Northwestern Medicine®

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Northwestern Medicine®

Recurrent Pregnancy Loss Clinic

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Welcome to Northwestern Medicine Recurrent Pregnancy Loss Clinic

At Northwestern Medicine Recurrent Pregnancy Loss Clinic, our mission is to advance and improve the reproductive outcomes of individuals and couples by:

- Delivering exceptional and compassionate patient care
- Pioneering leading-edge research
- Training future physicians

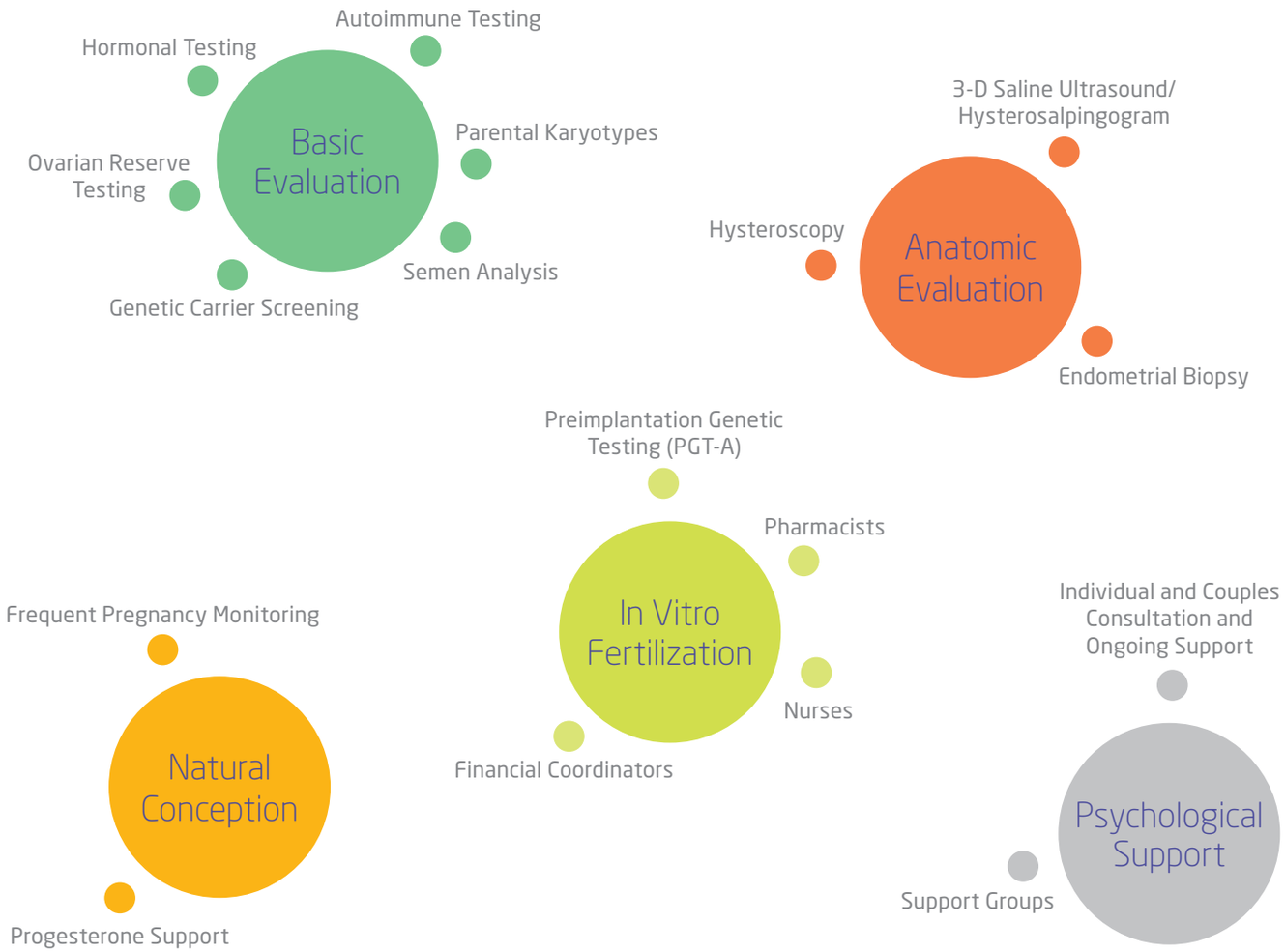
Included in this booklet, you will find information about our evaluation for recurrent pregnancy loss and the treatment options that we offer.

