



ISSUES OF LIFE

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In vitro fertilization

- ▶ A child is a gift.
- ▶ The lack of children is also a state provided by God.
- ▶ The physical drive to procreate at all costs, is egocentric and not ordered to God.
- ▶ The use of a child to fulfill parental needs is exploitation.
- ▶ It is then difficult to comprehend the need for artificial insemination of in vitro fertilization.
- ▶ Although collection of sperm of the man for concentration and introduction into the vagina of the woman to facilitate conception may be permissible as it still preserves the marital relationship.

In vitro fertilization

- ▶ A significant medical problem with in vitro fertilization is the necessity to stimulate ovum production by administering elevated doses of a pharmacologic agent to the woman who desires to conceive
- ▶ Another significant moral problem is the necessity to harvest multiple ova and to fertilize them, creating multiple embryos.
- ▶ Those embryos not selected for implantation are either destroyed or frozen

In vitro fertilization

- ▶ Those embryos implanted are later examined and those deemed unfit or whose presence would pose a threat to the pregnancy are destroyed
- ▶ The action is not distinguishable from abortion
- ▶ In the absence of a clone, is not in vitro fertilization simply a desire for a “mini Me”?
- ▶ Particularly as CRISPR is available to further alter the genome to produce a desired effect

In vitro fertilization

- ▶ Twinning is an abnormality.
- ▶ The survival rate of twins in utero is low.
- ▶ When the twinning occurs (third to fourteenth day), different pairs are produced.
- ▶ The abnormalities in the pairs may range from midline defects (early twinning) to conjoined (Siamese) twins.
- ▶ Twinning is controlled by a developmental clock (mechanism as yet unknown) as well as communication between cells across a left-right axis in the developing embryo.

In vitro fertilization

- ▶ The rate of abnormalities in human embryos brought to term in the infertile who have undergone in vitro fertilization is twice that of the infertile who conceive in the usual manner.
- ▶ Their rate is also higher than the fertile who conceive in the usual manner.
- ▶ The abnormalities reflect left-right axis errors

Artificial insemination

- ▶ Insemination with sperm that is not from the spouse does not preserve the marital and family relationship
- ▶ How does this differ from adultery?
- ▶ Similar problems arise with a surrogate mother
- ▶ Although collection of sperm of the man in a condom for later concentration in a laboratory and introduction into the vagina of the woman to facilitate conception may be permissible as it still preserves the marital relationship.

Pre-natal diagnosis

- ▶ A major US medical school educational website notes that prenatal diagnosis is important for:
 - ▶ Managing the remaining weeks of the pregnancy
 - ▶ Determining the outcome of the pregnancy
 - ▶ Planning for possible complications with the birth process
 - ▶ As congenital defects account for 20-25% of perinatal deaths:
 - ▶ Planning for problems that may occur in the newborn infant
 - ▶ Finding conditions that may affect future pregnancies
 - ▶ Deciding whether to continue the pregnancy
- ▶ <https://webpath.med.edu.utah>

Pre-natal diagnosis

- ▶ An ultrasound examination can be quite useful to determine the size and position of the fetus, the size and position of the placenta, the amount of amniotic fluid, and the appearance of fetal anatomy.
- ▶ There are limitations to the accuracy of the procedure apart from detecting significant neural tube defects.
- ▶ Elevated acetylcholinesterase levels in amniotic fluid distinguish neural tube defects from abdominal wall defects in patients with abnormal ultrasound examinations.

Pre-natal diagnosis

- ▶ Nuchal translucency on ultrasound is associated with trisomy 21 abnormalities; however, the changes are subtle
- ▶ Low levels of pregnancy associated protein PAPP-A as measured in maternal serum during the first trimester may be associated with fetal chromosomal anomalies including trisomies 13, 18, and 21.
- ▶ The detection rate of trisomy 21 for the maternal serum "triple screen" is about 70%, and for the "quad screen" about 80%, with false positive rates of 7% and 6% respectively

Condition	MSAFP	uE3	HCG
Neural tube defect	Increased	Normal	Normal
Trisomy 21	Low	Low	Increased
Trisomy 18	Low	Low	Low
Molar pregnancy	Low	Low	Very High
Multiple gestation	Increased	Normal	Increased
Fetal death (stillbirth)	Increased	Low	Low

The “quad screen” also includes the placental hormone, Inhibin A. Results generally parallel HCG.

Pre-natal diagnosis

- ▶ Combining the "quad screen" from the second trimester with levels of PAPP-A results in a Down syndrome detection rate of 87%, with a 3.2% false positive rate.
- ▶ 90% of all fetuses diagnosed with Down's syndrome are aborted

Prenatal diagnosis

- ▶ For prenatal diagnosis, most amniocenteses are performed between 14 and 20 weeks gestation.
- ▶ Prior to that time there is little amniotic fluid present.
- ▶ Fetal cells can be recovered for molecular study
- ▶ But those studies can be done on the live infant.
- ▶ Their purpose is to facilitate decisions to abort.
- ▶ Amniocenteses are rarely done to assess fetal lung maturity.
- ▶ There is a minimally increased risk for fetal mortality following amniocentesis
- ▶ Maternal Rh sensitization is a risk.

Pre-natal diagnosis



- ▶ Chorionic villus sampling (CVS) has the disadvantage of being an invasive procedure.
- ▶ As with amniocentesis, sampling is performed to obtain cells for molecular study.
- ▶ It is performed between 10 and 12 weeks of gestation.

