PRELI test

Decode the Endometrium. Empower Every Cycle

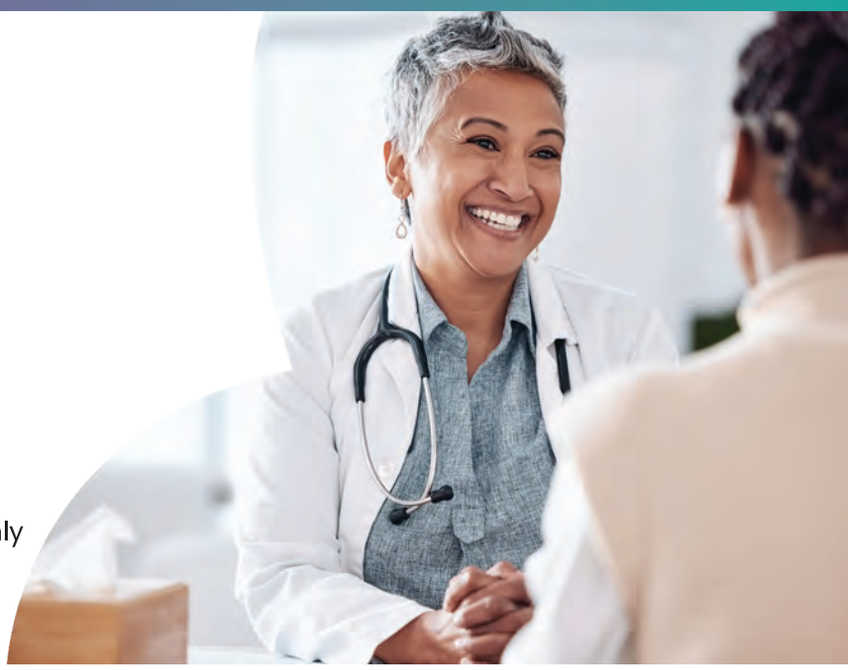
The clinical challenge

Despite major advances in embryo assessment, a significant proportion of implantation failure and miscarriage remains unexplained.

For many fertility specialists, the endometrium remains a black box: biologically active, clinically decisive, but difficult to measure.

Research led by Professor Jan Brosens has shown that:

- The womb lining plays an active role in determining pregnancy outcome
- Failures can originate before conception, not only after implantation
- Abnormal endometrial responses often recur across cycles, increasing future risk



The biological foundation

Every cycle, progesterone triggers the decidual reaction, a tightly regulated, sterile inflammatory process that:

- Creates a temporary implantation niche
- Transforms the endometrium into the decidua, the tissue that anchors and sustains the placenta
- Determines whether implantation leads to pregnancy or mentruation-like bleeding

When this process is dysregulated, pregnancy may fail. Even with a healthy embryo.

What PRELI measures

PRELI is a molecular test that assesses the decidual reaction—the foundation of implantation and pregnancy. It evaluates the three defining hallmarks of healthy decidualisation:

1. Endometrial gland differentiation and nutrient-rich secretions
2. Transformation of stromal cells into stress-resistant decidual cells
3. Expansion of specialised uterine NK cells that promote immune tolerance and placental development

physiological implantation failure

Unhealthy embryos disrupt the decidual reaction, triggering menstruation-like bleeding.

This process, known as physiological implantation failure, acts as a safeguard, preventing maternal investment in a pregnancy that cannot be sustained.

When this protective process falls outside the physiological range, the risk of failure of a healthy embryo or miscarriage increases.

Rooted in 20+ years of human endometrial cell biology research.

Scan the QR code to access the peer-reviewed publication.

What PRELI reveals

PRELI determines whether the decidual reaction is:

- Within the physiological range
- Accelerated
- Stalled

Each state carries distinct clinical implications.

Clinical meaning

Accelerated decidual reaction

- Endometrium becomes resistant to implantation
- Increases risk of pathological implantation failure
- Healthy embryos may be rejected prematurely

Stalled decidual reaction

- Endometrium remains permissive but unstable
- Allows implantation in tissue prone to breakdown
- Increases risk of bleeding and miscarriage

Within the physiological range

- Balanced implantation
- Robust transition to pregnancy-supporting decidua

Importantly, abnormal reactions recur across cycles far more often than by chance alone, identifying women at risk of repeated failure or loss.

Progesterone insight

Progesterone is the master regulator of decidualisation.

When PRELI is combined with serum progesterone levels, it helps determine whether:

- An accelerated reaction reflects progesterone excess or endometrial progesterone hypersensitivity
- A stalled reaction reflects progesterone deficiency or endometrial progesterone resistance
- This distinguishes hormone levels from tissue response—a critical clinical gap.

Why this matters to your practice

PRELI helps you:

- Identify preventable implantation failure and miscarriage
- Distinguish embryo-driven vs endometrium-driven failure
- Recognise women at risk before another loss occurs
- Inform targeted, pre-pregnancy interventions
- Move beyond trial-and-error toward precision endometrial care

GET IN TOUCH

When the endometrium is understood, fertility care becomes more precise.