Thank you for letting our family help grow your family.

Your Northwestern Medicine Center for Fertility and Reproductive Medicine Team

Your journey

We recognize that everyone's journey is unique. Highlighted below are some evaluation and treatment strategies that may be recommended as we help you achieve your dream of delivering a healthy baby.



Glossary of terms

Autoimmune testing
These blood tests will evaluate for autoimmune causes of recurrent pregnancy loss, including thyroid antibodies and antiphospholipid antibody syndrome.

Endometrial biopsy
This procedure is done at the same time as the hysteroscopy. An endometrial biopsy evaluates for markers of infection or inflammation inside the uterus.

Hormonal testing
These blood tests will evaluate for hormonal causes of recurrent pregnancy loss, including thyroid stimulating hormone (TSH), prolactin and hemoglobin A1c.

Hysteroscopy
This procedure is done in the first part of the menstrual cycle. The physician uses a small camera to look inside the uterus. The goal is to identify anatomic causes for recurrent pregnancy loss such as fibroids, polyps, scarring, retained pregnancy tissue or a septum (abnormality in the uterus).

In vitro fertilization
This treatment involves using injectable hormones to grow follicles, retrieving eggs and fertilizing in the lab. Embryos are then transferred back into the uterus.

Karyotype
This chromosomal testing of both partners looks for inherited genetic causes of pregnancy loss, such as translocations.

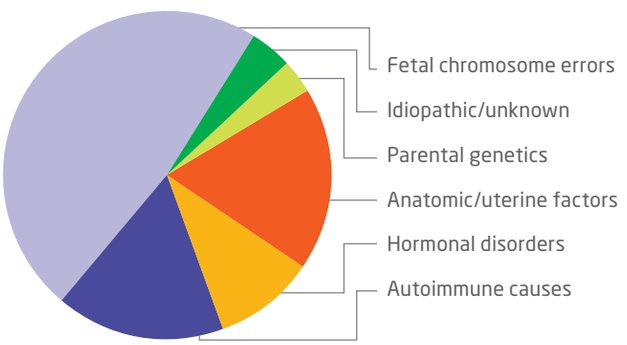
Ovarian reserve testing
This testing predicts the number of eggs that may grow in the ovaries in response to stimulation with hormones.

Semen analysis
This is an evaluation of sperm for normal shape and sperm count.

Causes of recurrent pregnancy loss

Recurrent pregnancy loss can be caused by hormonal, genetic, autoimmune, anatomic/uterine or idiopathic/unknown reasons.

Causes of Recurrent Pregnancy Loss



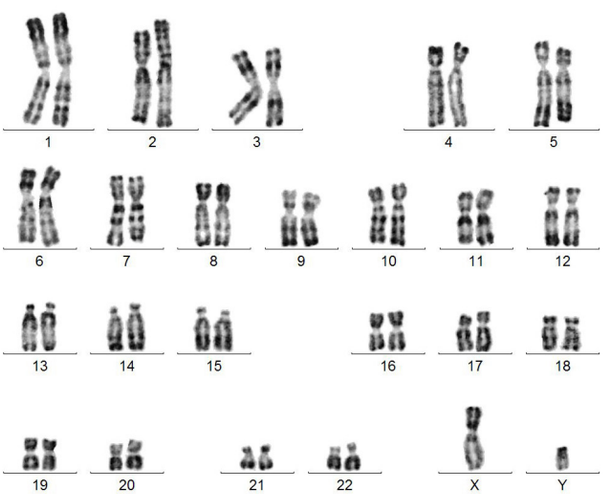
Genetic causes of pregnancy loss

More than half of all miscarriages are caused by a chromosome error in the pregnancy. These errors can either be passed down from a woman or her partner (such as translocation), or they can be random.

