



ebiom+

Comprehensive
endometrial
microbiome
analysis to support
fertility care



MEDICOVER
GENETICS

ENDOMETRIAL MICROBIOME AND INFERTILITY

The endometrial microbiome is the community of bacteria present in the uterine lining. As this is where embryo implantation takes place, it plays a crucial role in reproductive health.

ebiom analysis assesses the bacteria in the endometrial flora

The bacteria in the endometrial microbiome can be both beneficial and harmful. Beneficial bacteria create a healthy environment by producing lactic acid, which inhibits the growth of harmful bacteria (also called pathogenic bacteria). A microbiome dominated by *Lactobacillus* (> 80% lactobacilli) is considered the normal state. However, an imbalance in the endometrial flora, where harmful bacteria grow, can negatively affect fertility care.¹⁻⁵

ebiomCE analysis identifies sexually transmitted pathogenic bacteria


Chronic endometritis (CE) is a persistent inflammation of the endometrial lining mainly caused by sexually transmitted bacteria, and it is often linked to embryo implantation failure and recurrent pregnancy loss.⁶ While it may be asymptomatic, it can also present with chronic lower abdominal pain, dyspareunia, abnormal vaginal bleeding, or discharge. Accurate diagnosis of the infection is essential for receiving targeted treatment.

ebiom+ analysis combines ebiom with ebiomCE for a complete diagnostic picture

A comprehensive assessment of the endometrial microbiome identifies normal conditions and dysbiosis (abnormal bacterial colonisation). This will help your physician make the right diagnosis and treatment plan for your fertility journey.

WHO COULD **BENEFIT** FROM THESE TESTS?

Talk to your physician about these tests if you experience the following fertility challenges:

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- Difficulty in conceiving
 - Difficulty getting pregnant despite treatment
 - Recurrent miscarriages
 - Embryo implantation failure during IVF
 - Unexplained infertility

IMPORTANCE OF GETTING TESTED

Results will help your physician to:

- Identify both beneficial and harmful bacteria in your endometrial microbiome (including pathogenic bacteria associated with CE)
- Detect imbalances that may be linked to infertility or failed embryo implantation
- Provide personalised treatments with probiotics or antibiotics to improve your fertility
- Improve fertility care

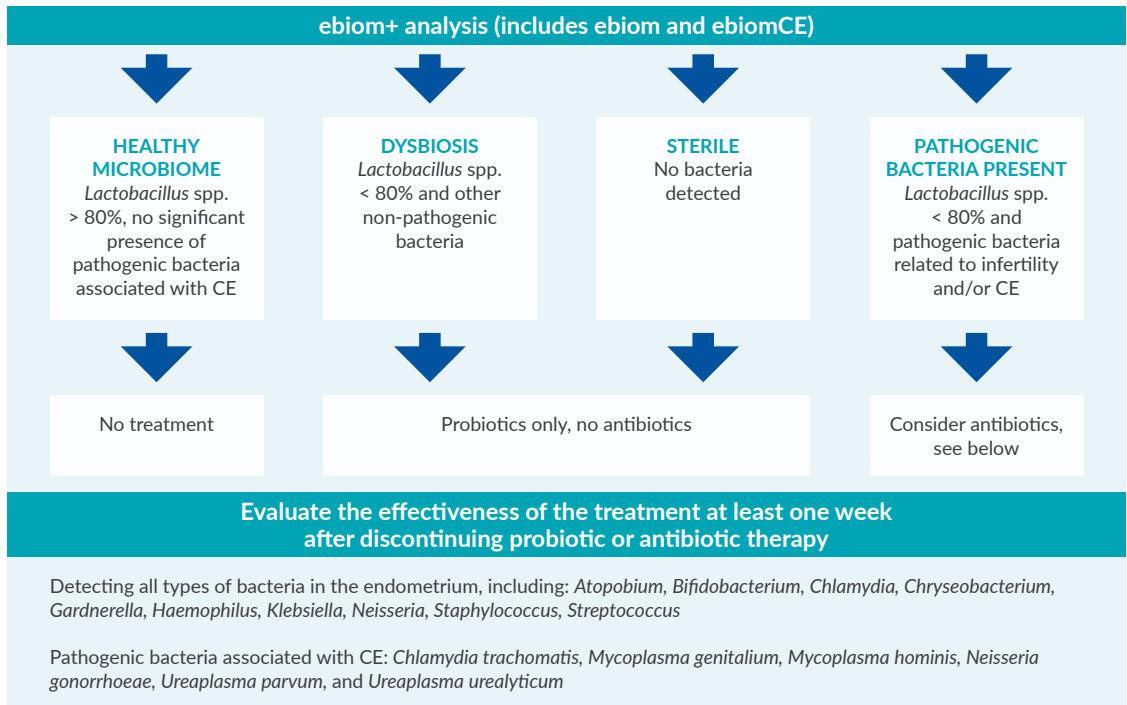
¹Haahr et al. 2016, PMID: 26911864; ²Moreno et al. 2016, PMID: 27717732; ³Moreno et al. 2017, PMID: 28602480; ⁴Moreno et al. 2022, PMID: 34980280; ⁵Reschini et al. 2022, PMID: 35589752; ⁶Park et al. 2016, PMID: 28090456

