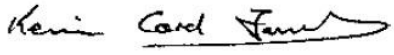
KEYS TO BIOETHICS

ENGLISH

"With "Keys to Bioethics"*, we want to offer young people all over the world a practical way to reply to their concerns and questions arising from the many challenges led by the contemporary scientific and technological progress. These are clear yet comprehensive replies able to help young people grasp the truth and beauty of every human life!"*

Kevin Card. Farrell
PREFECT OF THE DICASTERY FOR LAITY, FAMILY AND LIFE



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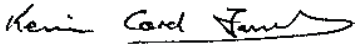


Prefect of the Dicastery for Laity, Family and Life

"It is painful to see how many fundamental rights continue to be violated today. First among all of these is the right of every human person to life, liberty and personal security. It is not only war or violence that infringes these rights. Nowadays, there are more subtle means: I think primarily of innocent children discarded even before they are born, unwanted at times simply because they are ill or malformed, or as a result of the selfishness of adults. I think of the elderly, who are often cast aside, especially when infirm and viewed as a burden. I think of women who repeatedly suffer from violence and oppression, even within their own families. I also think of the victims of human trafficking, which violates the prohibition of every form of slavery. How many persons, especially those fleeing from poverty and war, have fallen prey to such commerce perpetrated by unscrupulous individuals? " (Address of Pope Francis to the members of the diplomatic corps for the New Year greetings, 8 January 2018).

INTRODUCTION

What is closer to life than life itself, the history of our first and our last moments? We have received this life, and we can transmit it. And then one day this life will pass away. Our life and the lives of those whom we love... But how can we avoid making a mistake? To what point can we go in controlling life, as it is beginning or as it is ending?

In our search for the narrow way of Wisdom, the Church does not leave us alone. She proposes a way so that we can follow in the footsteps of those great witnesses, such as Jérôme Lejeune, a genetic researcher and physician, father of a family, and a layman committed to the service of life, who teaches us that there is no contradiction between religion and science, what is true and what is verifiable. He calls us to serve life, because "the quality of a civilization is measured by the respect that it shows to the weakest of its members." From the embryo to the person at the end of life.

Keys to Bioethics, the bioethics manual for young people, is published by the Jérôme Lejeune Foundation with the support of the Dicastery for Laity, Family and Life of the Holy See. It is an objective presentation of the major questions in bioethics that confront us all and that often leave us in distress. Backed by the basic findings of science and reason, Keys to Bioethics allows the reader to grasp them easily, thanks to the precise and rigorous information that it presents, to which the Church's faith gives its full meaning.

Because life is beautiful and it is urgent to rediscover for ourselves and for others a sense of wonder, it is necessary to remove the obstacles that block our view. If these pages contribute to this work by improving your knowledge, or even better by helping you to perceive your own mission, they will have fully achieved their objective.

On the occasion of the "Amoris Laetitia Family Year", the Holy Father invites us to discover together the values leading to Good. In order to do that, let us take the time to educate ourselves, then to transmit this teaching about life and hope to our youth.

Keys to Bioethics is a Good News to be spread far and wide. Let us be ambassadors of life to the ends of the earth. Enjoy your reading!"

Jean-Marie Le Méné

President of the Jérôme Lejeune Foundation

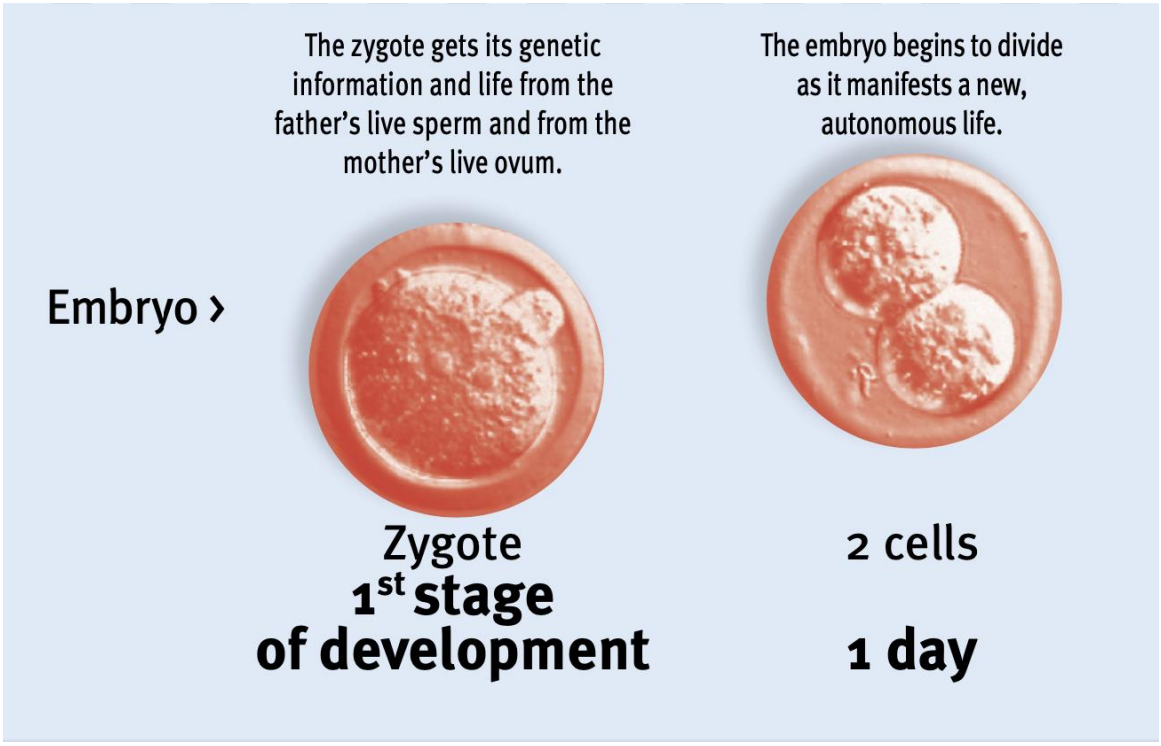
1/What is...

