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Gram stain

A Gram stain is a test used to identify bacteria. It is one of the most common ways to quickly diagnose bacterial infection in the body.

How the Test is Performed

How the test is performed depends on what tissue or fluid from your body is being tested. The test may be quite simple, or you may need to prepare ahead of time.

- You may need to provide a sputum, urine, or stool sample.
- Your health care provider may use a needle to take fluid from your body to test. This could be from a joint, from the sac around your heart, or from the space around your lungs.
- Your provider may need to take a tissue sample, such as from your cervix or skin.

The sample is sent to a laboratory.

- A small amount is spread in a very thin layer on a glass slide. This is called a smear.
- A series of stains are added to the sample.
- A lab team member examines the stained smear under the microscope, looking for bacteria.
- The color, size, and shape of the cells help identify the specific type of bacteria.

How to Prepare for the Test

Your provider will tell you what to do to prepare for the test. For some types of tests, you will not need to do anything.

How the Test will Feel

How the test will feel depends on the method used to take a sample. You may not feel anything, or you may feel pressure and mild pain, such as during a biopsy. You may be given some form of pain medicine so you have little or no pain.

Why the Test is Performed

You may have this test to diagnose an infection caused by bacteria. It can also identify the type of bacteria causing the infection.

This test can help find the cause of various health problems, including:

- Intestinal infection or illness
- Sexually transmitted diseases (STDs)
- Unexplained swelling or joint pain
- Signs of a heart infection or fluid buildup in the thin sac that surrounds the heart (pericardium)
- Signs of infection of the space around the lungs (pleural space)
- Cough that will not go away, or if you are coughing up material with a foul odor or odd color
- Infected skin sore

Normal Results

A normal result means that no bacteria or only friendly bacteria were found. Some types of bacteria normally live in certain areas of the body, such as the intestines. Bacteria normally don't live in other areas, such as the brain or spinal fluid.

Talk to your provider about the meaning of your specific test results.

What Abnormal Results Mean

Abnormal results may indicate an infection. You may need further tests, such as a culture, to find out more about the infection.

Risks

Your risks depend on the method used to remove tissue or fluid from your body. You may have no risk at all. Other risks are rare, but may include:

- Infection
- Bleeding
- Heart or lung puncture
- Collapsed lung
- Breathing problems
- Scarring

Alternative Names

Urethral discharge - Gram stain; Feces - Gram stain; Stool - Gram stain; Joint fluid - Gram stain; Pericardial fluid - Gram stain; Gram stain of urethral discharge; Gram stain of the cervix; Pleural fluid - Gram stain; Sputum - Gram stain; Skin lesion - Gram stain; Gram stain of skin lesion; Gram stain of tissue biopsy

References

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