UTERUS DUPLEX

*Double Uterus, Uterus Didelphys*

Congenital uterine malformation where both Müllerian ducts develop but fail to fuse, thus the woman has a "double uterus".

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Related Diagnoses:

- Endometriosis
- Uterine malformations
- Uterus septus
- Uterus subseptus
- Unicornuate uterus
- Bicornuate uterus

About Uterus duplex

Embryonically, the two Müllerian ducts have failed to fuse, the partition between them is still present. The cause of the fusion failure is not known nevertheless, this error makes uterus become a paired organ with two separate cervices, and often a double vagina as well. In this case, one vaginal opening is usually blocked and the external appearance of the genitalia is normal. Each uterus has a single horn linked to the ipsilateral fallopian tube that faces its ovary.

In the United States, uterus didelphys is reported to occur in 0.1–0.5% of women. It is difficult to know the exact occurrence of this anomaly, as it may go undetected in the absence of medical and reproductive complications. Often it occur as a part of a syndrome, more specifically called, Herlyn-Werner-Wunderlich (HWW) syndrome.

A pelvic examination is essential and may also reveal a double vagina or double cervix that should be further investigated. The modalities for correct diagnosis frequently used to include highly invasive methods such as
hysteroscopy, hysterosalpingography, and laparoscopy/laparotomy. However, these methods rely on the clinician's subjective interpretation rather than strict diagnostic criteria. Usually the first type of imaging done is the 2D/3D ultrasound. Benefits of MRI are used as well.

When diagnosed, thorough pregnancy screening is strongly recommended.

**Associated diseases**

- Herlyn-Werner-Wunderlich (HWW) syndrome
- double vagina
- renal anomalies
- hematocolpos/hematometrocolpos

**Complications**

- fetal growth restriction
- premature fetal membranes breach
- increased risk of spontaneous abortion
- prematurity with an estimated 45% (or lower) chance of carrying a pregnancy to term in comparison to a normal uterus.

**Risk factors**

Uterine malformations are associated with genetic and teratogenic factors. Seen as problematic can be contact with any substance with teratogenic potential during pregnancy. Fetus is the most vulnerable in the period of 2 to 12 weeks.

**Impact on fertility**

The condition may not be known to the affected individual and not result in any reproductive problems. Nevertheless, it is generally accepted that having a uterine anomaly is associated with poorer pregnancy outcomes such as increased chances of spontaneous abortion, premature labor, cesarean delivery due to breech presentation, and decreased live births, compared to a normal uterus.

**Prevention**

None recognized, except for avoiding contact with teratogenic factors.
**Symptoms**

- heavy/irregular menstruation
- abdominal pain
- painful ovulation
- worsened ability to conceive

**Therapies**

**Self therapy**

None possible.

**Conventional medicine**

**Pharmacotherapy**

It is mostly additional to surgical solution, to help epithelization processes, against adhesion development, antibiotic therapy.

**Surgical therapy**

Surgical correction of a didelphys uterus (metroplasty) is not usually indicated and the literature on women with didelphys uterus who underwent metroplasty is very limited. With that said, metroplasty would only be considered on a case by case basis after all other ways in which reproductive performance could be improved are exhausted. After getting pregnant, didelphys uterus is not an indication for cesarean delivery unless the vaginal septum is thick and inelastic resulting in an increased risk for vaginal dystocia.

**Assisted reproduction**

Multiple pregnancies may have a negative impact on the likelihood of a full term pregnancy, increase the risk of low birth weight in infants. This can affect survival and well-being of newborns and because of complications endanger mother’s life. Therefore a singleton pregnancy should be ensured by eSET (elective single embryo transfer) - procedure in which one embryo, selected from a
larger number of available embryos derived from ICSI, is placed in the uterus. The patient should be carefully monitored during pregnancy.