A karyotype of each partner is recommended to evaluate for parental genetic abnormalities. Genetic testing of the miscarriage tissue may also be recommended to determine if a random chromosome error was the cause.

The biggest risk factor for a random chromosome error is maternal age. The risk increases with the age of the mother.

Genetic testing of embryos created with in vitro fertilization (IVF) may be offered in certain cases. This technology is called preimplantation genetic testing for aneuploidy (PGT-A).



Normal karyotype

Hysteroscopy and endometrial biopsy

In addition to a laboratory evaluation, your physician will recommend an evaluation of your uterus with a hysteroscopy and endometrial biopsy. A hysteroscopy uses a small camera to look inside the uterus. It is performed in the procedure suite in the office after the end of your menstrual period but before ovulation. For most women, the test will occur between days 5 and 11 of the cycle.

An endometrial biopsy can be performed at the same time as a hysteroscopy. The biopsy tissue is examined by a pathologist to evaluate for signs of chronic infection or inflammation.

Preparing for the procedure

Please call the office on day 1 (first day of full menstrual flow) to make your appointment for the hysteroscopy and endometrial biopsy. You will be instructed on when to arrive and how long to fast from food or drink before the procedure. Sometimes it is necessary to start birth control pills temporarily so that the procedure can be performed at the appropriate time.

What to expect during the procedure

You will be brought back to the procedure suite in our Chicago office. You will be brought back to a pre-op pod and asked to changed into a gown. A nurse will place an IV in your arm to give you IV fluids.

You will meet with the physician who will be doing your procedure. As a group practice, the physician performing the procedure may be different from your primary provider. You will also meet with the anesthesiologist who will be in the procedure. You will be asked to sign a consent form for anesthesia and for the hysteroscopy. You will then receive sedation for the procedure.

The procedure typically takes about 20 minutes, but you will be in the procedure suite for about 2 1/2 hours. You must have someone available to drive you home after the procedure.

Hysteroscopy and biopsy results

The physician will discuss the results of the test with you after the procedure. Do not hesitate to ask questions after the procedure if you have any concerns, need help or require further explanation.

Your physician may find a septum, fibroid, polyp, scarring or retained pregnancy tissue during your hysteroscopy. Sometimes these can be removed in the procedure suite and other times they need to be removed in the operating room. The endometrial biopsy may show signs of a chronic infection (chronic endometritis) that will need to be treated with antibiotics.

At your next appointment, your physician will discuss how the test results will affect your treatment plan.

