Preimplantation Genetic Testing (PGT)

Testing embryos before they are placed in the uterus

UW Medicine
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This handout explains preimplantation genetic testing, how the tests are done, and what to expect.

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What is preimplantation genetic testing?

Embryos created during *in vitro fertilization* (IVF) can be tested for problems with their *chromosomes*. Chromosomes carry information about how our bodies grow and develop. Testing can help because embryos with abnormal chromosomes may not lead to pregnancy. If they do result in pregnancy, there is a higher risk of miscarriage, birth defects, or other health problems.

With *preimplantation genetic testing*, you can choose to have only embryos with normal chromosomes placed in your uterus. We do this testing before the embryos are placed in your uterus.

What types of tests are done?

There are 2 types of tests for embryos: *preimplantation genetic testing for aneuploidy* (PGT-A) and *preimplantation genetic testing for monogenic (single gene) disorders* (PGT-M).

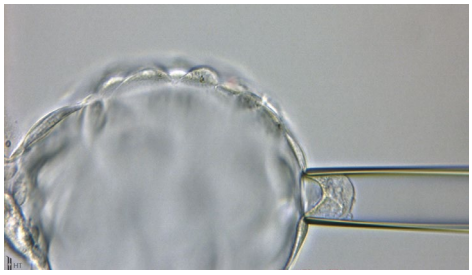
Preimplantation Genetic Testing for Aneuploidy (PGT-A)

PGT-A tests an embryo for these abnormalities:

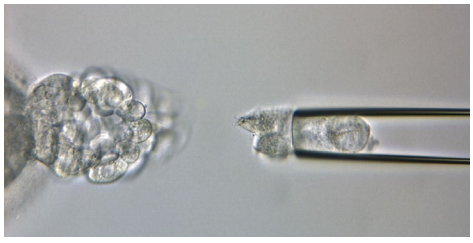
- **Too few or too many chromosomes.** A normal embryo has 46 chromosomes. Too many or too few chromosomes can cause conditions like Down syndrome, Trisomy 13, or other problems.
- **Chromosomes in the wrong order**. If the chromosomes are not in the correct order, it is called a *translocation*. This can cause growth or health problems.

Anyone having IVF can choose PGT-A. We strongly recommend the test if:

- You have had more than 1 miscarriage
- You are 37 or older



At the start of the test, a few embryo cells are gently pulled into a collection tube.



The cells that are removed from the embryo are then sent to the lab for genetic testing.

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Preimplantation Genetic Testing for Monogenic Disorders (PGT-M)

PGT-M tests an embryo for a specific genetic disorder. This test is for parents who know they have a genetic disorder or are carriers of a genetic disorder. PGT-M helps find embryos that do **not** have that specific genetic disorder.

How is PGT testing done?

- Cells are taken from each embryo and sent for genetic testing. This is called a *biopsy.*
- The biopsies are frozen and shipped to an outside laboratory to do the genetic testing.

What can I expect if I decide to have these tests?

- Embryos that are tested must be frozen while the testing is done.
- Later, you will have a frozen embryo transfer (FET) cycle to prepare your uterus. Then, one or more embryos will be placed in your uterus to try for pregnancy.

What risks are involved?

- Rarely, the biopsy can damage the embryo.
- Sometimes, the test may not give a result for an embryo.
- The test results are not 100% accurate. You will have options for prenatal genetic testing during pregnancy.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

Center for Reproductive Health and Fertility:

Weekdays 8 am – 5 pm: Call 206.598.4225

After hours, weekends, and holidays: Call 206.598.6190 and ask to page the CRHF provider on call.

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