

# Uterus Transplant: Frequently Asked Questions

## What is uterine factor infertility?

Uterine factor infertility (UFI) affects as many as 5% of reproductive-aged women worldwide and previously was an irreversible form of female infertility. A woman with UFI cannot carry a pregnancy because she was born without a uterus, had her uterus surgically removed during a hysterectomy, or has a uterus that does not function properly. The absence of the uterus at birth is a condition called Mayer-Rokitansky-Küster-Hauser syndrome (MRKH), which affects about one out of every 4,500 females and makes it impossible to get pregnant or carry a child. A uterus transplant is a promising new option for starting a family among many women with UFI.

## How does uterus transplantation work?

The process from transplant to successful birth varies from person to person but can take 2-5 years for many women. It includes five phases:

1. Embryo generation - Before the uterus transplant surgery, a woman generates embryos through in vitro fertilization (IVF). During the IVF process, she is given fertility drugs to produce eggs, which are then removed from her ovaries and fertilized outside of her body. These embryos are then frozen for later use.
2. Transplantation - A uterus is removed from a donor and surgically placed into the recipient, who begins taking immunosuppression medications to prevent the body from rejecting the transplanted uterus. These medications are taken while the uterus remains in place, including during pregnancy.
3. Pregnancy - Several months after the transplant surgery, one of the recipient's embryos will be thawed and placed directly into the uterus. If the implantation is successful, the recipient becomes pregnant. If implantation does not occur, another embryo is later transferred to achieve pregnancy. The health of both baby and mother is closely monitored through frequent prenatal care visits with a high-risk obstetrician, known as a maternal-fetal medicine specialist.
4. Delivery - The child is delivered as close to term as possible via a planned Cesarean section. If the pregnancy went well and the woman wants to have another child, the uterus is left in place, and immunosuppression medications are continued. About six months after delivery, another embryo transfer can be attempted.
5. Uterus removal - After childbearing is complete, the transplanted uterus is removed, and immunosuppression medications are stopped.

## How safe is a uterus transplant?

The first successful live birth after uterus transplantation occurred in 2014. As of late 2020, about 100 uterus transplants have been performed worldwide, including roughly 30 in the United States. This is a new medical procedure, so there is still much to learn. However, uterus transplantation has proven to be an effective and reproducible option for the treatment of UFI and it has a good safety record among carefully selected candidates.

As with all transplant operations, there are risks. Uterus transplantation is a major abdominal surgery, with risk for bleeding, infection, and other complications. Anti-rejection medications suppress the immune system and make the transplant recipient more susceptible to infection and certain cancers. These medications also can reduce kidney function, which may increase the risk of certain pregnancy complications such as preeclampsia (high blood pressure and protein in the urine during pregnancy). Also, it is important to know that babies born from uterus transplant recipients tend to be born early, at about 35 weeks of gestation. Care of these premature infants may require a stay in a neonatal intensive care unit (NICU) for several weeks.

# Uterus Transplant: Frequently Asked Questions

To date, all of the babies born to uterus transplant recipients have been developmentally normal. However, the total number of babies born in this manner is small, and the procedure is too new for long-term follow-up studies of these children. Results so far are encouraging, but we do not yet know the long-term consequences of being born to a uterus transplant recipient.

Women affected by UFI do have options for starting a family other than uterus transplantation. These options are also important to consider, and UAB Medicine will counsel potential candidates about these options and the potential risks and benefits of uterus transplantation. The goal is to help the patient and her partner make the most informed decision by fully exploring all family-building options.

## **Am I a candidate for a uterus transplant?**

Candidates should be generally healthy and must lack a uterus, due to being born without one or having had it surgically removed. Because of the potential risks described above, patients interested in uterus transplantation are counseled extensively and undergo thorough medical and psychological evaluations.