



Not an actual patient.

Synovasure[®] Diagnostics **An Aid for Joint Infection**



ZIMMER BIOMET

What is Periprosthetic Joint Infection (PJI)?

Most patients do well after a total joint replacement, but for some patients there is a small chance of an infection called Periprosthetic Joint Infection (PJI). PJI occurs in about two percent of total joint patients.¹ When that happens, a second surgery, known as a revision, may be needed.

A timely and accurate diagnosis of PJI is important to develop the right treatment plan for you and get you back to your daily life.

How is a Joint Infection Diagnosed?

Your doctor may use both a physical examination and laboratory testing to help decide if your pain is caused by an infection.

Laboratory testing may consist of blood and joint fluid tests such as:

Joint Fluid Tests

- Culture - Identifies organisms and what antibiotic might be best for treatment
- White Blood Cell (WBC) count - Evaluates amount of cells present that fight infection and other forms of inflammation
- Neutrophil percentage – Evaluates for cells that are first to arrive in cases of inflammation such as infection
- Leukocyte Esterase – Detects white blood cells in fluid
- Alpha Defensin – Detects proteins released by the body to fight infection

Blood Tests

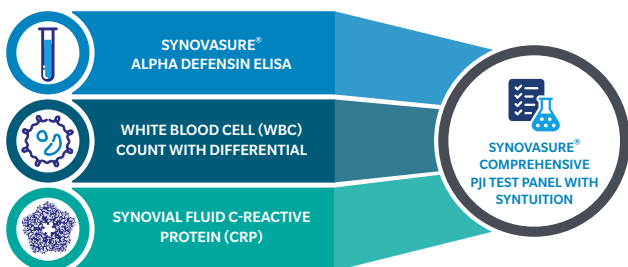
- C-reactive Protein (CRP) – Evaluates levels of proteins associated with inflammation in blood
- Sedimentation Rate (ESR) – Evaluates the rate that red blood cells settle in a test tube. A faster-than-normal rate may indicate inflammation

What is SynTuition®?

SynTuition is a score generated through a machine-learning algorithm to aid your doctor in interpretation of test results. Your doctor can use this score to guide their final diagnosis.

Infection Testing with the Synovasure Comprehensive PJI Test Panel with SynTuition

The Synovasure PJI Comprehensive Test Panel with SynTuition offers a number of joint fluid tests, including tests available only from Zimmer Biomet and standard of care tests to support joint infection diagnosis.



Available in US only as laboratory-developed test (LDT).

What is Alpha Defensin and Why Should I be Tested for it?

Alpha Defensins are proteins created by the body to fight organisms that may cause infection. If you have PJI, high levels of Alpha Defensin will be found in your joint fluid.²

The Synovasure Alpha Defensin Laboratory Test, which is only available from Zimmer Biomet via CD Laboratories, measures these levels in joint fluid. Unlike many other tests, the test is not affected by:

- Antibiotics^{2,3}
- Other causes of inflammation (gout, arthritis, etc)^{2,4}
- Type of organism^{2,5}

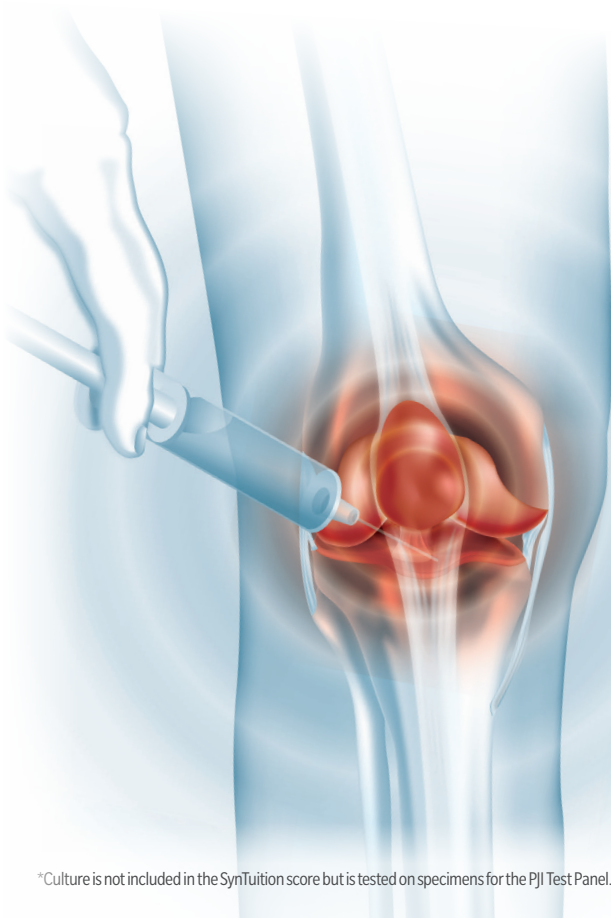
With a small chance of a false-negative or false-positive result, the test is an effective aid in PJI diagnosis.⁶

What Other Test Results Do I Get with Synovasure?