Find more about related issues

Diagnoses

Endometriosis
A state in which pieces of the tissue alike to the lining of the uterus (endometrium) grow in other parts of the body.
Learn more at: www.fertilypedia.org/therapy/diag/endometriosis

Uterine malformations
A type of female genital malformation resulting from an abnormal development of the Müllerian duct(s) during embryogenesis.
Learn more at: www.fertilypedia.org/therapy/diag/uterine-malformations

Uterus septus
A form of a congenital malformation where the uterine cavity is partitioned by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: www.fertilypedia.org/therapy/diag/uterus-septus

Uterus subseptus
A form of a congenital malformation where the uterus is partially divided by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: www.fertilypedia.org/therapy/diag/uterus-subseptus

Unicornuate uterus
Congenital uterine anomaly (one of the Müllerian duct anomalies) usually associated with communicating or non-communicating rudimentary horn.
Learn more at: www.fertilypedia.org/therapy/diag/unicornuate-uterus

Bicornuate uterus
Inborn morphological deviation of the uterus - one of the Müllerian duct anomalies where the uterine cavity is divided in the upper part.
Learn more at: www.fertilypedia.org/therapy/diag/bicornuate-uterus

Organs
Cervix
The narrow inferior portion of the uterus that projects into the vagina.
Learn more at: www.fertilitypedia.org/edu/organs/cervix

Fallopian tubes
Two very fine tubes that transport sperm toward the egg, and allow passage of the fertilized egg back to the uterus for implantation.
Learn more at: www.fertilitypedia.org/edu/organs/fallopian-tubes

Ovary
The ovum-producing organs of the internal female reproductive system
Learn more at: www.fertilitypedia.org/edu/organs/ovary

Uterus
The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive
Learn more at: www.fertilitypedia.org/edu/organs/uterus

Vagina
Sex organ that is a part of the female genital tract having two primary functions: sexual intercourse and childbirth.
Learn more at: www.fertilitypedia.org/edu/organs/vagina

Reproductive cells

Endometrial cell
Cells composing an inner layer of the uterine lining.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/endometrial-cell

Endometrium
The innermost layer of uterus forming the uterine lumen where the implantation of an oocyte happens.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/endometrium

Reproductive functions
**Fertilization**
The fusion of an ovum with a sperm to initiate the development of a new individual organism.
Learn more at: [www.fertilitypedia.org/edu/reproductive-functions/fertilization](http://www.fertilitypedia.org/edu/reproductive-functions/fertilization)

**Fetal development**
The process in which a human embryo or fetus gestates during pregnancy, from fertilization until birth.
Learn more at: [www.fertilitypedia.org/edu/reproductive-functions/fetal-development](http://www.fertilitypedia.org/edu/reproductive-functions/fetal-development)

**Implantation**
The very early stage of pregnancy at which the embryo adheres to the wall of the uterus.
Learn more at: [www.fertilitypedia.org/edu/reproductive-functions/implantation](http://www.fertilitypedia.org/edu/reproductive-functions/implantation)

**Symptoms**

**Double vagina**
Longitudinal division of the vagina into two separate organs.
Learn more at: [www.fertilitypedia.org/edu/symptoms/double-vagina](http://www.fertilitypedia.org/edu/symptoms/double-vagina)

**Infertility**
The failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.
Learn more at: [www.fertilitypedia.org/edu/symptoms/infertility](http://www.fertilitypedia.org/edu/symptoms/infertility)

**Preterm birth**
A birth of the baby before 37 completed weeks of gestational age.
Learn more at: [www.fertilitypedia.org/edu/symptoms/preterm-birth](http://www.fertilitypedia.org/edu/symptoms/preterm-birth)

**Recurrent miscarriage**
A disease distinct from infertility, defined by two or more failed pregnancies.
Learn more at: [www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage](http://www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage)

**Therapies**

**Egg donation**
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.
Learn more at: [www.fertilitypedia.org/edu/therapies/egg-donation](http://www.fertilitypedia.org/edu/therapies/egg-donation)
Elective single embryo transfer
The procedure of transfer one single good quality embryo in cleavage stage or in stage of blastocyst that was selected as the most appropriate.
Learn more at: [www.fertilitypedia.org/edu/therapies/elective-single-embryo-transfer-1](http://www.fertilitypedia.org/edu/therapies/elective-single-embryo-transfer-1)

ICSI
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.
Learn more at: [www.fertilitypedia.org/edu/therapies/icsi](http://www.fertilitypedia.org/edu/therapies/icsi)

Sperm donation
The procedure in which a man (sperm donor) provides his sperm for fertility treatment.
Learn more at: [www.fertilitypedia.org/edu/therapies/sperm-donation](http://www.fertilitypedia.org/edu/therapies/sperm-donation)

Standard IVF
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used.
Learn more at: [www.fertilitypedia.org/edu/therapies/standard-ivf](http://www.fertilitypedia.org/edu/therapies/standard-ivf)

**Gallery**

*Uterus duplex*

*Both Müllerian ducts develop but fail to fuse, thus the woman has a “double uterus”.*

**Sources**

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