

# LUNG VENTILATIONS AND PERFUSION (VQ) SCAN

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## WHAT IS A LUNG VENTILATION AND PERFUSION (VQ) SCAN?

A lung scan is a nuclear scanning test that is most commonly used to detect a blood clot that is preventing normal blood flow to part of a lung (pulmonary embolism).

There are two types of lung scans which are normally done together:

**Ventilation Scan-** During a ventilation scan, a radioactive tracer gas or mist is inhaled into the lungs. Pictures from this scan can show areas of the lungs that are not receiving enough air or that retain too much air. Areas of the lung that retain too much air show up as bright or “hot” spots on the pictures. Areas that are not receiving enough air show up as dark or “cold” spots.

**Perfusion Scan-** During a perfusion scan, a radioactive tracer substance is injected into a vein in the arm. It travels through the bloodstream and into the lungs. Pictures from this scan can show areas of the lungs that are not receiving enough blood. The tracer is absorbed evenly in areas of the lung where the blood flow is normal. These areas show up with the tracer distributed evenly. Areas that are not receiving enough blood show up as cold spots.

If the lungs are working normally, blood flow on a perfusion scan matches air flow on a ventilation scan. A mismatch between the ventilation and perfusion scans may indicate a pulmonary embolism.

## WHAT TO EXPECT

**Ventilation Scan-** The technologist will ask you to insert a tube into your mouth and follow specific breathing instructions. You will inhale the tracer gas or mist through the tube by taking in breathes. The nuclear medicine camera will scan for radiation released by the tracer and produce pictures as the tracer moves through your lungs. Imaging of your lungs last approximately 10 minutes.

**Perfusion Scan-** A nurse or technologist will insert an intravenous (IV) line into a vein in your hand or arm and the radioactive tracer is injected. After the radioactive tracer is injected, the nuclear medicine camera will scan for radiation released by the tracer and produce pictures as the tracer moves through your lungs. The camera may be repositioned around your chest to get different views. Imaging of your lungs last approximately 10 minutes.

Unless your physician tells you otherwise, you may resume your normal activities after your nuclear medicine scan. If any special instructions are necessary, you will be informed by a technologist, nurse or physician before you leave the nuclear medicine department.

If you are a female patient between the ages of 9 and 55 you are required to either consent to a pregnancy test or sign a Pregnancy Test Waiver form prior to your exam. The only exception will be for females with a history of total hysterectomy. If you are breastfeeding please inform the technologist before your exam.

## HOW TO PREPARE

Follow these guidelines:

- Please bring your current home medications or a list of your medications with you the day of the test.
- You may be asked to remove some or all of your clothes and to change into a hospital gown.
- Remove jewelry, removable dental hardware, eye glasses, and any metal objects or clothing that might interfere with the images.

## RESULTS

A radiologist will review your images and send a report to your doctor who ordered the test in 48- 72 hours. You'll get a call from your doctor's office to discuss the results and next steps. To check your results in our secure, online patient portal, My UNC Chart, visit [www.myuncchart.org](http://www.myuncchart.org).