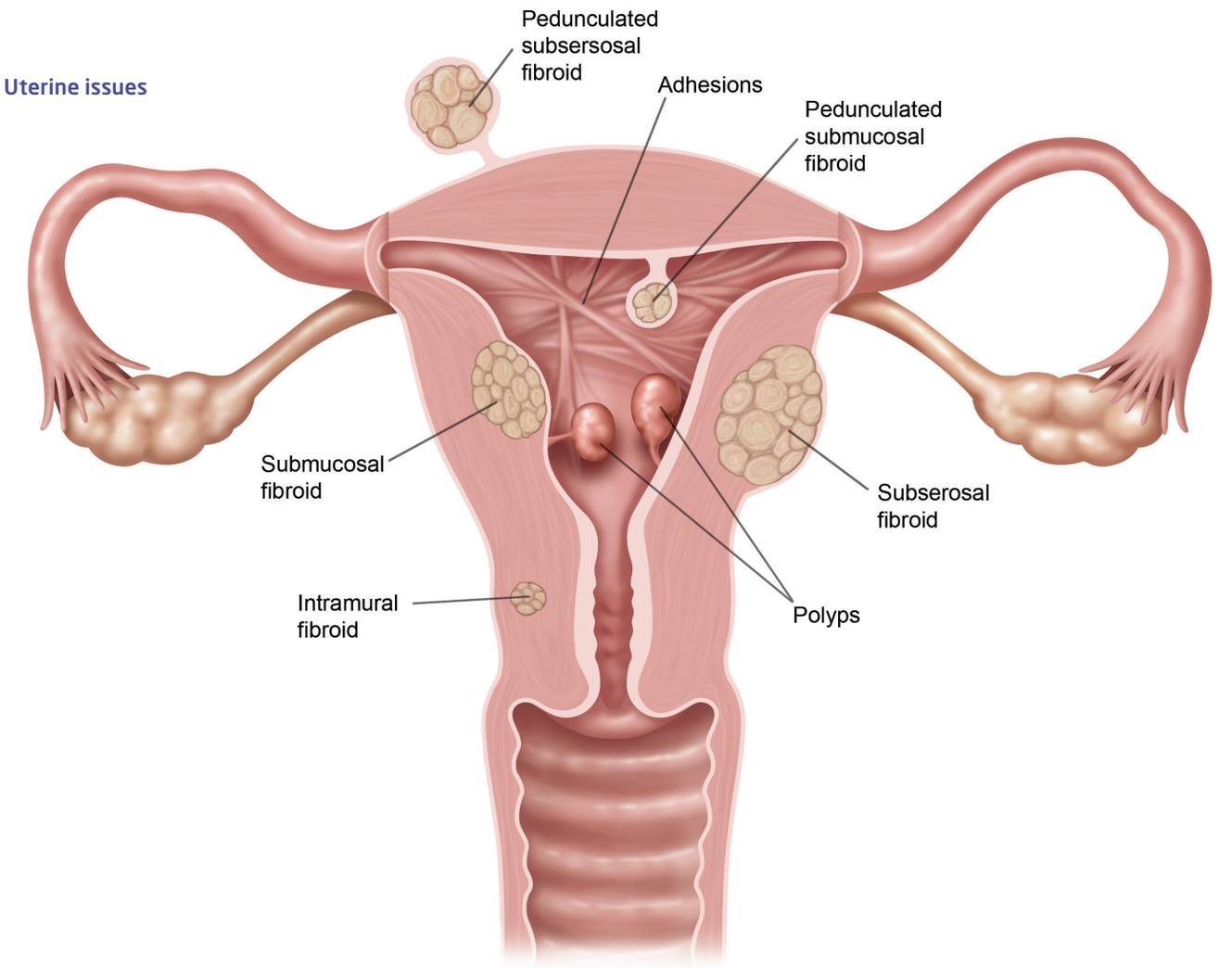
After the procedure

It is normal to experience cramping and discomfort after the procedure. These symptoms should decrease over the next 12 to 24 hours. Slight bleeding or spotting is normal for a few days. You may resume most normal activities.

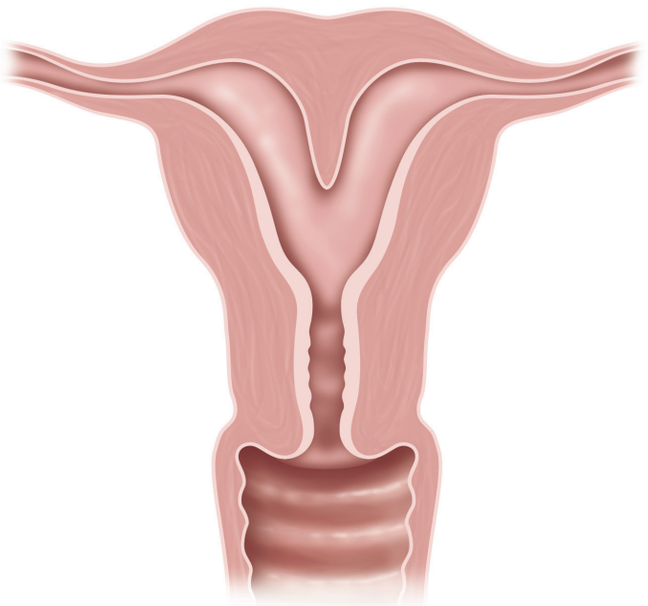
Please notify your physician if you have any of the following:

- Heavy vaginal bleeding
- Bleeding that continues longer than 1 week
- Severe cramping
- Temperature greater than 101.5 degrees F

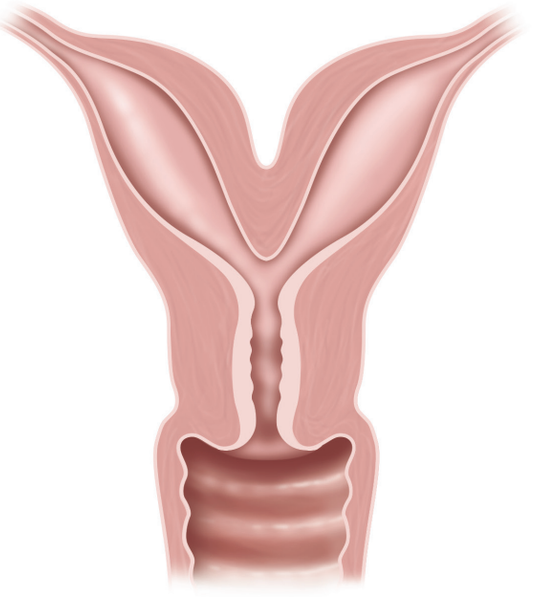
Uterine issues



Septate uterus



Bicornuate uterus



Genetic carrier screening

Northwestern Medicine Center for Fertility and Reproductive Medicine offers screening to determine whether you are a carrier for genetic mutations.

What it means to be a carrier

A gene is a piece of your hereditary material (DNA) that is responsible for an inherited trait. Each of us inherits 2 genes for each trait, 1 from our mother and 1 from our father. All of the genetic diseases in this screening program are inherited the same way.

If you inherit only 1 gene with a change or mutation for the disease, you are only a "carrier," meaning that you have the gene with the mutation and can pass it on to your children, but it does not affect your health. If you inherit 1 gene from each parent for the same disease (2 copies of the gene with a mutation for the disease), you do not have a normal functioning copy of the gene; this means you have the disease.

Since carriers are healthy, the only way to detect a carrier is through screening. Carriers usually do not have a family history (since it needs to come from both sides of the family). When we discuss the chances of carrying the gene for a particular disease, we assume you do not have a family history.

If you do have a family history, you actually have a higher chance of carrying the gene than the general population. It is important to discuss your family history with your physician.

How screening is done

The screening is done through a simple blood test. There are no special preparations needed. If you elect screening, you will be asked to complete a request and consent form. A blood sample will then be drawn. Results are generally available within 2 weeks and will be given to you by telephone. Ideally, it is recommended that you have a carrier screening before pregnancy.

Understanding your results

For diseases that can be detected through DNA screening, the laboratory looks for the most common mutations, or changes, in the gene. No further testing would be recommended if your results are negative.

Since carrier screening does not cover all mutations causing disease, this does not mean you are not a carrier. It does, however, mean the likelihood of being a carrier has been significantly reduced.

If you are found to have a mutation, this means you are a carrier of the disease. If the person contributing sperm has not already been screened, this would be recommended as soon as possible. If you and the person contributing sperm are found to be carriers for the same mutations, your physician will refer you to a genetic counselor to further discuss potential risks for future pregnancies/children.

