

For patients who suffer from repeated implantation failure and recurrent miscarriage

The relationship between infertility and the bacteria that inhabit the endometrium, also called endometrial microbiome

**EMMA**  
Endometrial Microbiome Metagenomic Analysis

There is a strong link between the presence of *Lactobacillus* (lactic acid bacteria) and increased pregnancy rates when there is a prevalence of 90% and more of these bacteria in the endometrium.

**ALICE**  
Analysis of Infectious Chronic Endometritis

The presence of bacteria which cause chronic endometritis in the uterus can lead to implantation failure.

## What is the EMMA test?

EMMA is a test that examines the levels of bacteria in the uterus and evaluates whether *Lactobacillus* composes 90% or more of these bacteria.

## What is the ALICE test?

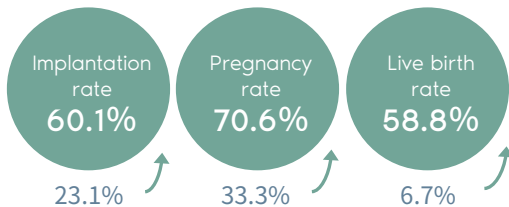
ALICE is a test that detects the presence of the 10 most common bacterial strains known to cause chronic endometritis.



### Benefits of the EMMA test

- Assessment of the complete profile of the bacteria present in the endometrium
- Recommendation of specific probiotics treatment in case the microbiome is found to be unbalanced

When the *Lactobacillus* levels are at 90% and above:



### Benefits of the ALICE test

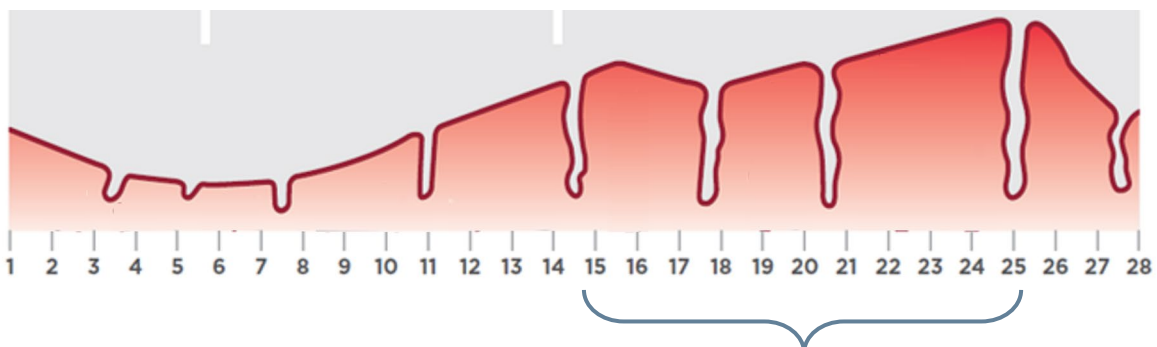
- Prevention of chronic endometritis
- Recommendation of specific antibiotic treatment in case pathogenic bacteria are detected

Chronic endometritis prevalence:



## How to do the EMMA / ALICE test?

For the EMMA / ALICE test, a small fraction of endometrial tissue is collected between days 15 and 25 of the menstrual cycle, when the endometrial thickness is at its greatest.



Collection of endometrial tissue happens during this period



## EMMA / ALICE test results

EMMA / ALICE test results can fit into one of the following patterns

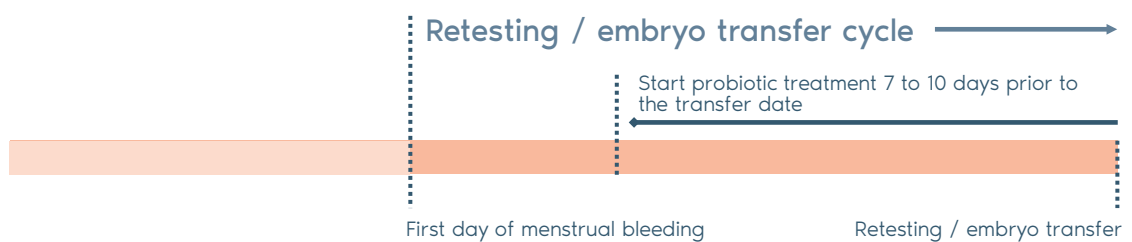
	EMMA test results	ALICE test results	Recommended treatment
1	<b>NORMAL</b> <i>Lactobacillus</i> levels in the endometrium account for 90% or more of the bacteria present	<b>NEGATIVE</b> No pathogens detected	No treatment recommended
2	<b>ABNORMAL</b> <i>Lactobacillus</i> levels in the endometrium account for less than 90% of the bacteria present	<b>NEGATIVE</b> No pathogens detected	Treatment with vaginal probiotics composed of a mix of <i>Lactobacillus</i> species is recommended (if bacteria that interfere with the survival rates of <i>Lactobacillus</i> are detected, antibiotics treatment can also be recommended)
3	<b>ABNORMAL</b> <i>Lactobacillus</i> levels in the endometrium account for less than 90% and pathogenic bacteria were detected	<b>POSITIVE</b> Pathogenic bacteria detected	Treatment with antibiotics, followed by treatment with vaginal probiotics is recommended
4	<b>DYSBIOTIC</b> <i>Lactobacillus</i> levels in the endometrium account for less than 90% and other commensal bacteria that do not represent pathogenicity were detected	<b>NEGATIVE</b> No pathogens detected	Treatment with vaginal probiotics is recommended
5	<b>ULTRALOW BIOMASS</b> Very low, insignificant amounts of bacteria were detected	<b>NEGATIVE</b> No pathogens detected	Treatment with vaginal probiotics is recommended



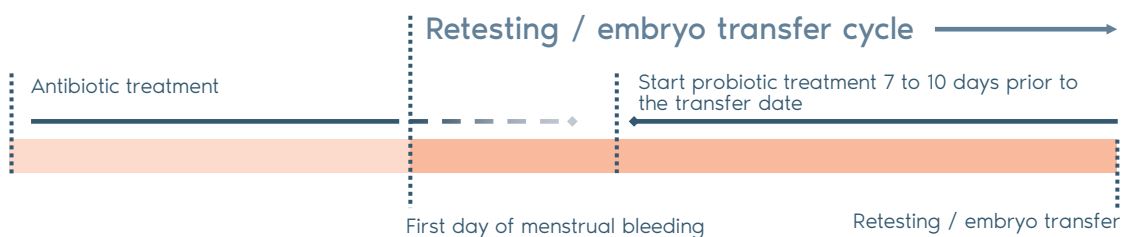
## What is the transfer timeline like when treatment is recommended?

\* Embryo transfer timelines may differ from the ones shown below; please consult your doctor for specific details about your case.

### Example 1) When vaginal probiotic treatment with *Lactobacillus* is recommended:



### Example 2) When antibiotic treatment followed by vaginal probiotic treatment with *Lactobacillus* is recommended:



Once results are back, start immediately with the recommended antibiotics (7 to 14 days treatment).