Pre-natal diagnosis

- ▶ CVS has a significant rate of morbidity for the fetus
- ▶ CVS can be associated with limb defects in the fetus.
- ▶ The risk of fetal mortality is slightly higher than for women undergoing amniocentesis.
- ▶ The possibility of maternal Rh sensitization is present.
- ▶ There is also the possibility that maternal blood cells in the developing placenta will be sampled instead of fetal cells and confound chromosome analysis

Pre-natal diagnosis

- ▶ Maternal blood sampling for fetal DNA is non-invasive
- ▶ A small number of fetal cells do access the maternal circulation late in pregnancy.
- ▶ However, there may be too few cells to permit molecular analysis.
- ▶ Again, molecular information may be obtained from the live infant.

Pre-natal diagnosis

- ▶ Prenatal diagnosis is morally licit "if it respects the life and integrity of the embryo and the human fetus and is directed toward its safeguarding or healing as an individual...It is gravely opposed to the moral law when this is done with the thought of possibly inducing an abortion depending upon the results."
- ▶ John Paul II *Donum Vitae* 1968 Vatican

Abortion



- ▶ Abortion has been practiced since ancient times, usually by administration of herbs (some of which no longer exist as they were exhausted).
- ▶ The Hippocratic oath condemns abortion.
- ▶ The practice is condemned by Orthodox Judaism, Islam, and orthodox Christianity.
- ▶ It is regarded as murder deserving of severe penalty to this day in traditional Islamic societies [as an example, Bosnia]

Abortion

- ▶ Modern reasoning dismisses the potentiality of fetuses to become normally functioning rational agents, because 40-50% of human zygotes do not survive to be persons.
- ▶ Because many zygotes prove not to have the potentiality to become actual persons, interference with the zygote or fetus is no violation of the person.
- ▶ Since ancient times it has been held that, discounting nature's interference, we have a responsibility for the future actuality of the entity
- ▶ Aristotle Metaphysics Book 9, Chapter 7

Abortion

- ▶ The US Supreme Court in *Griswold v Connecticut* [381 U.S. 479, 85 S. Ct. 1678, 14 L. Ed. 2d 510, 1965] found a “right of privacy” in the Ninth Amendment unknown to the authors of the Federalist Papers that permitted a court to nullify a State practice that governed the sale of contraceptives.
- ▶ In 1973, the US Supreme Court in *Roe v Wade* [410 U.S. 113, 93 S. Ct. 705, 35 L. Ed. 2d 147, 1973] also used the Ninth Amendment to permit decisional autonomy to a pregnant woman to terminate her pregnancy notwithstanding the resultant physical consequences.

Abortion

- ▶ Casey v Planned Parenthood [505 U.S. 833, 112 S. Ct. 2791, 120 L. Ed. 2d 674, 1992] narrowed Roe to three key points:
- ▶ Women have the right to abort pre-viability without undue interference from the state.
- ▶ As a matter of observation, despite the best medical management of a delivered fetus weighing <1000 grams, 80+% will die
- ▶ If the delivered fetus weighs >1000 grams, 80+% will survive

Abortion

- ▶ 58% of babies delivered at 22 weeks will survive if given state of the art care
- ▶ 33% will have significant disability
- ▶ It is not possible to determine beforehand who will suffer disability
- ▶ 85% of babies delivered at 23 weeks will survive if given state of the art care
- ▶ At the moment, in the US, resuscitation of a premature infant is only mandated at 24 weeks

Abortion



- ▶ The state may restrict abortion post-viability
- ▶ The state has a legitimate interest in protecting a woman's health and the life of her fetus
- ▶ Gonzalez v Cahart [550 U.S. 124, 127 S. Ct. 1610, 167 L. Ed. 2d 480, 2007] banned partial birth abortion.
- ▶ In 2019-2020, there have been Governors who have called for the ability to terminate the life of an infant post-delivery should the parents so decide
- ▶ In 2015, the Quebec parliament extended rights protection to animals comparable to that accorded to children

Infanticide

- ▶ What criteria?
- ▶ If one uses the lack of an integrated, coherent EEG pattern as an example, that pattern, visible about 36 weeks of gestation, does not finally consolidate until about 24 months of age.
- ▶ How can abandoning an infant or leaving it at a designated facility such as a fire station or not reclaiming it from a hospital not be regarded as infanticide?
- ▶ Offering a child for adoption is voluntary, manifests concern for the infant, and may be an act of love.

Fetal surgery

- ▶ Fetal surgery is often performed to drain blocked bladders, repair heart valves, spinal openings, and remove abnormal growths from fetal lungs.
- ▶ Fetal surgery with the pregnant woman is a high risk procedure to the fetus and to the woman. At times it only marginally improves patient outcomes.
- ▶ Often, post-natal surgery in a neonatal intensive care unit to repair congenital defects is preferred.
- ▶ <https://embryo.asu.edu/pages/fetal-surgery>

Fetal surgery



- ▶ The surgery is for the benefit of the fetus, but the outcome depends not only on the post-operative recovery of the fetus and its continued growth and development in utero, but also on the recovery of the pregnant woman as well.
- ▶ This raises the question of double effect.

Fetal surgery



- ▶ Double effect refers to the permissibility of an action that causes a serious harm, such as the death of a human being, as a side effect of promoting some good end even though it would not be permissible to cause such a harm as a means to bringing about the same good end.
- ▶ That does not remove the intent to do harm that is inherent in the double effect reasoning.