

Reproductive Technology

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“God, who is love and life, has inscribed in man and woman the vocation to share in a special way in His mystery of personal communion and in His work as Creator and Father. For this reason marriage possesses specific goods and values in its union and in procreation which cannot be likened to those existing in lower forms of life.”

Donum vitae, Introduction



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Evaluation and Treatment of Infertility

Guidelines for Catholic Couples ¹

Technologies Compatible with Catholic Teaching:

- 1) Observation of the naturally occurring sign(s) of fertility (Natural Family Planning). Time intercourse on the days of presumed (potential) fertility for at least six months before proceeding to medical interventions.²
- 2) General medical evaluation of both spouses for infertility.
- 3) Post-coital tests to assess sperm number and viability in “fertile type” mucus. These tests are undertaken after normal intercourse.
- 4) Evaluation and treatment of male factor deficiency. Seminal fluid can be obtained from a non-lubricated, perforated condom after normal intercourse.
- 5) Assessment of uterine and tubal structural competence by imaging techniques (e.g., ultrasound, hysterosalpingogram, MRI, etc.).
- 6) Appropriate medical treatment of ovulatory dysfunction.
- 7) Appropriate (usually surgical) correction of mechanical blocks to tubal patency (the state of being open).

Reproductive Technologies under Discussion (neither approved nor disapproved):

- 1) Low Tubal Ovum Transfer (LTOT). If tubal function cannot be restored, transfer of an ovum past the point of blockage into the uterine cavity — preceded by normal intercourse during the fertile phase. In England, this procedure is called NEST (normal egg sonographic transfer).
- 2) Gamete Intra-Fallopian Transfer (GIFT). Licitly obtained sperm and ovum are transferred to the fallopian tube where fertilization can take place.
- 3) Intrauterine Insemination (IUI) of licitly obtained (normal intercourse) but technologically prepared semen sample.

Reproductive Technologies Incompatible with Catholic Teachings:

- 1) Obtaining a sample of seminal fluid by masturbation.
- 2) Artificial Insemination (AI). A semen sample is obtained from a spouse (AIH) or a donor (AID) by non-licit means (e.g. masturbated specimen) and transferred to the woman’s uterus.
- 3) In Vitro Fertilization (IVF), Zygote Intra-Fallopian Transfer (ZIFT), Intracytoplasmic Sperm Injection (ICSI), and variations on these using ovum donation or “surrogate” uterus.

1. These guidelines are drawn from the document *Donum vitae*.
2. Some women may have to wait longer for their fertility signs to appear due to the effects of recent use of chemical contraceptives (e.g., *the Pill*, *Depo-Provera*, *Norplant*, etc.).

DEFINITIONS

How do I know when a reproductive technology is morally right?

The rule of thumb is:

Procedures which assist marital intercourse in reaching its procreative potential are morally acceptable. Procedures which add a "third party" into the act of conception, or which substitute a laboratory procedure for intercourse, are not acceptable.

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IVF (In Vitro Fertilization): Conception occurs outside the body in a petri dish.

Ordinarily, the woman is treated with hormones to stop her natural cycle and stimulated to ripen a number of ova. The ova are harvested from the follicle with a needle under ultrasonic guidance. The needle is inserted either through the vagina or through the urinary bladder. Ova are incubated in the laboratory with a carefully washed and adjusted specimen of semen to allow fertilization. Prior to implantation in the woman's uterus, embryos are examined in order to select the "best." Sometimes, one cell is removed for genetic testing. To date, visual inspection of the embryos has been totally unrelated to their subsequent course—health or otherwise. Usually at least two embryos are implanted; in some centers, as many as four are implanted with the hope of getting at least one live baby. At times, three or four embryos thrive. Some clinics then offer the mother "fetal reduction" (selective abortion) to allow only one or two fetuses to develop further.

Because the endometrium is considerably changed by the stimulation of ovaries to produce eggs, it is the practice in some centers to freeze the embryos and implant them in a subsequent natural cycle. Overall success rates in terms of having a living child range from 16-20%; the chances of any individual embryo surviving are much lower. The disposition of frozen embryos varies with the wishes of the parents. "Spare embryos" may be preserved, donated to other women or to researchers, or destroyed.

GIFT (Gamete Intra-Fallopian Transfer):

Requires that at least one Fallopian tube is not obstructed. Nearly ripe ova are obtained from the woman's follicles by ultrasonically guided aspiration techniques as for IVF. A sample of semen is obtained at the time of the conjugal act with help of a perforated condom. A portion of the prepared seminal fluid and an ovum are placed in plastic tubing. However, an air bubble separates the ovum from the seminal fluid so that no mingling occurs within the tubing. This is immediately inserted into the woman's fallopian tube so that conception will take place within the body. Pregnancy rates are similar to IVF.

ZIFT (Zygote Intra-Fallopian Transfer):

Ova and sperm are obtained analogously to IVF, but the zygote, that is the newly fertilized embryo, is immediately transferred into the woman's tube with a catheter threaded through the uterus. This does not allow examination of the embryos as it would for IVF. The live birth rate is similar to IVF.

ICSI (Intra-Cytoplasmic Sperm Injection):

When men have low sperm counts or other problems, such as blocked ducts, spermatozoa can be obtained either by masturbation or, in the absence of a normal ductal system, by needle aspiration from the epididymus or even from the testis itself. A single sperm is then injected through the surface membrane of the ovum and the embryo cultured in the laboratory until it reaches the 8-16 cell stage, when it is inserted into the uterine cavity.

Because the "natural selection" which occurs when sperm enter through the cervical mucus is excluded by this procedure, a number of birth defects have been recorded when conception was effected by ICSI.

LTOT (Low Tubal Ovum Transfer):

When blockage to normal conception is found low in the tube an ovum can be aspirated from the ovary and inserted into the uterus. The couple should have had normal intercourse during the fertile phase preceding the harvesting of the ovum. Conception rates are not yet reported. There are anecdotal reports that supplementing the woman with additional progesterone at the time of insertion of the ovum into the uterus improves the outcome. This is reasonable as normally the embryo remains in the tube for 3 to 5 days after conception, allowing the endometrium to respond normally to the progesterone of the corpus luteum.

AIH (Artificial Insemination with Husband's Sperm):

Sperm can be placed into a cup which is placed over the cervix. This technique is also used in AID - artificial insemination by donor.

IUI (Intrauterine Insemination):

The sperm are collected from a perforated condom after normal intercourse, washed, and then injected into the uterine cavity, bypassing the cervix to avoid "hostile" mucus. Cervical mucus hostility is an immunological reaction brought about by several known, and some unknown factors. A postcoital test would find no living sperm in mucus during the fertile phase. Treatment approaches include abstinence for two years to allow the antibodies to diminish or disappear, the use of condoms (not acceptable for Catholics), and steroids which have not met with much success. IUI has been used even in the absence of any recognized cause of infertility.