

## | ERA Test: Endometrial receptivity

The ERA test (Endometrial Receptivity Analysis) is a cutting-edge genetic test that evaluates the receptivity of the endometrial lining to determine the ideal time for embryo transfer. Every woman's "implantation window"—the period when the uterus is most receptive to an embryo—can vary. By analysing gene expression patterns, ERA helps ensure that the embryo is transferred at the most optimal time, increasing the chances of a successful pregnancy.

### What Does the ERA Test Measure?

⇒ The ERA test examines over 200 genes involved in endometrial receptivity. These genes regulate key processes such as:

- Cellular communication – Ensuring that the uterus is prepared to receive an embryo.
- Immune response regulation – Creating a favorable environment for implantation.
- Hormonal synchronization – Aligning the endometrial phase with the embryo's developmental stage.

⇒ By analysing gene expression, the ERA test can classify the endometrium as:

- Receptive – The implantation window is at the expected time.
- Pre-receptive – The uterus needs more time before it can support implantation.
- Post-receptive – The implantation window has passed, and transfer should be done earlier.

This information helps doctors personalize the embryo transfer schedule.

### Who Should Consider This Test?

**ERA could be considered for patients who:**

- Have experienced recurrent implantation failure despite transferring high-quality embryos.
- Have undergone multiple unsuccessful IVF cycles.

## How is the ALICE Test Performed?

### ⇒ Endometrial Sample Collection:

- A small biopsy of the uterine lining is taken during a mock cycle (a cycle without embryo transfer but mimicking the conditions of a real transfer).
- The biopsy is typically done between 5 days after starting progesterone supplementation.
- The procedure is quick and minimally invasive, often done in a doctor's office without anaesthesia.

### ⇒ Gene Expression Analysis:

- The sample is processed using Next-Generation Sequencing (NGS) to evaluate gene activity related to endometrial receptivity.

### ⇒ Personalised Transfer Plan:

- If the endometrium is found to be receptive, the embryo transfer can be scheduled at the same point in a future cycle.
- If it is pre- or post-receptive, the embryo transfer timing will be adjusted accordingly.

## Why is the ERA Test Important for Fertility?

Successful implantation depends on perfect synchronization between the embryo and the uterus. Even a minor shift in timing can lead to implantation failure. The ERA test provides personalized insights into a patient's unique implantation window. Although this test was very promising when it was initially launched, recent studies has failed in showing an improvement in live birth rates. This brings limitations to the efficacy of test and its benefits.

## Costs

ERA Test	€1300
EndomeTRIO (ERA + ALICE + EMMA)	€1800

Currently, there is no single "perfect" diagnostic test. In fact, the medical literature reveals ongoing controversy and a lack of consensus regarding when to use one test over another. In many cases, it may be appropriate to perform multiple tests, as their interpretation greatly depends on the individual clinical context. These tests can provide complementary insights, and the decision to use them should be tailored to each patient's unique history, presentation, and fertility journey.