Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Your Ventilation-Perfusion (VQ) Scan

This information explains what a ventilation-perfusion (VENT-uh-LAY-shun per-FYOO-zhun) scan is. This resource also explains how to get ready for your scan and what to do after your scan. A ventilation-perfusion scan is also called a VQ scan.

About your VQ scan

A VQ scan is a pair of imaging scans that take pictures of your lungs. This is done to check how well air flows into your lungs and how well blood flows through your lungs. The images from a VQ scan help your doctor see if there are any blockages in your lungs. They can use these images to diagnose a pulmonary embolism (blood clot in the lung).

During your scan, you'll lay on a table while the scanner rotates around you. The scanner takes pictures of your lungs. You might need to hold your breath for short periods of time during the scan.

You'll need to lay still for several minutes at a time during your scan. If you move during the scan, the images may be blurry. Your healthcare provider may not be able to use them.

Tell your healthcare provider when you schedule your scan if you don't think you'll be able to lay still. If you forget to tell your healthcare provider, tell the technician on the day of your scan. We may skip the ventilation (breathing) part of the scan and only do the perfusion (blood flow) part of the scan.

Things you will get the day of your VQ scan

Before each part of the scan, you will get small amounts of radioactive medicine called tracers. These tracers give off low levels of radiation and are safe.

For the ventilation part of the scan, you will inhale (breathe in) tracer through a mouthpiece or mask. This tracer helps show the flow of air through your lungs during the scan.

For the perfusion part of the scan, you'll get another tracer intravenously (in your vein). This will be through an IV line in your hand or arm. This tracer helps your healthcare provider see the blood flow in your lungs clearly in the images.

Your cells use the tracer. The tracer leaves your body

mainly through your urine (pee). Most of the radioactive material will be out of your body within 24 hours after your scan.

You do not need to limit contact with people. If you aren't breastfeeding, you don't need to follow any special instructions after your scan. You can go back to your usual activities.

Getting ready for your VQ Scan

You do not need to do anything to get ready for your VQ scan. You can eat, drink, and take your medicine as you usually do.

You should plan to be at the appointment for about 1 hour.

Breastfeeding and pregnancy

Tell your healthcare provider if you're pregnant or breastfeeding. This will help them plan your care.

If you're pregnant or think you might be pregnant, your healthcare provider may order a different test. This will lower the risk of radiation exposure to the fetus.

If you're breastfeeding, talk with your provider. Read the "Instructions for people who are breastfeeding" section of this resource to learn more.

What to do the day of your VQ scan

Things to remember

- Know the time and location of your scan. You can check the patient portal or call your doctor's office to confirm. Please note the arrival time for your appointment on the patient portal.
- Leave valuable items at home if you do not need them. This includes extra credit cards, extra cash, and jewelry.
- You'll need to lie flat during your scan. If you have reflux, do not eat right before your scan. This can make your reflux worse.
- You may be taking medicine for anxiety or to help you relax during your scan. If you are, bring the medicine with you and take it 30 to 60 minutes before your scan.

What to expect when you arrive

Many staff members will ask you to say and spell your name and birth date. This is for your safety. People with the same or similar names may be having a procedure on the same day.

You will meet our team of technologists, or radiographers and they will explain the procedure to you. You can ask any questions about the scan.

A staff member will bring you to the exam room. They will

ask you to remove any metal items from around your chest area. This includes mobile phones or wallets. If your shirt has any metal snaps or buttons, we may ask you to change into a hospital gown.

For the ventilation part of the scan, you will breathe in tracer through a mouthpiece or mask. For the perfusion part of the scan, you will get a tracer through an IV.

We'll take a 3D scan of the air and blood supply to your lungs. This will be a single photon emission computed tomography (SPECT) or a computed tomography (CT) scan.

You must lay very still on the camera bed with your arms above your head for 20 to 30 minutes. You can breathe normally during the scan. The camera will rotate around your chest but will not touch you.

Each part of the scan takes about 10 to 15 minutes.

What to do after your VQ scan

There are no side effects from this scan, and you can do your normal activities.

You may leave as soon as your VQ scan is done unless you have other tests or procedures scheduled. You'll get a card stating that you had a test done with a radioactive tracer

and your test date. Keep this card with you because some security equipment can find radioactivity until it leaves your body. This should take less than a day.

It is safe to be around other people, including pregnant people and children. You can spend time near others and can kiss, hug, hold, and touch them. It is safe to have sex after your scan.

Remember to stay hydrated after your scan. Drink water and other fluids throughout the rest of the day. This will help remove the tracer from your body through your urine. You can go back to your normal diet right away unless your healthcare provider gives you other instructions.

Instructions for people who are breastfeeding

Stop breastfeeding for 24 hours after your scan. You can still express (pump) milk during that time.

You can then either:

- Throw away the pumped milk.
- Store the pumped milk for 24 hours. After that, it's safe to give to the baby.

During this time, you can feed the baby with formula or milk that was expressed before the scan.

Getting your VQ scan results

A radiologist will read your scan and send your results to your doctor. You should be able to see your results in the patient portal within 24 hours. Your doctor will use the results of your scan to help plan your care.

Contact information

If you have any questions or concerns, call the Molecular Imaging and Therapy Service (MITS, or the Nuclear Medicine service) at 212-639-6652. You can reach a staff member Monday through Friday from 9 a.m. to 5 p.m. After 5 p.m., during the weekend, and on holidays, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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