# Acid fast stain method, Nocardia species

## What is this test?

This test detects a species of bacteria called *Nocardia*. This test is used to help diagnose and manage diseases caused by this bacteria[1][2][3][4]. A sample of sputum, fluid from the trachea or lungs, a sample of tissue collected during surgery, or another sample type may be collected for this test[5].

## What are other names for this test?

Acid fast stain

## What are related tests?

Nocardia species culture

## Why do I need this test?

Laboratory tests may be done for many reasons. Tests are performed for routine health screenings or if a disease or toxicity is suspected. Lab tests may be used to determine if a medical condition is improving or worsening. Lab tests may also be used to measure the success or failure of a medication or treatment plan. Lab tests may be ordered for professional or legal reasons. The following are possible reasons why this test may be done:

Nocardiosis

## When and how often should I have this test?

When and how often laboratory tests are done may depend on many factors. The timing of laboratory tests may rely on the results or completion of other tests, procedures, or treatments. Lab tests may be performed immediately in an emergency, or tests may be delayed as a condition is treated or monitored. A test may be suggested or become necessary when certain signs or symptoms appear.

Due to changes in the way your body naturally functions through the course of a day, lab tests may need to be performed at a certain time of day. If you have prepared for a test by changing your food or fluid intake, lab tests may be timed in accordance with those changes. Timing of tests may be based on increased and decreased levels of medications, drugs or other substances in the body.

The age or gender of the person being tested may affect when and how often a lab test is required. Chronic or progressive conditions may need ongoing monitoring through the use of lab tests. Conditions that worsen and improve may also need frequent monitoring. Certain tests may be repeated to obtain a series of results, or tests may need to be repeated to confirm or disprove results. Timing and frequency of lab tests may vary if they are performed for professional or legal reasons.

## How should I get ready for the test?

**Sputum:**

Before a sputum sample is collected, you may be asked to drink more fluids. Drinking more fluids may help you produce a sputum sample.

**Bronchial sample:**

A bronchoscopy is a procedure that requires your written consent. Review the consent form with the healthcare worker and ask any questions that you have before signing the consent form. Tell the healthcare worker if you have a history of nosebleeds, throat infections, chest pain, heart conditions, or a recent heart attack. Inform the healthcare worker if you have a medical condition or are using a medication or supplement that causes excessive bleeding. You should also report if you have a history of allergic or other reactions to topical anesthetics.

**Other body fluid or tissue sample:**

A different sample other than the samples listed above may be used for this test. Ask your healthcare worker for information about how to prepare for this test. If you have questions or concerns about the preparation for this test,

talk to the healthcare worker.

## How is the test done?

A sample of sputum, fluid from the trachea or lungs, a sample of tissue collected during surgery, or another sample type may be collected for this test[5].

**Sputum:**

Sputum is mucus that is secreted by the airways and lungs. To collect a sample of sputum, you may be asked to cough forcefully, and spit out sputum into a container. If you are unable to produce a sputum sample, you may need to have the sample induced. To induce a sputum sample, a healthcare worker will prepare a solution in a nebulizer for you to inhale. You will be asked to inhale the solution over a period of time, which may last up to 20 minutes. You will then be asked to cough and spit out sputum into a container.

**Bronchial sample:**

A bronchial (lower airway) sample is collected during a bronchoscopy. During a bronchoscopy, bronchial cells and secretions may be collected using one or more of several different methods.

A bronchoscopy is done with general anesthesia or conscious sedation. Your vital signs will be monitored and a ventilator may assist your breathing. The bronchoscope, a flexible fiberoptic instrument, is passed through your nose or mouth. If the scope is passed through your mouth, a bite block may be used to protect your teeth. The bronchoscope then passes through your airways and into your lung. A topical anesthetic is often sprayed down the tube to prevent coughing during the procedure.

During the bronchoscopy, your airways are inspected and samples of cells or tissue may be collected using bronchioalveolar lavage, bronchial brushing, and/or bronchial biopsy. A bronchioalveolar lavage is done by placing the tip of the bronchoscope into an area of your lung. Saline solution is injected and drawn out through the scope. This procedure is usually repeated several times to collect samples of cells and secretions from different areas of the lungs. During bronchial brushing, a small brush within the scope is used to collect samples of cells from the lung. When a biopsy is needed, an instrument located within the scope is used to collect samples of tissue from the lung.

**Other body fluid or tissue sample:**

A different sample other than the samples listed above may be used for this test. Methods used to collect other body fluids or tissue samples may vary. Ask the healthcare worker to explain how this sample may be collected. If you have questions or concerns about this test, talk to the healthcare worker.

## How will the test feel?

The amount of discomfort you feel will depend on many factors, including your sensitivity to pain. Communicate how you are feeling with the person doing the procedure. Inform the person doing the procedure if you feel that you cannot continue with the procedure.

