
CT Scans to Find a Blood Clot in the Lungs: When you need one—and when you don't



A pulmonary embolism (PE) is a blood clot in the lungs that has traveled from the deep veins of the leg or pelvis and causes a blockage in blood flow. A PE can be life threatening if not diagnosed and treated. Luckily, health care providers have many good methods available to test for PE.

A commonly used test to diagnose PE is a CT pulmonary angiogram (CTPA). But a CTPA is not always necessary. Here's why:

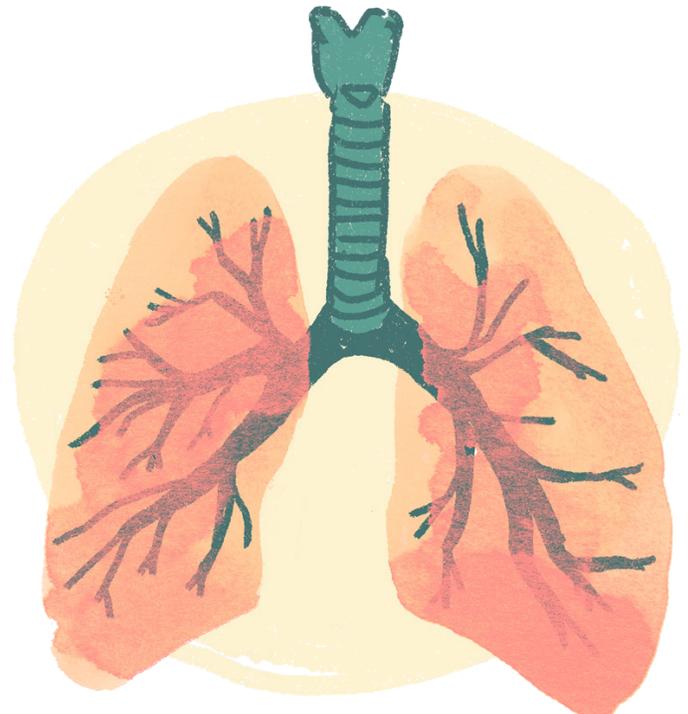
CT scans are not risk-free.

A CT (computerized tomography) scan is a machine that uses many X-rays to take pictures of bone, organs or soft tissues. CT scans usually result in exposure to large doses of radiation, which can increase the risk of cancer over your lifetime. CT scans looking for blood clots also use dye that can damage the kidneys or cause an allergic reaction.

For these reasons, if your risk of having a PE is low then the potential risks of a CT scan can outweigh the benefits. Your health care provider will use a CT scan only when necessary. In addition, there are other tests that can be used to search for a PE, such as a ventilation/perfusion lung scan ("VQ scan").

How do health care providers know when a CT scan is necessary?

Health care providers use guidelines based on research in patients just like you to decide what a patient's risk is for a PE, and which patients



need further testing. If your health care provider thinks you might have a PE, the following testing is recommended:

- For very low risk patients, a list of questions called the Pulmonary Embolism Rule-out Criteria (PERC) can safely rule out a PE without additional testing.
- For low and medium risk patients, a blood test called the D-dimer in conjunction with clinical decision rules can safely rule out a PE if the test is normal.
- For high risk patients and/or for those with an abnormal D-dimer blood test, imaging tests such as a CT scan or VQ scan are recommended to rule out a blood clot.

About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

How this pamphlet was created:

This pamphlet was developed by the Canadian Association of Emergency Physicians in collaboration with Choosing Wisely Alberta and Alberta's Emergency Strategic Clinical Network.

This pamphlet is for you to use when talking with your health care provider. It is not a substitute for medical advice and treatment. Use of this pamphlet is at your own risk.

What should I do after my visit with a health care provider?

You can continue your usual activities without over-exerting yourself. You can use medications as instructed by your health care provider. Monitor your symptoms for the next several days. If they are persisting or changing you should see your family health care provider.

If your symptoms get worse, or you develop more shortness of breath, chest pain, fainting, cough up blood or feel very unwell, you should come back to the Emergency Department to be assessed again. You may require further testing if your symptoms are getting worse.