In addition to the tests exclusively offered by Zimmer Biomet, your sample will be tested for:

- Culture*
- White Blood Cell (WBC) count
- Synovial Fluid C-reactive Protein (CRP)

We know that reliable results are important in order for you to get back living your life. That is why we test the quality of **EVERY** sample to make sure that the joint fluid is the best possible for testing with Synovasure.



*Culture is not included in the SynTuition score but is tested on specimens for the PJI Test Panel.

The Synovasure Comprehensive PJI Panel with SynTuition®

From a single joint fluid sample, the Synovasure Comprehensive PJI Test Panel with SynTuition provides you and your physician with extensive laboratory testing results. These results may help determine if your pain is caused by an infection. The results may also aid in identifying what may be causing the infection you have and provide your doctor guidance on what treatment may be best for you, in 24 hours*.

Included in the panel are tests exclusively offered by Zimmer Biomet through CD Laboratories, which contribute to the overall accuracy of the panel's diagnosis.⁷

For additional patient information, visit www.cdlaboratories.com/patient.

**Culture results are available in 7 days
(14 for shoulder specimens)*

How Does It Work?

Synovasure testing is simple and streamlined:



ASPIRATE JOINT

Your doctor takes a sample of fluid from your joint



OVERNIGHT SHIPMENT TO CD LABORATORIES

Fluid is packaged and sent overnight for testing



TESTS PERFORMED AND RESULTS SENT TO PROVIDER

Testing is performed and results sent to your doctor within 24 hours of receipt of your sample

How is the Testing Billed?

The billing process depends on your insurance provider. If you are a Medicare patient, Medicare will be billed directly. For Non-Medicare patients, the bill will be sent to you.

In addition, a courtesy claim will be submitted for Non-Medicare patients to their insurance. Any available reimbursement will be deducted from the bill prior to being sent to the patient for payment.

For more details on billing and cost, visit www.cdlaboratories.com/patient.

About CD Laboratories

CD Laboratories, part of Zimmer Biomet, is a clinical laboratory focused on joint fluid testing for patients with joint pain. Located in Baltimore, Maryland, the laboratory has tested more than 400,000 joint fluid samples since 2014, making it a leader in orthopedic laboratory testing.

Our team is dedicated to providing timely, accurate laboratory results to help your doctor diagnose your pain and allow you to get back to doing the activities you enjoy.**

** Some patients may continue to experience pain and/or limited mobility.

References

1. Ahmad S, *et al.* Prosthetic Joint Infection. Bone and Joint Research. 8(11): 570–57, 2019.
2. Deirmengian C., *et al.* Combined Measurement of Synovial Fluid a-Defensin and C-Reactive Protein Levels: Highly Accurate for Diagnosing Periprosthetic Joint Infection. Journal of Bone and Joint Surgery. 96(17):1439-45, 2014.
3. Shahi A., *et al.* The Alpha-Defensin Test for Periprosthetic Joint Infection is Not Affected by Prior Antibiotic Administration. Clinical Orthopedics and Related Research. 474(7):1610-5, 2016.
4. Miyamae Y., *et al.* Diagnostic Accuracy of the Alpha-Defensin Test for Periprosthetic Joint Infection in Patients with Inflammatory Diseases. Journal of Arthroplasty. 34(8):1767-1771, 2019
5. Deirmengian C., *et al.* The C-reactive Protein May Not Detect Infections Cause by Less-Virulent Organisms. Journal of Arthroplasty. 31(9 Suppl):152-5, 2016.
6. Synovasure Alpha Defensin ELISA Instructions for Use (IFU), 2025.
7. Parr J *et al.* Probability Score for the Diagnosis of Periprosthetic Joint Infection Development and Validation of a Practical Multi-analyte Machine Learning Model. Cureus. 17(5): e84055, 2025.

Zimmer Biomet does not practice medicine. Not all patients are candidates for this product and/or procedure. Only a medical professional can determine the treatment appropriate for your specific condition. Talk to your doctor about whether this test is right for you, and the risks of the procedure, including the risk of injection site pain, swelling, bruising and stiffness. All content herein is protected by copyright, trademarks and other intellectual property rights, as applicable, owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet. ©2022, 2025, 2026 Zimmer Biomet.

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