The story of a human being

Starts with fertilization

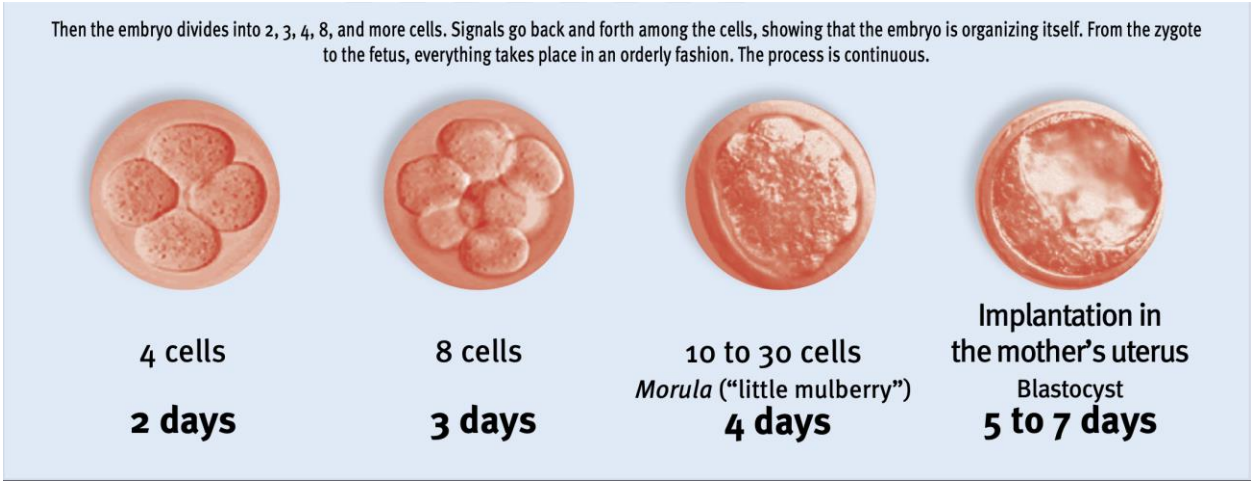
A new human life begins at the moment when the genetic information contributed by the sperm from the father is combined with the genetic information contributed by the ovum (egg cell) from the mother. As soon as fertilization is completed, a new human being begins its life. The person's unique genetic inheritance, and therefore also his or her sex, is determined at that moment. This is not a hypothetical human being but rather the first stage of development of someone who will later be named Paul or Virginia.

The zygote is the first stage of the **embryo**, in which the 23 chromosomes from the mother combine with the 23 chromosomes from the father: it is 0.15 millimeters wide.



The embryo is an **organism,** a **living being** with a **human** genetic inheritance. Therefore it is in fact a **human being.**

Then the embryo divides into 2, 3, 4, 8, and more cells. Signals go back and forth among the cells, showing that the embryo is organizing itself. From the zygote to the fetus, everything takes place in an orderly fashion. The process is continuous, gradual and coordinated.

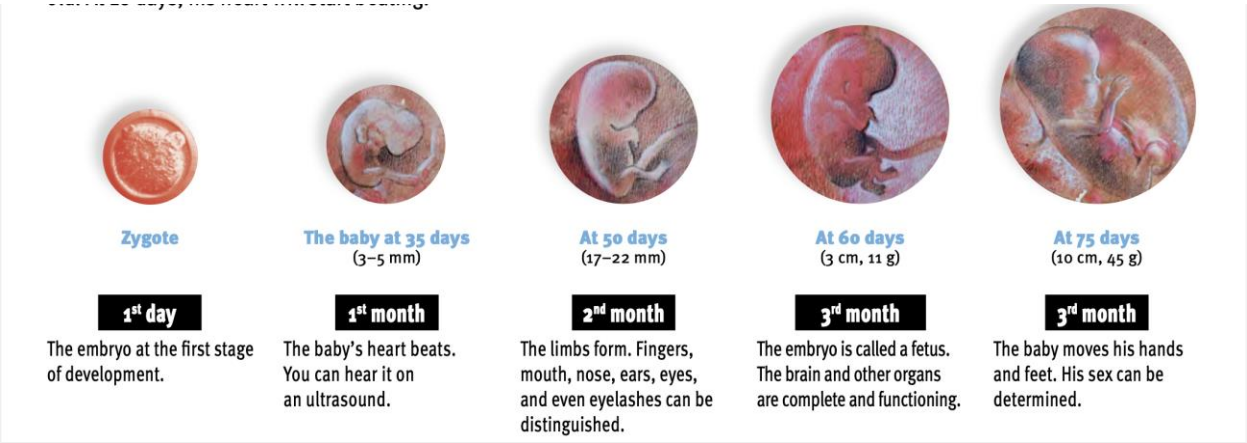


Pregnancy is the condition of a woman who has conceived. It lasts from the time of fertilization to delivery.

The term of a pregnancy is calculated in two ways :

- In **months** of the embryo's development starting from the day of fertilization.
- In **weeks** without menstruation, counting from the first day of the last period.

If a woman's cycle is 28 days, fertilization takes place on the 14th day of her cycle. When a woman notices that she is pregnant because her period is late, her baby is already at least 14 days old. At 18 days, his heart will start beating.



Zygote

1st day

The embryo at the first stage of development.

The baby at 35 days
(3–5 mm)

1st month

The baby's heart beats. You can hear it on an ultrasound.

At 50 days
(17–22 mm)

2nd month

The limbs form. Fingers, mouth, nose, ears, eyes, and even eyelashes can be distinguished.

At 60 days
(3 cm, 11 g)

3rd month

The embryo is called a fetus. The brain and other organs are complete and functioning.

At 75 days
(10 cm, 45 g)

3rd month

The baby moves his hands and feet. His sex can be determined.

At 105 days
(15 cm, 200 g)

4th month

He sucks his thumb and swallows the amniotic fluid. His hands are completely formed.

At 135 days
(25 cm, 500 g)

5th month

His mother feels him moving.

At 165 days
(31 cm, 1 ,100 g)

6th month

He moves a lot. He begins to react to exterior sounds.

8th month

He assumes the position that he will stay in until delivery.

Frequently asked questions

Isn't the embryo just a clump of cells?

No. Some people talk about a "clump" or a "mass" as opposed to an "organism." Yet from the start, the embryo is a living being that organizes itself through a process of continuous development. The point at which the sperm penetrates the ovum determines the position of the head and feet in the developing embryo. From the moment of fertilization, a series of events (the expression of the embryo's genetic code, the synthesis of proteins) is launched with a view to the embryo's development. For example, the embryo produces hormones that stop the menstrual cycle of his mother and begin to prepare her breasts for nursing. So no, it is not a clump of cells.

Is it a human being from the moment of fertilization?