OVERVIEW OF THE TESTS

| | |
|----------------|---|
| ebiom+ | Combines ebiom with ebiomCE for a comprehensive assessment of the endometrial microbiome |
| ebiomCE | Identifies sexually transmitted pathogens with high sensitivity to accurately diagnose and choose the right treatment for chronic endometritis Technology: Real-time multiplex polymerase chain reaction (PCR) |
| ebiom | Assesses the bacteria in the endometrial flora to identify potential imbalances Technology: Next generation sequencing (NGS) |

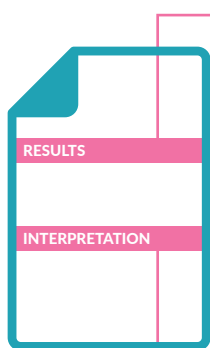
RESULTS AND INTERPRETATION

Here's what the findings might indicate:



HOW DOES THE REPORT LOOK LIKE?

The report will detail the bacterial composition of your endometrial microbiome. Here's an example of what you might see:



EVALUATION OF LACTOBACILLUS

Percentage of *Lactobacillus*, e.g., 50% *Lactobacillus* spp.
Probiotic supplementation may be recommended.

EVALUATION OF OTHER BACTERIA

Percentage of other bacteria, e.g., 5% *Prevotella* spp.
Currently, there are no known benefits or drawbacks associated with *Prevotella* spp. in fertility treatment.

EVALUATION OF POTENTIAL PATHOGENIC BACTERIA

Percentage of pathogenic bacteria, e.g., 45% *Gardnerella* spp.
Any treatment should adhere to established guidelines.

Summary of results and recommendations. In this case: treatment with metronidazole and clindamycin would be suggested according to guidelines for bacterial vaginosis.

TREATMENT RECOMMENDATIONS

PROBIOTIC TREATMENT

Certain beneficial bacteria, especially *Lactobacillus crispatus* and *Lactobacillus gasseri*, play a key role in maintaining a healthy vaginal environment and supporting fertility. Other important strains include *Lactobacillus jensenii* and *Lactobacillus rhamnosus*. These probiotics help protect against harmful bacteria by producing natural substances like hydrogen peroxide (H₂O₂), adding an extra layer of defence alongside your immune system.

If your test shows an imbalance in your microbiome, supplements containing these beneficial strains (*L. crispatus*, *L. rhamnosus*, *L. acidophilus*, *L. gasseri*, and *L. fermentum*) can help restore balance.

ANTIBIOTIC TREATMENT

If harmful bacteria are detected, antibiotics may be recommended based on established guidelines. For bacteria linked to conditions like bacterial vaginosis, treatments often include clindamycin or metronidazole. If intracellular pathogens such as *Chlamydia*, *Mycoplasma*, or *Ureaplasma* are found, your physician may prescribe doxycycline to target these specific infections.

FREQUENTLY ASKED QUESTIONS

1 CAN I TAKE THE TESTS WHILE UNDERGOING FERTILITY TREATMENTS?

Yes, assessing your microbiome status during fertility treatments could be beneficial depending on your physician's approach.

2 ARE THE TESTS PAINFUL OR RISKY?

The tests are minimally invasive, similar to a Pap smear, and most patients experience mild discomfort with little to no risks involved.

3 HOW LONG WILL IT TAKE TO GET MY RESULTS?

Results are typically available within 10-12 days, and can be discussed with your physician in a follow-up appointment.

4 HOW CAN THE RESULTS HELP ME?

Whether you're already undergoing treatment or just beginning to explore your fertility health, the test results can help guide next steps. Your physician might recommend probiotics, or antibiotics to support a healthier endometrial environment.

5 WHAT HAPPENS IF MY RESULTS SHOW AN IMBALANCE?

If an imbalance is detected, your physician may suggest treatment options, such as probiotics or antibiotics, to restore a healthy microbiome.

6 WILL I NEED TO RETEST MY MICROBIOME?

Your physician may recommend retesting after treatment to check if your microbiome has returned to a healthy balance.

BENEFITS OF THE TESTS

SAFE

Minimally invasive
with little to no
risk

EASY

Endometrial swab
collected by
healthcare
professional

INFORMATIVE

Composition of
endometrial
microbiome

ACTIONABLE

Guideline-based
treatment
recommendations

HOW TO ORDER?



Visit a physician to choose the right test for you



The sample(s) is sent to **Medicover Genetics**



Discuss the medical report with your physician



Arrange sample collection at your gynaecologist (accepted sample: endometrial swabs)



Analysis is performed in our accredited laboratory in Germany

MORE QUESTIONS?

If you have additional questions or concerns, please contact us at info.genetics@medicover.com



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