quick treatment prevents further lung damage.

How do you know you have a 10% change?

1. Compare the “best” FEV1 value for today to the value that you got yesterday. If the “best” FEV1 today is higher than the “best” for yesterday, good for you!
2. If your “best” FEV1 for today is lower than the “best” for yesterday, refer to your FEV1 chart.

3. To use the FEV1 chart, find your FEV1 value from yesterday in column “A.” Now look at the number next to it in column “B.” If the FEV1 value for today is equal to or less than the value in column “B,” you have had a 10% change.
4. Now follow the same steps for your PEF values.
5. If you have had a 10% drop call your transplant coordinator as soon as you can.

Batteries: Your spirometer came with a rechargeable lithium battery. It must be charged using the micro-SD cable.

Spirometer Care and Clinic Visits

Each time you come to transplant clinic you must bring your records with you.

When and Who to Call

If you have any questions about using your spirometer, please contact Respiratory Care at **(608) 263-7050**.

Direct all other questions to your transplant coordinator.

If you are a patient receiving care at UnityPoint – Meriter, Swedish American or a health system outside of UW Health, please use the phone numbers provided in your discharge instructions for any questions or concerns.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 9/2019 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#8094.