**Sputum:**

Generally, collection of a sputum sample is not painful. If the sample is induced, the coughing may be uncomfortable.

**Bronchial sample:**

During a bronchoscopy, general anesthetic or conscious sedation may be used. General anesthesia is done by an anesthesiologist. You receive medicine that puts you into a deep sleep where you are unable to feel pain. With conscious sedation, you receive medicine that puts you in a dream-like state, where you should not feel pain or remember the procedure. However, you are still awake enough to move and respond to directions. After the procedure, you may have a sore throat or cough for several days

**Other body fluid or tissue sample:**

A different sample other than the samples listed above may be used for this test. This test may feel different depending on many factors, including the sample needed and how it is collected. Ask the healthcare worker what to expect during this test.

## What should I do after the test?

**Sputum:**

After a sputum sample is collected, call the healthcare worker if you experience a new onset of pain in your throat,

trouble swallowing, or if you are coughing up blood.

**Bronchial sample:**

Following a bronchoscopy and collection of a sample of cells or tissue, you will need to rest until healthcare workers say that you are able to leave the facility. You can usually eat and drink as you normally do soon after the procedure. You may have a sore, dry throat for a short time, and you may develop a slight fever the evening after the procedure.

Contact your healthcare worker if you cough up significant amounts of bright red or dark-colored blood, or have a high fever, which remains for several days. Contact your healthcare worker immediately if you have sudden or a new set of chest pain, shortness of breath, wheezing, or other difficulty breathing.

**Other body fluid or tissue sample:**

A different sample other than the samples listed above may be used for this test. Instructions for what to do after a collection of other body fluid or tissue samples may vary. Ask the healthcare worker to instruct you on what to expect after this test is completed. If you have questions or concerns about what to expect after the test is completed, talk to the healthcare worker.

## What are the risks?

**Sputum:** If you are unable to produce a sputum sample on your own, it may need to be induced. Risks with collection of an induced sputum cell sample include minor damage to the throat and trachea. The person doing this test may need to perform it more than once. Talk to your healthcare worker if you have any concerns about the risks of giving a sputum sample.

**Bronchial samples:** A bronchial (lower airway) sample is collected by a procedure called a bronchoscopy. This procedure may require sedation (putting you to sleep), which has its own risks. If the bronchoscope is passed through your nose, there is a risk of damage to the inside of your nose. If the bronchoscope is passed through your mouth, there is a risk of damage to your mouth and throat. A bronchoscopy can irritate the airways and lungs. Commonly, a mild sore throat or cough is experienced after the procedure. You may have a fever that comes and goes for a few days. You may also feel chest or back discomfort for a few days.

Less common risks of a bronchoscopy include lung bleeding, hemoptysis (coughing up blood), lung infection, and bronchospasm (sudden, short-term narrowing of the airways). Additionally, there is a risk of damage to the airways and lungs, including the possibility of a pneumothorax (collapsed lung) or decreased lung function. You may have difficulty breathing after this procedure. If you have a medical condition, or are using a medication or supplement that causes excessive bleeding, you are at a higher risk of bleeding from this procedure. The person doing this procedure may need to perform it more than once. Talk to your healthcare worker if you have any concerns about the risks of this procedure.

**Other body fluid or tissue samples:** A different sample other than the samples listed above may be used for this test. Ask your healthcare worker to explain the risks of this test to you. If you have questions or concerns about this test, talk to the healthcare worker.

## What are normal results for this test?

Laboratory test results may vary depending on your age, gender, health history, the method used for the test, and many other factors. If your results are different from the results suggested below, this may not mean that you have a disease. Contact your healthcare worker if you have any questions. The following is considered to be a normal result for this test:

- Negative [1][3]

## What follow up should I do after this test?

Ask your healthcare worker how you will be informed of the test results. You may be asked to call for results, schedule an appointment to discuss results, or notified of results by mail. Follow up care varies depending on many factors related to your test. Sometimes there is no follow up after you have been notified of test results. At other times follow up may be suggested or necessary. Some examples of follow up care include changes to medication or treatment plans, referral to a specialist, more or less frequent monitoring, and additional tests or procedures. Talk with your healthcare worker about any concerns or questions you have regarding follow up care or instructions.

## References


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3. Sridhar MS, Gopinathan U, Garg P, et al: Ocular nocardia infections with special emphasis on the cornea. Surv Ophthalmol 2001; 45(5):361-78.
4. Singh M, Sandhu RS, Randhawa HS, et al: Prevalence of pulmonary nocardiosis in a tuberculosis hospital in Amritsar, Punjab. Indian J Chest Dis Allied Sci 2000; 42(4):325-39.
5. Tietz NW (Ed): Clinical Guide to Laboratory Tests, 3rd ed. W. B. Saunders, Philadelphia, PA, 1995.