It is vital for all pulmonary hypertension (PH) patients to make sure that they have received all the necessary tests required for a proper diagnosis. To accurately diagnose PH, doctors must use a right heart catheterization.

Every patient should also be tested to rule out the possibility of chronic thromboembolic pulmonary hypertension (CTEPH). For many, the first step is getting a ventilation/perfusion (V/Q) scan.

For essential information on accurately diagnosing PH and the recommended required tests, we strongly encourage you to visit: [bit.ly/PHtests](http://bit.ly/PHtests)

**FOR AN ACCURATE DIAGNOSIS, ASK FOR: A RIGHT HEART CATH & A V/Q SCAN**

A ventilation/perfusion (V/Q) scan is the recommended test to rule out the possibility of CTEPH – a type of PH caused by blood clots that create a blockage in the blood vessels of the lungs.

A V/Q scan examines both the airflow (ventilation) and the blood flow (perfusion) in the lungs. To check airflow, patients breathe in a small amount of benign radiolabelled gas through a breathing mask. To check blood flow, patients receive a small amount of radiolabelled solution through an IV inserted into the arm.

During the V/Q scan, patients must lie very still on a table beneath a special camera (or sometimes sitting in a chair in front of the camera). The test takes about an hour as several images of each lung are taken from different angles.

Doctors then examine the black and white areas of the images to identify regions of the lungs that might have old blood clots. Where there is airflow or blood flow, the lungs show up as black. This indicates that the gas and solution were able to get into the lungs without encountering a blockage. White areas indicate places where there are blockages to blood flow into the lungs.

Each image features a different angle of the left and right lungs together, one lung in foreground and the other in the background.

The images labeled VENT are from the ventilation scan and show normal airflow in both individuals. The bottom four images are from the perfusion scan. The bottom two images for person A also show normal blood flow. The bottom two images for person B show limited blood flow and indicate the presence of blood clots.

When testing for the possibility of CTEPH, doctors are looking at scans that show normal airflow but obstructed blood flow. Based on the scans, CTEPH can be reasonably ruled out for person A, but cannot be ruled out for person B.

The V/Q scan is the first step to diagnosing CTEPH and tells doctors whether they can rule out the possibility of CTEPH. To diagnose CTEPH, next steps include more testing, such as a pulmonary angiogram. Some patients may also be eligible for a surgery to remove the blood clots and cure their CTEPH.

A publication of the Pulmonary Hypertension Association.
Our mission is to extend and improve the lives of those affected by pulmonary hypertension.
[www.PHAssociation.org](http://www.PHAssociation.org)
I first started to feel tired quickly and out of breath in my normal routine. I would get winded easily from mowing the lawn or walking up the stairs instead of taking the elevator. Things really started to worry me when I would wake up in the middle of the night gasping and would have to wait a while before laying back down. After visiting with my doctor, I was put on continuous positive airway pressure (CPAP) therapy (a common treatment for obstructive sleep apnea). A CPAP machine uses a hose and mask or nosepiece to deliver constant and steady air pressure.

At that time, I dismissed my first pulmonologist, who said I was just getting older and needed to exercise more. I found a new doctor who administered the “6-minute walk test” (a measure of how far a person can walk in six minutes). The results made him suspicious, so he ordered a right-heart catheterization (a procedure that directly measures blood pressure in the lungs), which confirmed I had pulmonary hypertension (PH). He started me on a PH medication, but he never said what caused the PH or if there might be a possible cure.

I wanted more information on this condition, so I went to the Pulmonary Hypertension Association (PHA) website and requested a new patient kit, which was very informative for me. A couple months later, a postcard arrived with an invitation to a PH support group meeting. That first meeting was a life changer for me. The speaker, Mary Knabe, R.N., from a PH clinic in Lincoln, Neb., spoke about the five groups of PH. When she talked about blood clots in the lungs causing chronic thromboembolic pulmonary hypertension (CTEPH), and that this type of PH had a possible surgical cure, I was flabbergasted. The next week I had a new, third pulmonologist and was on my way to better health.

I made an appointment at a PH clinic near me, where they went over my records and some recent test results (my right heart catheterization, ventilation/perfusion scan and X-ray of the lungs). They recommended I go to University of California, San Diego for a pulmonary thromboendarterectomy (PTE) surgery (a complex surgery that removes deadly chronic blood clots from major blood vessels in the lungs that cannot be treated with medication). Without treatment, these clots block off blood flow to the lungs, cause damaging vascular changes and pulmonary hypertension. This condition can lead to right-sided heart failure and death.

The surgery, on Aug. 18, 2016, was successful, and I have returned to normal health. The first support group meeting I attended after the surgery was emotional for both me and the other patients who attended. I almost felt guilty; I was cured by the surgery! But everyone else said that I shouldn’t feel that way, that I was an inspiration to them, and they saw me as a source of hope.

Several meetings went by, and it was apparent the support group leader was struggling to hold meetings due to worsening health, so I volunteered to take over and help her out. I wanted to keep the support group active in Omaha since they were the ones who basically saved my life. If I had never registered as a new patient on the PHA site and received the postcard invitation to the support group meeting, I would never have heard of the possible cure for my PH.