Ovulation monitoring and vaginal progesterone

Your physician may recommend using vaginal progesterone to support your next pregnancy. Progesterone is a hormone made after ovulation to support the lining of your uterus.

Taking extra progesterone is safe in pregnancy and may help prevent miscarriage. Progesterone must be started at the appropriate time in the menstrual cycle after ovulation to be effective. Therefore, monitoring the timing of ovulation is important.

Ovulation monitoring

Monitor your ovulation using an ovulation predictor kit. This urine test can be bought over the counter or ordered online. The test measures the amount of luteinizing hormone (LH) in your urine. The amount of LH increases just before ovulation, called the "LH surge" or "peak fertility."

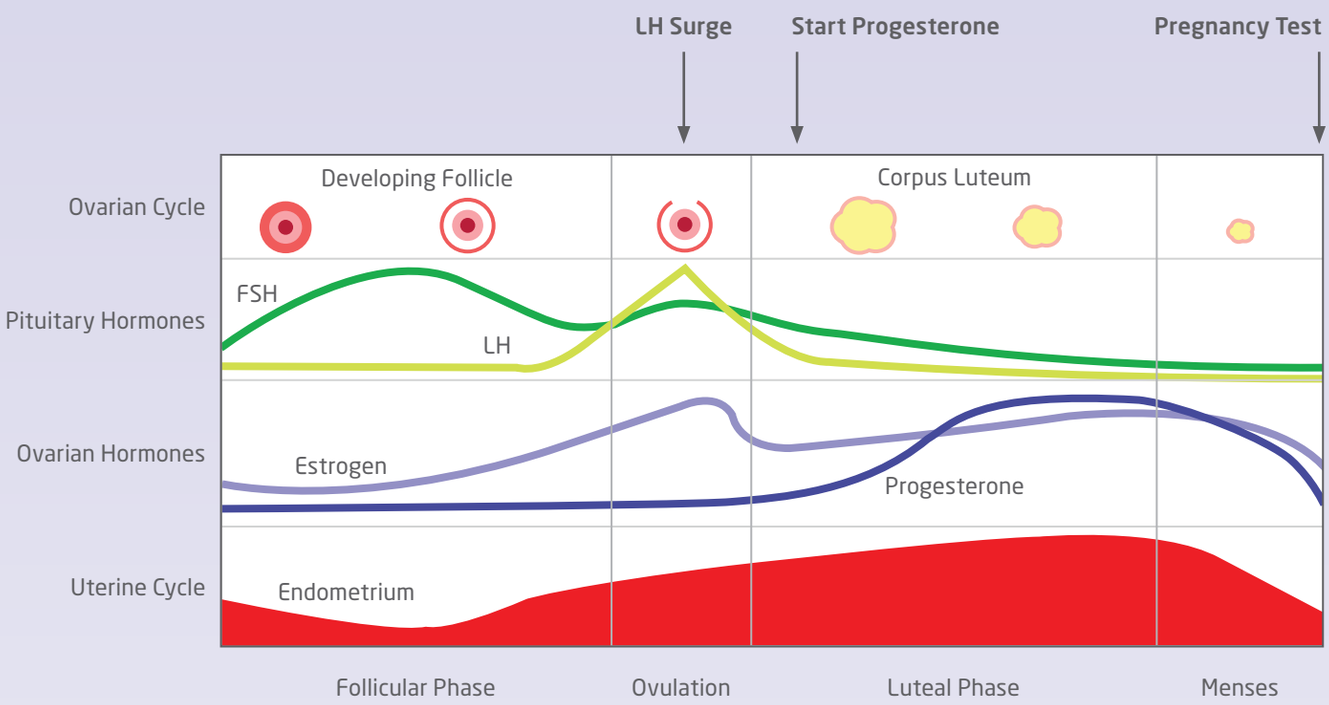
Vaginal progesterone

Begin taking the vaginal progesterone 72 hours after your LH surge is detected. Place the vaginal tablet as far into the vagina as you can. It will dissolve there. You may notice a pink-colored vaginal discharge from the progesterone. You may also feel tired or moody.