Yes, because a man and a woman cannot conceive anything other than a little human being. Yes, because the **unique human genetic inheritance** of a person is determined at that precise moment. If the human being does not begin at the moment of fertilization, it never begins, because where would any new information come from? Even the term "test-tube baby" shows that this is universally recognized.

It's a human being, but is it a person?

Yes. How can a human being not be a person? Historically, the only human beings who were not considered persons were slaves. If we decide that some human beings are not persons, then what kind of society do we live in? The embryo is biologically linked to the mother by means of a biological and immunological dialogue (CROSS-TALK) even before it is implanted in such a way that it avoids rejection by means of an early recognition. The embryo sends stem cells to heal any pathological processes the mother might ultimately be suffering from so it can be said that the embryo has developed a medical function and acts as its mother's doctor.

Is believing the embryo is a human being just a personal opinion?

No. To agree that fertilization is the start of a new human being is not a matter of taste or opinion; it is a biological reality. All the scientific evidence points in this direction and nothing can prove the contrary. No one can honestly doubt it.

The embryo is biologically related to the mother even before implantation with a biological and immunological dialogue (CROSS-TALK) which allows him to be recognised and not rejected. The embyo also sends stem cells to heal any pathological processes in the mother: the foetus is the mother's "doctor".

What makes a human embryo a human being?

A being is human not because of its qualities, abilities or accomplishments but only because of its nature. He or she belongs to the **human species,** to the family of mankind, of all men and women, just like every one of us. He or she is therefore a human being.

Does the embryo or fetus feel pain?

Right now we know that the fetus feels pain already as from the fifth month of pregnancy and that its suffering is particularly sharp considering it has no management resources against it.

The embryo depends on his mother, so is he a human being?

Yes. Like any living being, the embryo needs a suitable environment in order to grow. We are all dependent at all stages of human life. We all need food and oxygen. *Would any one of us survive naked in Antarctica?* That does not make us any more or less human beings. Dependence, to whatever extent, does not change one's nature at all. The fact that he is sheltered and nourished in his mother's body does not make a child in the womb part of the mother's body. He is different from her in every one of his cells.

If the embryo doesn't look human, is he a human being?

Yes. A human being is recognized not only by his appearance. Furthermore, the same individual over the course of a lifetime assumes different appearances as an embryo, baby, child, adult, and old person. The embryo looks like a human being looks at that age. We all passed through these developing embryonic forms, during which everything was already inscribed or recorded, even the color of our eyes!

In short, the fetus is human on account of its DNA identity (human DNA); its relation to the mother from the very moment of conception; its protagonist biological role and because inside the uterus it is a patient just like an adult specimen of the human species.

Contrary to what you may read in some school textbooks, pregnancy begins when the sperm and egg join (fertilization), even though the woman is not aware of it until after the embryo attaches itself to the wall of the uterus (implantation).

2/What is abortion?

Abortion is the premature death of the embryo or fetus during his development.

We talk about **spontaneous abortion** or miscarriage when the death is not caused deliberately.
We talk about **induced abortion or direct abortion** when someone voluntarily puts an end to the life of the embryo or fetus.
The expression "termination of pregnancy" masks the reality that is the death of the child, the one who is most directly interested in living.

The situations of women who consider having an abortion are very different. Laws regulating abortion also vary greatly from one country to another. In some countries abortion is legal and in others it is only permitted or tolerated. A distinction is made between:
• **Elective abortion**, in the case of maternal distress (rape, unwanted pregnancy, social insecurity…), and

• **"Medically indicated" abortion**, permitted in some countries throughout the 9 months of pregnancy, if the mother's life is in danger or if the fetus is likely to have a serious, incurable ailment.

Worldwide, there are around 50 million abortions every year, which means that one out of every five pregnancies ends in abortion.

Statistics show that in France there are around 240,000 abortions per year, 1 million in the U.S.A. and around 4.2 million in Central America and South America; the last figure is merely an estimate. These are millions of unique, irreplaceable children.

WARNING: This chapter may shock some of you. Since abortion is a violent reality, describing it, even discreetly, might offend some people. But in order to understand what is at stake, it is necessary to talk about it. We have tried to present this reality plainly, while choosing to not depict aborted fetuses.

Methods

Suction

The fetus is dismembered by aspiration (suction). This method is commonly used for elective abortions.

Dilation and curettage

The embryo is destroyed with a surgical instrument and the remains are removed from the uterus.

Partial birth

This allows live nerve cells to be obtained from the fetus for research. The process is too terrible to describe here.

Injection

• Potassium chloride is injected into the heart of the fetus, killing him and causing premature delivery.
• A hypertonic solution (one with a higher salt concentration than in the cells of the baby's body) is injected into the amniotic fluid, which then kills the baby within a few hours. Twenty-four hours later, the mother delivers a stillborn child. This type of abortion is used for "medically indicated" abortions up to the ninth month of gestation.

Intrauterine device

An intrauterine device (IUD) is placed in the uterus to prevent pregnancies. It is contraceptive because it is a chemical obstacle to sperm; it can but does not always prevent them from reaching the ovum. It also causes an early abortion when a sperm cell has nonetheless managed to reach the ovum and fertilize it: then the intrauterine device mechanically prevents the embryo from implanting in the uterus, condemning it to death (it irritates the uterine lining, which prevents the implantation of the embryo).

RU-486 pill

This pill makes the mucus of the uterus' lining unsuitable for the survival of an embryo that is already implanted. It causes an abortion.

Morning-after pill "emergency contraception"

If taken at a certain time in the menstrual cycle, this pill prevents the occurrence of fertilization and has a contraceptive effect. It is also possible, however, that it acts by preventing the implantation of an embryo that has already been conceived, thus aborting it.

An intrauterine device and the morning-after pill can cause abortions when they prevent the implantation of the embryo.

Frequently asked questions

Should a woman get help?

A woman thinking about having an abortion needs someone to listen to her. It's important to encourage her to talk to those who can help during pregnancy and support her even if she has already had an abortion.

If you are pregnant and alone, what is the way out?

A pregnant woman, especially if she is alone, can be fearful and dejected and may feel overwhelmed by the situation. She needs to be listened to, supported, and sometimes helped financially. Although elective abortion may seem to her to be the the best option in a bad situation, she should know that many women painfully regret their abortions and regret not having chosen life and love for their children. To lessen her fear and loneliness, she should know that groups are there to help and guide her.

