



# TESTS TO SUPPORT A SUCCESSFUL PREGNANCY

*Please note, this is not medical advice — just recommendations from a fertility coach who is also on the journey.*

Here is an overview of various tests that can help identify potential causes of recurrent pregnancy loss. I hope it's not too overwhelming! I am super happy to walk with you through which tests and procedures are suggested based on your unique case, who can administer them, and what treatment strategies are available. Remember, over half of pregnancy losses are due to chromosomal abnormalities (especially the older you get), and these normally occur within the first trimester. Make sure you are ruling that out by testing embryos or products of conception, before you decide to pursue extensive other testing.

## Tests For A Person With A Uterus

### Uterine Environment and Anatomy:

- **Endometrial Biopsy:** A small sample of the uterine lining (endometrium) is taken and examined under a microscope. Assesses endometrial receptivity, inflammation, and other abnormalities.
  - Ask for a biopsy with CD138 stain to check for plasma cells and endometritis.
  - Ask for a CD56 staining to test for Natural Killer cells.
  - Ask for BCL6 staining, or do the Receptiva, which can be helpful to diagnose/test for endometriosis, although there are false positives, so the only way you can truly test for Endometriosis is through a Laparoscopy.
  - Emma/Alice biopsy can also be helpful, although ALICE only tests for specific bacteria linked to chronic endometritis and EMMA analyzes overall uterine microbiome, but may not detect every pathogen or subtle immune imbalance and thus treatment is not always effective.
  - The ERA is another test, that for some people with RPL (Recurrent Pregnancy Loss) has been helpful, although some doctors do not use it.
- **Hysterosalpingogram (HSG):** X-ray to assess the shape of the uterus and check if the fallopian tubes are open. Detects abnormalities like polyps, fibroids, or blockages.
- **Hysteroscopy:** Visual examination of the uterine cavity using a thin, lighted scope. Allows for direct visualization of anything abnormal.
- **Saline Infusion Sonography (SIS):** Ultrasound of the uterus after injecting saline solution. This improves visualization of the uterine cavity and any abnormalities.
- **Cervical Insufficiency:** If the cervix is weak, it may open too early (usually in the second trimester) and can cause a loss. Can only be tested during pregnancy through a Serial Transvaginal Ultrasound. Starting around 14–16 weeks, a specialist (often a Maternal-Fetal Medicine doctor) will measure the cervical length every 1–2 weeks to see if it is shortening or "funneling" under pressure.



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## Blood Tests:

- **Antinuclear antibodies (ANA):** A positive ANA can suggest underlying immune activation, which in some cases may impact implantation and early pregnancy.
- **Antiphospholipid antibodies (APA):** Include lupus anticoagulant, anticardiolipin antibodies, and  $\beta$ 2-glycoprotein I antibodies, all of which can impact the ability to maintain a pregnancy.
- **B6, B12:** Support methylation, hormone metabolism, and early fetal development.
- **CoQ10:** Supports mitochondrial function and may help improve egg quality and cellular energy needed for embryo development and endometrial health.
- **CRP (C-reactive protein):** A marker of inflammation; elevated levels may interfere with implantation and overall fertility.
- **Cytokine profiling:** Th1/Th2 balance, TNF-alpha, TNF-Alpha/IL-10 Ratio, IFN-gamma measures key immune system signaling proteins to assess whether inflammation or immune imbalance could be affecting implantation.
- **Fasting Glucose:** Shows how well your body manages blood sugar, and imbalances can affect ovulation, egg quality, and implantation.
- **Fasting Insulin:** Measures how your body responds to sugar, and elevated levels (insulin resistance) can disrupt hormones, reduce egg quality, impair implantation, and may increase the risk of pregnancy loss.
- **Ferritin:** Optimal ferritin levels support oxygen delivery and healthy endometrial function, which can impact implantation and early pregnancy.
- **Fibrinogen:** A protein involved in blood clotting that rises when the body is inflamed.
- **Folate:** Essential for DNA synthesis, cell division, and early embryo development.
- **General CBC/CMP/Lipids (Lipid Panel):** Healthy cholesterol levels support hormone production and overall reproductive health.
- **Hemoglobin A1c (HgbA1c):** Reflects your average blood sugar levels; elevated levels are linked to hormonal imbalance, inflammation, reduce implantation success, and increase pregnancy loss risk.
- **HLA-C Cross-Typing (KIR/HLA-C):** This tests the compatibility between the mother's "KIR" receptors (on her uterine Natural Killer cells) and the "HLA-C" markers on the embryo (inherited from both parents). If there is a mismatch, the mother's immune system may not recognize the pregnancy as "safe," leading to restricted placental growth or loss. Not all doctors believe in this.
- **Homocysteine:** Elevated homocysteine can impact blood flow and inflammation, potentially affecting implantation and early placental development.





