



## TESTS BEFORE SURGERY: WHEN YOU NEED THEM AND WHEN YOU DON'T

If you're going to have surgery, you may have some tests first. These might include blood tests, a chest x-ray, lung test (spirometry) and a heart stress test.

These tests may be helpful if you have certain health conditions or diseases, to make sure it is safe to go ahead with the surgery. For example, if you have a blood-clotting problem, a test can show if you're at risk of too much bleeding during surgery.

But most healthy people don't need the tests, especially before low-risk surgery. Most of the time, a careful medical history and physical exam are all you need.

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### THESE TESTS ARE NOT NEEDED ON EVERYONE BEFORE SURGERY:

- **Blood tests**

Pre-op blood tests are not helpful in planning low-risk surgery. Even when minor abnormalities are found in these blood tests, this doesn't usually change the plans for surgery.

- **Chest X-Rays**

Many people are given a chest X-ray to "clear" them before surgery. Some hospitals require a chest X-ray for almost every patient. But unless you have symptoms of lung problems, chest X-rays are not helpful before most surgery. Chest X-rays are not good at picking up who may have complications from anesthesia. Pre-op chest X-rays may make good sense if you are about to have heart or chest surgery.

- **Spirometry**

Spirometry is a way to test how well your lungs work. This test might be useful if you are about to have surgery on your lungs, or you have problems with your breathing. But this test should not be done routinely before all surgery.

- **Cardiac stress testing**

This test puts your heart under stress (either by you exercising, or by injecting a chemical into your blood) to see if it is working normally. This test is not needed routinely before surgery, unless you have symptoms of heart disease or are at very high risk of a heart attack.

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### THE TESTS USUALLY AREN'T HELPFUL FOR LOW-RISK SURGERY

Results of these routine tests rarely change their surgeon's decision to operate, or make surgery safer.

The tests are especially unnecessary before low-risk surgery—such as eye, hernia, or skin surgery, or a breast biopsy. In these and many other surgeries, the risk of complications is very low.

In fact, even major surgery is safe for most healthy people who feel well and are moderately active without symptoms. All they usually need is a medical history and physical exam.

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### TESTS CAN LEAD TO MORE TESTS

Medical tests can sometimes lead to false alarms ("false positive" results). This is even more likely if you do not have any symptoms, such as in a routine pre-op test. False alarms can cause a lot of stress for you and your whānau, and cause you to have even more tests to find out if there really is a problem. For example, a blood test may be followed up with a repeat test, an ultrasound, a biopsy, or a test that exposes you to radiation, such as an X-ray or CT scan.

These tests may have risks. And it can needlessly delay your surgery.



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### SOME TESTS CAN HAVE RISKS.

A chest X-ray uses radiation. Risks from radiation exposure may add up, so it is best to avoid it when you can.

While most tests are very safe, false alarms may lead to more risky tests that involve risks like bleeding, allergic reactions or radiation.

For instance, an abnormal heart stress test might need to be followed up with coronary angiography (cardiac catheterization), a test that uses dye and X-rays to look at your heart vessels.

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### WHEN ARE TESTS BEFORE SURGERY A GOOD IDEA?

#### Blood tests

If you have certain health conditions or diseases, or your medical history shows the need, blood tests may give your doctor helpful information. For example:

- If you bruise easily, use a blood-thinning medicine, had bleeding problems in an earlier surgery or dental procedure, or have a family history of bleeding problems, you may need a blood test to find out if your blood clots normally.
- If you have a disease such as diabetes, you will probably need to have a test to make sure it is under control.
- Women of childbearing age may need a pregnancy test.
- You may also need the tests before a major operation such as heart, lung, or brain surgery.

#### Chest X-ray

It may be a good idea to have a chest X-ray before you have surgery if:

- You have signs or symptoms of a heart or lung condition. These include chest pain, coughing, shortness of breath, swelling in the ankles, fever, a recent heart attack, or a cold or other lung infection that does not go away.
- You have a heart or lung disease, whether or not you have symptoms, and you have not had a chest X-ray within the last six months.
- You are older than 70 and you have not had a chest X-ray within the last six months.
- You are having surgery on the heart, lungs, or any other part of the chest, and you have not had a chest X-ray within the last six months.

#### Heart stress test

It may be a good idea to have a heart stress test before you have surgery if:

- You have a severe heart condition or you're experiencing symptoms that could be heart-related, such as chest pain, breathing difficulty, or a loss of stamina.
- You are about to have intermediate-risk surgery (such as knee or hip replacement) or high-risk surgery (such as a bypass operation) and you have risk factors (including diabetes, kidney disease, or a history of heart disease or stroke) and poor exercise tolerance making it hard to assess heart-related symptoms.

**The decision to have any tests before surgery should be based on your individual situation. Talk to your doctor about what may be right for you.**

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### WHAT WILL THE TEST RESULTS MEAN FOR MY SURGERY?

Based on the test results, your doctor may watch your condition more closely during or after your surgery. You may need to delay the surgery until a problem is under control. Or your doctor may change the procedures and anesthesia.



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### WHY WAS THIS RESOURCE DEVELOPED?

This Choosing Wisely resource is based on the top five anaesthetic-related practices that, based on clinical evidence, may have limited benefit, no benefit or may potentially cause harm to patients, according to the Australian and New Zealand College of Anaesthetists (ANZCA)<sup>1</sup> in January 2017.

Choosing Wisely is a campaign to help health professionals and patients engage in conversations about unnecessary tests and treatments and make smart and effective choices to ensure high quality care. For more information on Choosing Wisely or to see other patient materials, visit [www.ChoosingWisely.org.nz](http://www.ChoosingWisely.org.nz)

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### SUPPORTING EVIDENCE FOR THE ISSUES DISCUSSED IN THIS RESOURCE

For a list of supporting evidence for the issues discussed in this resource, please see:  
<http://choosingwisely.org.nz/professional-resource/anzca/>

*Developed by Choosing Wisely New Zealand, 2018. Adapted from Choosing Wisely Canada (2014), “Lab tests before surgery: when you need them—and when you don’t”, Choosing Wisely Canada (2012), “Heart tests before surgery: when you need them—and when you don’t”, and Choosing Wisely Canada (2015), “Chest X-rays before surgery: when you need them—and when you don’t”. Reasonable care is taken to provide accurate information at the time of creation. This information is not intended as a substitute for medical advice and should not be exclusively relied on to manage or diagnose a medical condition. Choosing Wisely does not assume any responsibility or liability arising from any error or omission or from the use of any information in these resources.*

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<sup>1</sup> <http://choosingwisely.org.nz/professional-resource/anzca/>