Does abortion have psychological consequences for the woman?

Yes. Many women who have aborted show signs of **depression** and other disorders, including guilt, loss of self-esteem, suicidal thoughts, anxiety, insomnia, anger, sexual troubles, nightmares about her baby… A woman who has aborted a child may not make the connection of her symptoms to her abortion. These consequences, which can appear right away or much later, are now well known and are identified by the name of **"post-abortion syndrome."** These symptoms are intensified every time the mother meets a pregnant woman, sees a baby, passes by an abortion facility, or thinks of the anniversary of her baby's death. Post-abortion syndrome is not limited to the mother. It is possible for it to extend to those close to her: to the father, to brothers and sisters, and others. Women throughout the world are starting to give witness: "If only we had known."
For more information, see www.redmadre.es - www.lichtzeichen.org - gravida.org.ar - www.mpv.org/ cav - hopeafterabortion.com

Is there a right to abortion?

Due to the laws in force in several countries, abortion could be wrongly considered as a "woman's right" or a "human right". This has spread worldwide the erroneous concept that legal abortion is a right, making us forget that the first right - on which all others are based - is the right to life, which is denied to the child through abortion.

What about abortion worldwide?

There are an estimated 50 million abortions each year throughout the world, and more than a billion legal abortions have been performed worldwide because of legalization in various

countries since the end of World War II. These were at first totalitarian regimes that legalized abortion in the 1960s, achieving record abortion rates of about two abortions for every live birth. Then most so called developed nations decriminalized abortion in the 1970s.

The paradox involved in the death of a 6-month-old fetus

Recently "prenatal grief counseling" has been available in places for the families of infants who die before a full-term pregnancy is completed. Indeed, relatives suffer when society fails to acknowledge their child. Some propose a ceremony for these families. However, judges refuse to use the term "relatives" for these children who die in their mother's womb: they recognize only children who are born alive. The expression "lifeless child" is coming into use as a compassionate concession toward the families. Now the parents need society to recognize their babies and to admit that they did in fact exist.

At the age of 2 months, I measure 3 cm from head to buttocks. With a microscope you can see my fingerprints!

Ethical reflections

Woman and child: friends or enemies?

Why should prevail the option to kill a child? Can the child be considered as an unjust aggressor? Even though this theory has unfortunately been developed by some philosophers, **the child is always innocent.** The bond that unites the mother and her baby, which is the very symbol of love and peace, is terribly damaged by a law that allows abortion.

Cases of rape

It is understandable that a woman may not want the child of rape, that is always and in any case to be condemned; it's the woman, above all, that must be adequately supported and accompanied after such an event that is traumatic and damaging to her dignity as a person, so that she may regain confidence in herself, in the people around her and can find the strength to open herself to the life she carries in her womb: in fact, abortion does not eliminate the drama that the woman is experiencing; on the contrary, it adds drama to drama, violence to violence: on the child who is killed and on the woman, wounded a second time in her deepest intimacy.

Women's empowerment

Some claim that abortion liberates a woman from the constraints of motherhood and gives her a "right to control her own body."

Biologically, though, the child is not a part of the mother's body: the child is a guest. Therefore the mother cannot dispose of the unborn. Moreover, abortion is an attack on the very nature of woman, which is to be a mother. The immense suffering of sterility demonstrates what an essential part of the feminine identity motherhood is.

Hence killing one's child cannot be the source of freedom or personal fulfillment.

Can abortion be called a choice?

In choosing abortion, parents choose death for their child.

The legalization of abortion has given rise to the idea that this choice is acceptable.

But not everything which is legal is also moral and acceptable. Abortion remains a serious crime and is intrinsically illicit. An unconditional respect must always be guaranteed to each human life.

Financial and material problems

Are financial problems sufficient reason to terminate a pregnancy? The best way to help a woman in difficulty is not to help her kill a life but rather to **resolve her financial problems.**

What about fathers?

It is not uncommon that young pregnant women feel obliged to abort because the father does not want to take responsibility for their child. Conversely, it sometimes happens that women abort against the will of the child's father. The father cannot oppose the mother's will and protect his child. Is it not, however, the child of them both? The child is "flesh of the flesh" of both of them through procreation. The law ignores the father.

Adoption

In cases of extreme hardship, it may happen that a mother cannot raise her child. She can then entrust her baby to adoptive parents. Unlike abortion, in which the child loses everything, adoption gives him a chance: he loses his mother but keeps his life and finds new parents. Many parents are ready to welcome a child through adoption.

Abortion and contraception

The contraceptive mentality and abortion

The contraceptive mentality (intentionally rejecting a child) leads to accepting abortion more readily as a solution to the "problem" of an "unwanted pregnancy." INPES[1] notes that "an unintended pregnancy is less and less welcome" and that "60% of unwanted pregnancies are ended with an abortion, as opposed to 40% a few years ago." The French National Institute of Demographic Studies (INED)[2] also observes that "the tendency to resort to abortion in the case of an unintended pregnancy has increased along with improvements in fertility control."

Does contraception prevent abortion?

It is often said that contraception is the most effective remedy against abortion. But is this true? No, for 3 reasons:

- The contraceptive mentality leads to accepting abortion more readily in the case of an "unwanted pregnancy."
- Contraception encourages sexual relations with multiple partners in unstable relationships, which in fact increases the number of unintended pregnancies.
- Moreover, some contraceptive pills can cause early abortions of which the woman is not even aware. Statistics confirm that increased contraception use does not decrease the number of abortions.

The Pill and abortion

All contraceptive pills cause a percentage of early abortions. Indeed, the classic "combined," or estroprogestin, pills act as contraceptives when they block ovulation and modify the cervical mucus, making it hostile to sperm. But when one of these mechanisms is not enough (1 out of 10 times ovulation is not blocked), a third effect of the Pill takes over: the modification of the uterine lining to prevent the implantation of the embryo. This, then, is an abortive effect, since the embryo dies. The micro-dose pills and progestin contraceptives ("mini-pill," "morning-after pill," "emergency contraception," contraceptive shots, and

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[1] *"Contraception; que savent les Françaises?"* Institut national de prévention et d'éducation pour la santé (INPES), 5 juin 2007.

[2] *"Four decades of legalized contraception in France: an unfinished revolution?"* Etude de l'INED: Population et Sociétés, n°439, 27 novembre 2007.

implants of contraceptives under the skin) have the same effect. In these cases, the abortion takes place without the woman being aware of it.