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## Blood Tests Continued:

- **Hormone levels:** FSH, LH, estradiol, progesterone, AMH, DHEA to evaluate ovarian reserve and hormonal balance, which can impact implantation.
- **Interleukin-6 (IL-6):** Elevated levels of IL-6 in the blood or uterine lining can indicate a **pro-inflammatory** imbalance, which could be hostile to an embryo, potentially leading to implantation failure or early-stage loss.
- **Iron and Total Iron Binding Capacity:** Iron status affects energy, hormone production, and uterine lining health—all important for conception, implantation and supporting a healthy pregnancy.
- **Leptin:** Both low leptin levels in early pregnancy and altered leptin signaling have been linked to recurrent pregnancy loss.
- **MTHFR:** Variants may affect folate metabolism, which can influence egg quality, implantation, and early pregnancy development.
- **Natural killer (NK) cell assay:** Measures the activity of NK cells in the blood, which may be associated with implantation failure in some cases.
- **Prolactin:** Elevated prolactin levels can interfere with ovulation and hormone balance, which may increase the risk of early pregnancy loss.
- **Sed Rate by Modified Westergren (ESR):** Reflects general inflammation in the body, which can impact hormonal balance and overall reproductive health.
- **Thrombophilia Panel:** Genetic tests including Factor V Leiden and Prothrombin mutation to detect a blood clotting disorder. These can have a direct impact on pregnancy loss.
- **Thyroid function:** TSH (Pregnancy), Free T4, Reverse T3, T3, thyroid peroxidase antibodies (TPO), and thyroglobulin antibodies (TgAb) to check thyroid function. Thyroid hormones directly influence endometrial receptivity, embryo implantation and may play a role in recurrent pregnancy loss.
- **Vitamin D:** Supports hormone balance and healthy endometrial receptivity.
- **White Blood Cell (WBC) Count & Ratios:** A standard CBC can be revealing. Specifically, the **Neutrophil-to-Lymphocyte Ratio (NLR)** is increasingly used as a simple marker for systemic inflammatory stress.
- **Zinc (Plasma):** Plays a role in hormone regulation and cell division, both essential for ovulation, fertilization, and implantation.
- **Zonulin:** A marker for intestinal permeability (often called "leaky gut"), which allows toxins into the bloodstream that trigger systemic inflammation. Can be tested through the stool as well. Not approved by the FDA.



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## Other Tests/Procedures:

- **Laparoscopy:** Surgical procedure that allows doctors to look inside the pelvis to identify and remove issues like endometriosis, adenomyomas, scar tissue, ovarian cysts/endometriomas, uterine fibroids etc, which can affect fertility, implantation, and sustaining a pregnancy. Not necessary for everyone.
- **Uterine Microbiome Testing:** More thorough than checking for endometritis, because it can tell you exactly what bacteria/infections are present. Emma/Alice test can be helpful, but testing from Fertilysis is the absolute most comprehensive.
  - Untreated infections like mycoplasma, ureaplasma, or even bacterial vaginosis can increase the risk of loss.
- **Vaginal Microbiome Testing:** Evaluates the presence of infections, bacteria, or yeast in the vagina that can affect the uterine environment, and pregnancy success. Examples are BV, Ureaplasma etc. Can order this test at home using companies [MicroGenDX Evvy](#) or [Fertilysis](#).
- **Stool testing: Zonulin:** A marker for intestinal permeability (often called "leaky gut"), which allows toxins into the bloodstream that trigger systemic inflammation. **Fecal Calprotectin:** is a marker of active migration of white blood cells into the intestinal mucosa, indicating direct inflammation in the gut. These tests are not recommended by the ESHRE, RCOG, ASRM for RPL, although naturopathic doctors believe in the correlation.





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## Tests for the Person Providing Sperm (If Possible)

- **Sperm culture:** Tests for bacterial or infectious imbalances in semen, which can affect sperm quality, motility, and overall fertility. Can be tested by multiple companies at home as well.
- **Semen Analysis:** Evaluates sperm count, motility, morphology (shape), and other factors.
- **Sperm DNA Fragmentation:** Measures the amount of DNA damage in sperm. High levels of fragmentation can affect fertilization, implantation and increase pregnancy loss risk.

## Tests for Both People (If Applicable)

- **Genetic Carrier Screening:** Detecting whether you and your partner carry recessive or X-linked genetic conditions. Can look at 200–500+ conditions depending on the panel.
- **Karyotype:** A genetic test that examines the number and structure of chromosomes in you and/or your partner (donor). It can identify genetic abnormalities that might contribute to recurrent pregnancy loss, implantation issues, or fertility challenges.

## Tests for Embryo (If doing IVF)

- **Preimplantation Genetic Testing for Aneuploidy (PGT-A):** Screens embryos for chromosomal abnormalities of embryos. This can be very helpful in decreasing pregnancy loss risk. Not for everyone.
- **Preimplantation Genetic Testing for Monogenic/Single Gene Defects (PGT-M):** Tests embryos for specific genetic disorders if the parents are carriers.

## Additional Considerations

It's important to note that testing is never "one size fits all." The specific tests and procedures recommended depend on your unique medical history, lifestyle factors, and previous testing and treatment outcomes.

My goal as a Fertility Coach and Educator is to help you identify potential issues and advocate for a tailored approach that improves your chances of a successful pregnancy. While I provide the suggestions and research to empower your journey, a thorough consultation with your medical team—including your RE, endocrinologist, naturopathic doctor, reproductive immunologist, etc.—is crucial to finalizing your clinical plan.

I am here to help you prep for those appointments, make sense of the results, and assist with next steps. Please reach out with any questions!



Hi, I'm Mariah Tuffy Joseph, MSW — a Fertility Coach and Educator. I offer personalized support, guidance, education, tools and resources to help you navigate the practical, physical, emotional and relational challenges of fertility, pregnancy loss, and sexual health. I specialize in helping clients uncover and address root causes of fertility challenges and recurrent pregnancy loss, as well as providing guidance for natural and IVF conception, especially for women over 35.

I lead One on One and Couples Sessions. I also hold Online and In Person Support Groups for women (South Florida, USA).

My goal is to help you go from feeling shame, confused, overwhelmed and alone, to empowered, clarity, calm and connection on your journey.

I am on this intense life changing fertility journey with you—after 3 years, 3 losses, multiple fertility programs, and 3+ IVF cycles, we still don't have our baby...



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