

# UTERUS TRANSPLANT

A NOVEL SOLUTION TO IRREVERSIBLE INFERTILITY?

A Cleveland Clinic research trial is first in the United States to offer uterus transplant to women suffering from **uterine factor infertility (UFI)**. These women cannot carry a pregnancy. They were born without a uterus, have lost their uterus, or have a uterus that no longer functions.

Discover the facts below.

## A UNIQUE FORM OF TRANSPLANT

### The need for uterus transplant is compelling.

The exact incidence of UFI is unknown, but experts estimate that it affects thousands of women of childbearing age across the world.

Gestational carriers (surrogates) are the only way for affected women to have a biological child.

In the U.S., the surrogacy process can be legally complicated. In many other countries, surrogacy is highly restricted or even banned.

### The transplant is not meant to be lifelong.

Uterus transplant is life-enhancing and not lifesaving.

After 1-2 healthy babies are born, the anti-rejection drugs are stopped.

The transplanted uterus is then either removed or allowed to disintegrate.

### Research paved the way.

Two early international attempts at uterus transplant were unsuccessful. Organ rejection was a major factor.

After years of uterus transplant research in which Cleveland Clinic took part, a Swedish team was able to manage mild rejection during pregnancy.

By September 2015, 9 uterus transplants had been performed in Sweden, with 5 pregnancies and 4 births.

## A MULTI-STEP PATH TO PARENTHOOD



### Candidates start the screening process.

- Cleveland Clinic's transplant study will include 10 women.
- All candidates must be 21-39 years old and have UFI.
- The transplant team must unanimously approve each candidate.



### Evaluations are in-depth.

- Teams of doctors, surgeons, psychologists, social workers and bioethicists evaluate each candidate.
- Candidates face in vitro fertilization and then several surgeries, and must understand the study's risks and limitations as well as other options.



### A search for donors follows.

- The organ procurement agency searches for a donor 18-40 years old.
- The donor's uterus must be healthy.
- The next-of kin must sign an informed consent.



### In vitro fertilization (IVF) begins.

- After selection for the study, the woman's ovaries are stimulated to produce multiple eggs.
- Her eggs are removed and fertilized with sperm in the IVF lab.
- 10 embryos are selected and frozen.



### Transplant takes place within 6-8 hours.

- The woman starts anti-rejection drugs to prepare for transplant.
- The donor's uterus is removed along with its blood supply.
- The uterus is transplanted into the woman's pelvis. The donor's blood vessels are connected to hers.



### Once the uterus heals, the embryos are transferred.

- A few months after transplant, the woman starts having periods.
- 12 months after transplant, her uterus fully heals.
- Her embryos are thawed and implanted one at a time.
- The goal is 1-2 pregnancies.



### Motherhood at last.

- The baby is delivered by C-section.
- After 1-2 babies, the woman has a hysterectomy to remove the transplanted uterus.
- After hysterectomy, the anti-rejection drugs are stopped to reduce long-term exposure to the medications.



### Each pregnancy is closely monitored.

- A high-risk obstetrics team monitors the woman throughout pregnancy and delivery.
- She takes anti-rejection drugs throughout pregnancy.
- She needs monthly cervical biopsies to check for organ rejection.

## TAKE-HOME MESSAGE

- UFI is an irreversible form of female infertility with limited treatment options.
- Uterus transplant seems to show potential for treating UFI. But it is still considered highly experimental.
- Cleveland Clinic is building on a history of transplant and reproductive surgery innovations by exploring uterus transplant's feasibility for U.S. women.

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