Take a pregnancy test 14 days after your LH surge. If the test is negative, stop progesterone and await your period. The progesterone can delay the period from starting, so it is important to stop taking the medication if you are not pregnant.

What if I am pregnant?

If the test is positive, continue your progesterone. Call the office to schedule a blood pregnancy hormone test (beta hCG). If your blood test is positive, we will repeat a level in 48 hours. Ideally the beta hCG should double between the first and second blood tests, although sometimes a slower rise is normal. If your hormone levels are rising, we will schedule your first pregnancy ultrasound between 5 and 6 weeks. We know this can be a stressful time, and our psychologists are available to see you.

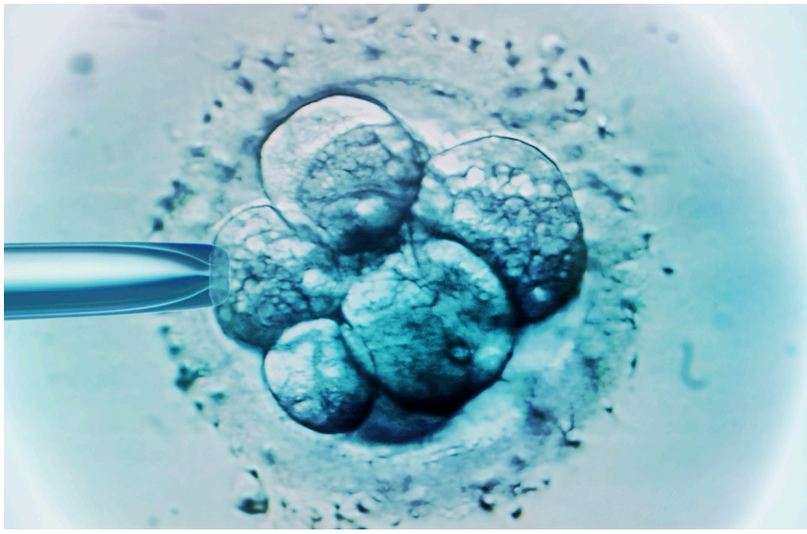

LH Surge
Start Progesterone
Pregnancy Test
Ovarian Cycle
Developing Follicle
Corpus Luteum
Pituitary Hormones
FSH
LH
Ovarian Hormones
Estrogen
Progesterone
Uterine Cycle
Endometrium
Follicular Phase
Ovulation
Luteal Phase
Menses

IVF with PGT-A

If your physician recommends in vitro fertilization (IVF), preimplantation genetic testing (PGT-A) can be performed on your embryos to assess whether all 23 pairs of chromosomes are present.