Testimonies

I was 22 years old. For 3 years I had been having a relationship with a student from my school. One night, since I had forgotten my pill, we used a condom that happened to tear. Two weeks later, my life was turned upside-down: I was pregnant.... From then on, the loneliness that I felt and the pressure from the child's father to abort were immense: he wanted nothing to do with the child. We fought violently for 6 days, then I gave in, too isolated and intimidated and without any support from my family. When I woke up there was nothing left: the world was empty. Ten days later I experienced 2 days of hemorrhaging. For the next 20 years, on the "anniversary" of that day, I have relived the anguish and the loneliness of that moment and I have had terrible stomach pains. At the birth of each of my children I experienced months of depression and terrible nightmares, that I was killing my baby with my own hands. Today, at age 40, not one day passes without my thinking about that child and about the part of myself that I killed in having an abortion.

Emma, a mom

I feel the greatest destroyer of peace today is abortion, because it is a direct war, a direct killing—direct murder by the mother herself.... If a mother can kill her own child, what is left [but] for me to kill you and you kill me?

Saint Teresa of Calcutta

"Before I formed you in the womb I knew you, and before you were born I consecrated you." Jeremiah 1:5

What the Church says...

God alone is the Lord of life

"Human life is sacred because from its beginning it involves the creative action of God and it remains for ever in a special relationship with the Creator, who is its sole end. God alone is the Lord of life from its beginning until its end: no one can under any circumstance claim for himself the right directly to destroy an innocent human being." *Catechism of the Catholic Church, no. 2258.*

Abortion is a serious sin

"Direct abortion, that is, abortion willed as an end or as a means, always constitutes a grave moral disorder, since it is the deliberate killing of an innocent human being." *Evangelium Vitae, no. 62.*

The dignity of the unborn person

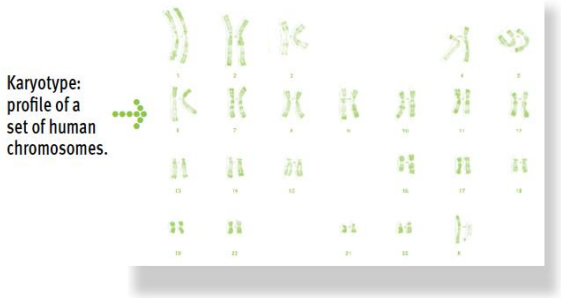
"Among the vulnerable for whom the Church wishes to care with particular love and concern are unborn children, the most defenceless and innocent among us. Nowadays efforts are made to deny them their human dignity and to do with them whatever one pleases, taking their lives and passing laws preventing anyone from standing in the way of this. Frequently, as a way of ridiculing the Church's effort to defend their lives, attempts are made to present her position as ideological, obscurantist and conservative. Yet this defence of unborn life is closely linked to the defence of each and every other human right. It involves the conviction that a human being is always sacred and inviolable, in any situation and at every stage of development. Human beings are ends in themselves and never a means of resolving other problems. Once this conviction disappears, so do solid and lasting foundations for the defence of human rights, which would always be subject to the passing whims of the powers that be. Reason alone is sufficient to recognize the inviolable value of each single human life, but if we also look at the issue from the standpoint of faith, "every violation of the personal dignity of the human being cries out in vengeance to God and is an offence against the creator of the individual.*"Evangelii Gaudium, n° 213.*

3/What is prenatal screening ?

Prenatal screening and diagnosis are a set of tests that are administered for the early detection of abnormalities of the fetus in the mother's womb. Prenatal screening is one element in monitoring pregnancies; it is desirable to have it done as soon as possible because it is useful in detecting some anomalies for which the child can be treated early. Research into therapies for diseases is indispensable. The real progress is to diagnose them promptly so as to treat them promptly. However, today prenatal screening has strayed from this purpose of protecting the health of mother and child. It is used most often to detect anomalies, such as Down syndrome, and the diagnosis frequently results in a decision to abort.

In utero operation at 21 weeks' gestation on Samuel, who has spina bifida. Samuel was born on December 2, 1999.

In effect, abortion law allows the termination of pregnancy throughout all 9 months if there is a strong possibility that the fetus will suffer from a serious, incurable condition. However, the line between a serious condition and a less serious condition is sometimes difficult to draw. Societal pressure leads physicians to use prenatal screening not so much to care for the child as to recommend abortion. From the doctor's perspective, there is a fear of overlooking an anomaly for which he will later be blamed or possibly even sued for not having detected. Thus, this leads to an increase in the number of abortions. Today, prenatal screening serves all too often to monitor the "quality" of a preborn child and to eliminate him if he is not up to his parents' or society's expectations.



Methods

Sonogram (ultrasound)

This is the main prenatal screening test. It allows medical personnel to see the baby by using computer-synthesized images. This exam is performed at least 3 times during a pregnancy (at 12, 21, and 33 weeks after menstruation stops). This is the test that is used to measure, among other things, the width of the nape of the neck, and check for signs of trisomy 21, a chromosomal anomaly due to the presence of 3 copies of chromosome 21, instead of 2.

Amniocentesis and chorionic villi sampling

Amniocentesis is performed starting from the end of the fourth month after menstruation stops. It is a study of the fetal cells in the amniotic fluid with a view to determining the child's karyotype (a representation of the child's set of chromosomes). This delicate test accidentally causes the death of the fetus in more than 1% of the cases. Chorionic villi sampling (or biopsy of the trophoblast) removes a tiny piece of the placenta and thus allows the medical personnel to make a karyotype even earlier in pregnancy, during the first trimester. The risk of miscarriages is between 1% and 2%.

Prenatal screening for trisomy 21 (Down syndrome)

Screening/diagnosis: "Screening is a means of assessing the risk that a woman is pregnant with a fetus with trisomy 21. A diagnosis follows if the screening test indicates a high risk. Diagnosis consists of analyzing the chromosomes of the fetus through an invasive sampling procedure (amniocentesis or chorionic villi sampling)." (Atelier de l'Agence de biomédecine, December 2010).

How can the risk of Down syndrome be evaluated?

Screening for Down syndrome is based upon the age of the woman, analysis of biochemical markers (serum markers) and by measuring the thickness of the neck of the fetus by ultrasound besides recent fetal DNA. In some countries these measures are combined and performed during the first trimester (which is then called combined early screening). These tests are offered to all pregnant women and can be carried out in 48 hours. New techniques of prenatal diagnosis of Down syndrome are now being marketed. These techniques, which are touted as a medical advance, require only a blood sample and thus make it possible to avoid the risks of miscarriage associated with amniocentesis. However this technical advance encourages the eugenic trend in prenatal diagnosis toward a quasi-systematic elimination of infants with Down syndrome, as though it had been decided that they no longer had a right to be born.

Frequently asked questions

Are prenatal diagnostic techniques bad?

The techniques for prenatal screening are neither good nor bad in themselves; it all depends on how they are used. They can be good if they serve to detect conditions that can then be treated, or if they help the parents get ready to welcome a sick child. But they are terrible if they are used to pick and choose among babies before birth.

Is prenatal screening the same as eugenics?

People frequently talk about prenatal screening in relation to eugenics because it is associated with "mass screening" and very often leads to an elective abortion. This is particularly true of children with Down syndrome. In the West, the abortion rate of those prenatally diagnosed varies above 90%. Thus, a certain sort of medical practice, under cover of the law, has increasingly drifted away from health care into the business of eliminating persons because of their genetic heritage. Some even dare to claim that such medical practice benefits the mother's health. This drift is reminiscent of the criminal methods that were used during certain historical periods to deal with mentally disabled persons.

Is screening for Down syndrome obligatory?

In some countries, physicians are obliged to inform their patients about screening for Down syndrome. Parents are not obliged to accept it: they have the right to refuse the blood test to measure serum markers, as well as amniocentesis or biopsy of the trophoblast. But it is not always easy to resist the pressures surrounding these procedures.

Ethical reflections

What would I do if I were expecting a disabled child?

Every family has to be prepared to welcome a child, even a sick child. The shock of the announcement is harder for those who have never even thought about this possibility and have not decided in their hearts to welcome the child for his or her own sake.

Prenatal diagnosis of Down syndrome, which is not a fatal condition, has made it deadly.

Why not have an abortion, since my disabled child will not be happy?

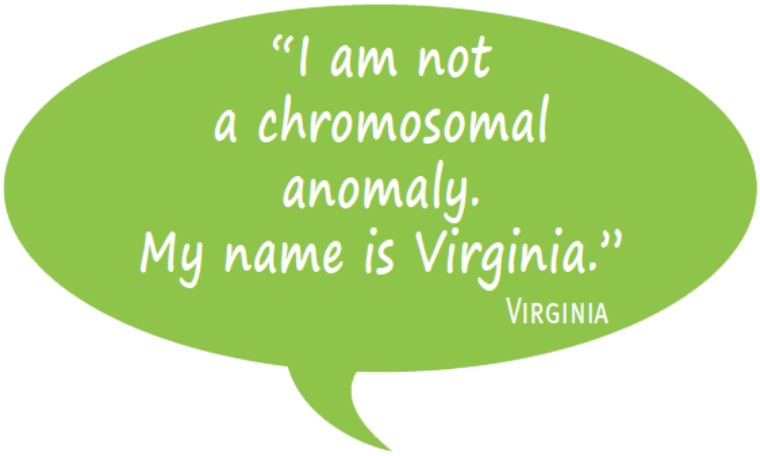
In our culture, persons with disabilities are forced to prove that they are happy so as to have the right to live. Nobody can judge someone's degree of happiness. There are plenty of testimonies of persons afflicted with a serious disability who say that they are glad to be alive. A systematic study of a large number of persons with trisomy 21 revealed that 99% were happy with their lives, 99% of parents said they loved their child with trisomy 21, and 97% of brothers and sisters ages 9 to 14 said they loved their sibling with trisomy 21. (See Brian G. Skotko, Susan P. Levine, and Richard Goldstein, *"Self-perceptions from People with Down syndrome,"*American Journal of Medical Genetics, October 2011).

Who can judge the value of a human life?

Deciding to have an abortion because of an ailment or malformation in the fetus is judging the value of a human being's life: it is a judgment that because this fetus is afflicted with a serious ailment, his birth should be prevented and his life has less value than one's own.

Suffering of parents

Everybody, particularly physicians, should have compassion for parents of children with disabilities. But how can anyone think that you could ease the pain of a human being by killing another human being? Everything possible must be done to do away with the sickness of the child and not the sick child himself. As Jérôme Lejeune said, "Medicine is hatred for the sickness and love for the sick person." The loss of a child, even by abortion, is always a tragedy. But suffering cannot be eliminated by eliminating the suffering person.



A sickness in society?

Many parents suffer from the disapproving looks of people who see their child and blame them: "You wanted to keep that child? Don't ask society to take care of him!" Throughout the world, considerable sums are spent on prenatal screening for Down syndrome. Official documents talk about "rates of escape" to describe babies with Down syndrome who are not detected, and there is no public policy to require funding of therapeutic research for them. Our society is becoming more and more intolerant of handicaps, and "the myth of the perfect baby" is making headway.

"Wrongful birth"

There are 25 U.S. states that allow wrongful-birth lawsuits, in which the parents can sue a physician for not diagnosing Down syndrome or other disabilities in the child before his birth. However, some states have statutorily banned wrongful birth actions. For example, Idaho Code §5-334(1) reads, "A cause of action shall not arise, and damages shall not be awarded, on behalf of any person, based on the claim that but for the act or omission of another, a person would not have been permitted to have been born alive but would have been aborted."

Testimony

Éléonore's mom

Since Éléonore's birth 24 years ago, people have often asked me: "But why? Didn't you know that you were carrying a child with trisomy 21? Didn't they perform an amniocentesis?" At first I used to say, "No, I didn't know." Then I added, "I did not know, and it's just as well. If I had found out during my pregnancy, I would certainly have been afraid and made the biggest mistake in my life." Twenty-four years ago I knew nothing about Down syndrome—just a few preconceived ideas, most of them horrible sources of anguish, shame, and aversion. I would probably have preferred to terminate my pregnancy. Once the shock of the news about the handicap was over, Éléonore made us, her parents, aware of a strength and a capacity for tolerance that we had not recognized at all. Today we know how much Éléonore has enriched us by being different, how much she has contributed by her radiance, and how happy she is to be alive. Today we look back on the extent of our ignorance 24 years ago, and more than ever we sigh, "How lucky we are that we did not know that the stranger I was carrying inside of me had Down syndrome."

Maryse Laloux, 2009

Éléonore Laloux is the spokesperson for an advocacy group for persons with trisomy 21.