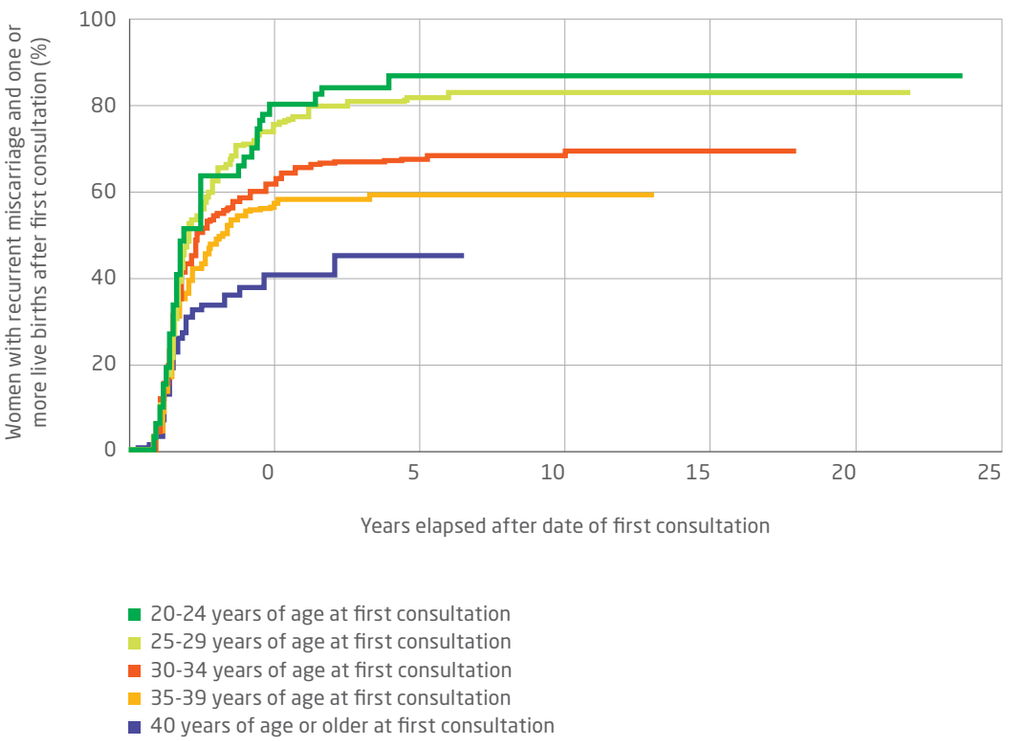
Normally, an embryo contains 23 pairs of chromosomes (for a total of 46): 22 pairs of numerical chromosomes (1 through 22) and 1 pair of sex chromosomes (XX female, XY male). Chromosome screening assesses whether the embryo contains exactly 23 pairs of chromosomes. Embryos that contain either too many or too few chromosomes are considered to be abnormal and are not eligible for embryo transfer. These are called aneuploid embryos.

Only genetically normal embryos will be transferred into your uterus. It is critical to understand that genetic testing is 96% accurate.



Chances of success

Women with recurrent pregnancy loss have a high likelihood of having a baby. Among women with a history of 3 pregnancy losses who are seen for a consultation, there is over a 70% chance of having a baby and over a 50% chance that the next pregnancy will be a success.



Psychological support

The journey to parenthood can take a long and winding path, particularly for women with recurrent pregnancy loss. Recurrent pregnancy loss can take an emotional toll on individuals and couples as they endure the sometimes unpredictable course of treatment and pregnancy.

Northwestern Medicine Recurrent Pregnancy Loss Clinic provides personalized individual and group psychological support and treatment.

We offer pretreatment psychological consultation within the clinic. In addition, women and their partners can be seen for ongoing psychological support during their treatment process and beyond.

The psychological services focus on:

- Identifying anxiety and depressive symptoms
- Providing evidence-based psychological interventions to enhance coping and dealing with treatment-related and other stressors
- Processing emotions related to pregnancy and loss
- Fostering effective communication with partners, family and friends
- Coping with anxiety around pregnancy and fear of pregnancy loss
- Grief counseling in the event of pregnancy loss

Recurrent pregnancy loss research

Our team of physicians, psychologists and nurses are committed to improving the lives of women with recurrent pregnancy loss. We are working to identify additional causes of recurrent pregnancy loss, pioneer new treatments and understand the psychosocial factors impacting women with recurrent pregnancy loss.

To help us find new causes and treatments, we will ask you to participate in some of our recurrent pregnancy loss research. Some studies may involve simple questionnaires while others may involve blood tests, sperm tests or new treatments used in research.

Participation in research is completely voluntary. You can decide whether or not to participate. If you choose not to participate, it will not impact your clinical care in any way.

We truly appreciate your help as we work to find answers to this devastating condition.

Thank you for trusting us with your care.

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