"I have heard that it's fashionable, or at least usual, that when in the first months of pregnancy they do studies to see if the child is healthy or has something, the first offer is: let's send it away. Last century, the whole world was scandalized by what the Nazis did to purify the race. Today, we do the same thing but with white gloves."

(Pope Francis, to a delegation of Italy's Family Association in Rome, on June 18, 2018).

What the Church says...

Human life is always a good

"By virtue of the simple fact of existing, every human being must be fully respected.... At every stage of his existence, man, created in the image and likeness of God, reflects the face of his Only-begotten Son… This boundless and almost incomprehensible love of God for the human being reveals the degree to which the human person deserves to be loved in himself, independently of any other consideration—intelligence, beauty, health, youth, integrity, and so forth. In short, human life is always a good, for it is a manifestation of God in the world, a sign of his presence, a trace of his glory." *Dignitas personae, no. 8*

The Church warns against the eugenic tendencies of prenatal diagnosis

"When [prenatal diagnostic procedures] do not involve disproportionate risks for the child and the mother, and are meant to make possible early therapy or even to favour a serene and informed acceptance of the child not yet born, these techniques are morally licit. But ... it not infrequently happens that these techniques are used with a eugenic intention which accepts selective abortion in order to prevent the birth of children affected by various types of anomalies. Such an attitude is shameful and utterly reprehensible, since it presumes to measure the value of a human life only within the parameters of 'normality' and physical well-being." *Evangelium vitae, no. 63*

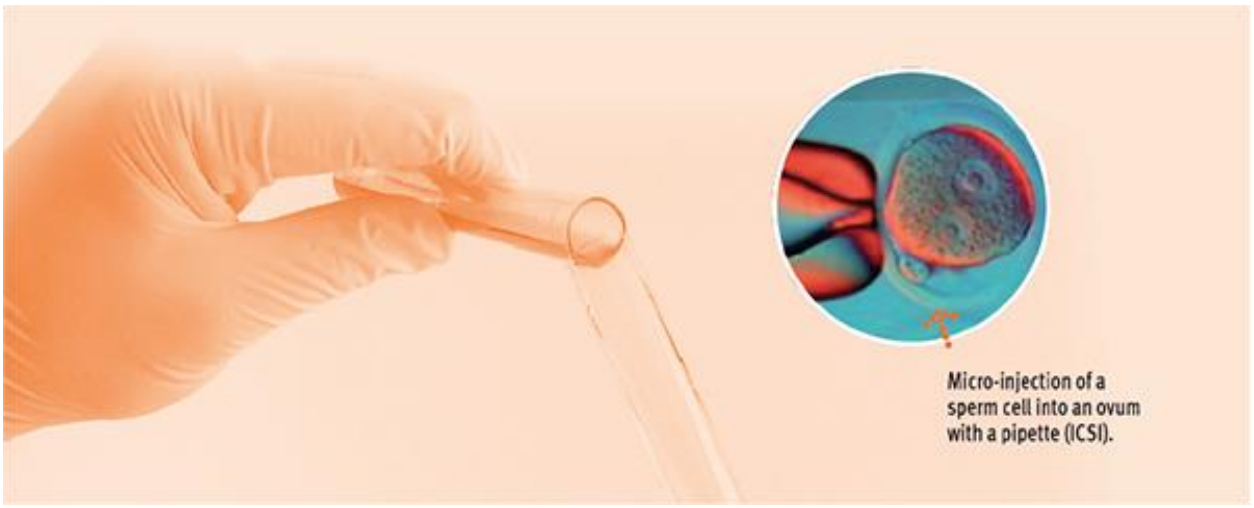
Embryos and culture of discarding

"The culture of discarding has so many expressions, among which is treating human embryos as disposable material, and so also to the sick and elderly people who approach death. [...] Respect for human integrity and protection of health from conception to natural death is a fundamental ethical principle."
(Pope Francis, *Speech to the Italian National Committee for Bioethics*, Rome, January 28, 2016).

Abortion is not prevention

"No human being can ever be unfit for life, whether due to age, state of health or quality of existence. Every child who appears in a woman's womb is a gift that changes a family's history, the life of fathers and mothers, grandparents and of brothers and sisters. That child needs to be welcomed, loved and nurtured. Always!". "On a social level, fear and hostility towards disability often lead to the choice of abortion, presenting it as a form of "prevention". However, the Church's teaching on this point is clear: human life is sacred and inviolable, and the use of prenatal diagnosis for selective purposes must be strongly discouraged. It is an expression of an inhumane eugenic mentality that deprives families of the chance to accept, embrace and love the weakest of their children." (Address of His Holiness Pope Francis to participants in the conference "Yes to Life! - Taking care of the precious gift of life in its frailty" organized by the Dicastery for Laity, Family and Life, 25 May 2019).

4/What is assisted reproductive technology ?



Assisted reproductive technology (ART) usually means the set of techniques that make procreation possible apart from the natural process. ART uses sperm cells from a man and egg cells from a woman. There are two principal techniques of ART:
1 - natural method • medically assisted natural procreation (Billings Method, NaProTechnology)
2 - artificial methods • artificial insemination • in vitro ("test tube") fertilization with embryonic transfer (IVF)

Artificial methods of ART

Artificial insemination

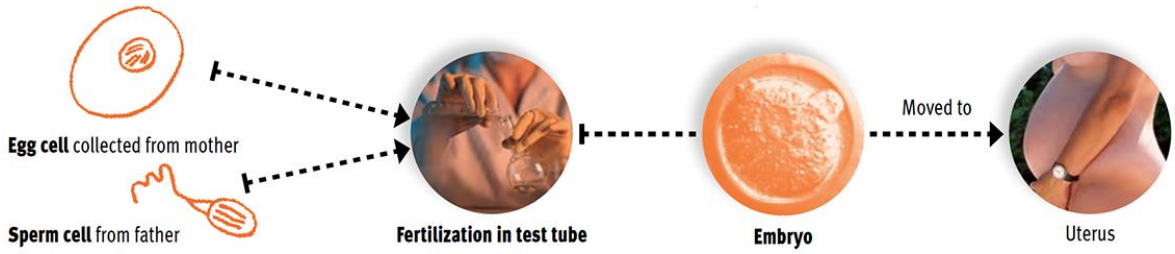
1. Sperm is collected.
2. The sperm is introduced directly into the woman's uterus.
3. The egg is fertilized in the woman's fallopian tube. The rest of the pregnancy proceeds normally.

In vitro fertilization

1 - Sperm is collected from the father and several ova are collected from the mother. 2 - The ova are brought into contact with the sperm in vitro (in a test tube). Fertilization takes place. Several embryos start to grow.

3a - Several embryos are created, but usually only 1 to 3 are transferred into the mother's uterus. Then pregnancy proceeds as usual, unless there are complications. Multiple pregnancies (twins, triplets, and such) are common. However, with a multiple pregnancy that results from IVF, often one or more of the embryos are then killed in a process called "embryo reduction."

3b - The embryos that are conceived but not transferred are either destroyed if they do not "look well enough," or frozen to be transferred later if the parents want another child. If the parents do not want to transfer them for a new pregnancy, they are preserved cryogenically (frozen) indefinitely.



IVF with intracytoplasmic sperm injection

Intracytoplasmic sperm injection (ISCI) consists of introducing the sperm cell selected by the technician directly into the ovum. This technique was first used to compensate for the infertility of the father. It runs the risk of transmitting to the child the genetic anomalies responsible for the father's infertility. Since the success rate of ICSI is better than for classic

in vitro fertilization, ICSI is used in most cases, even when the father does not suffer from infertility.
(See Pierre Jouannet, *"Peut-on réduire le risque de grossesse multiple après fécondation in vitro?"* Bulletin épidémiologique hebdomadaire, June 14, 2001).

IVF with donated gametes

Depending on the country, several possibilities of medically assisted procreation can be considered. Regulatory control of ART, however varies from country to country. In the U.S., for example, there is no regulation. In some countries, where one of the couple cannot provide gametes (no sperm production, troubles ovulating...), the law allows them to call on an anonymous donor apart from the couple in order to have either sperm or ova.

IVF with a "surrogate mother"

"Surrogate mothers" are women who are willing to "rent their wombs" when the woman seeking ART is not able to carry a pregnancy to term. The "surrogate mother" carries and brings into the world the couple's child after it has been conceived by IVF and transferred into her uterus. At birth she turns the child over to the couple, usually for payment. Sometimes the "surrogate mother" becomes pregnant by artificial insemination with the father's sperm; in this case she is also the biological mother of the child. The practice of surrogate mothers is illegal in France, but is authorized in almost all states in the United States.

A fact you can't ignore

On average, 17 embryos are conceived in order to obtain 1 live birth. 16 embryos die.

Frequently asked questions

Does freezing the embryo affect it?

Freezing "surplus" embryos has risks. Statistical studies show that laboratory mice that had been frozen as embryos had genetic changes.

Are there physical consequences in a child who is conceived in vitro?

Yes. Besides a higher risk of premature birth, scientific studies reveal a 25% increase in birth defects among children conceived by IVF or intracytoplasmic sperm injection compared with children who are conceived naturally. In particular, anomalies of the cardiovascular, urogenital, and skeletal-muscular systems are observed.

Are there psychological consequences for a child conceived with a donated egg or sperm?

Yes. Children conceived by in vitro fertilizaiton with donated gametes can experience similar problems as some adopted children. They can be affected by not knowing their biological parents. We all like to know where we came from, to know our parents, who gave us the color of our eyes, our hair, our smile.

With in vitro fertilization, embryos are conceived outside the mother's body. From the moment of fertilization, these embryos are human beings, just like those who are conceived in vivo, even if they are not implanted into the mother's womb. To destroy these embryos, whether in vitro or in vivo, is to abort them.

Are there consequences for the couple who uses IVF to conceive a child?

Yes. Assisted reproductive technology is very trying psychologically for the couple because of the intrusion of medical personnel into their intimate relations (for example, a questionnaire about their sex life, the fertilization of the woman's ovum and its transfer, or the insemination of a woman by the doctor instead of her husband). The father finds that he is excluded from the conception of his child, which has become a collaboration between the wife and the practitioner. The parents also suffer psychologically from freezing and destroying some of the embryos.

Is it risky for the mother?

Harvesting egg cells can be dangerous. It involves preliminary stimulation of the ovaries and the removal of the ova from her abdominal cavity. The hyperstimulation of the ovaries can result in hospitalization, development of arterial or venous thrombosis, and on rare occasions, death.

Are there alternatives to ART?

Assisted reproductive technology doesn't treat infertility; it tries to work around it. Today, medicine can treat the actual problem. There are techniques that can help couples who think they are sterile to achieve a pregnancy: the **Billings Method**, which offers a better knowledge of fertility cycles, and the more recent **NaProTechnology,** an inter-disciplinary approach to procreation (including observation of one's fertility, medical treatments, and surgical interventions). NaProTechnology techniques achieve better rates of success than those of ART (for more information, see naprotechnology.com). Finally, the couple can also resort to adoption and offer their home to a child.

Is IVF connected to embryo research?

Yes. Research on human embryos is a direct result of IVF. Without IVF, it would be impossible to designate "usable" embryos for research. In some countries the growing supply of "surplus" embryos allows some researchers to use these embryos as subjects of laboratory experimentation. This supply has even served as an argument in bioethics debates: "Rather than allowing or causing these thousands of children to die 'uselessly,' give us the right to use them for our research, even if that will kill them."

Ethical reflections

A child at any cost?

In the name of human rights, a child cannot be considered as an object at the disposal of others. A child is not a right. Instead of replacing the act of love between two spouses, research ought to seek to cure their sterility. The IVF process is very burdensome for the couple and results in a live birth less than half of the time: this disappointment, considering the costly procedures that they authorized, can be a very bad experience.

Protecting gametes and procreation from manipulation

Gametes are unlike any other cells because they are of no use for the life of the body that produced them. The only function of gametes is to conceive a new human being by transmitting the genetic heritage from the father and from the mother. They should therefore be treated with respect and reserved for the procreation of the couple's children. For that purpose they are irreplaceable, and they should not be manipulated. ART techniques have brought about a revolution by taking ova out of the woman's body and exposing them to laboratory scrutiny. Gametes are now used for IVF (even for another couple) and for the manipulations that result from this (sperm selection, embryo selection, experimentation on embryos, preimplantation genetic diagnosis, and surrogate motherhood). These manipulations offend human dignity because they dissociate procreation from sexual union and transform gametes into laboratory material.

Ethical reflections

IVF and embryo selection

On average, in vitro fertilization results in the conception of 6 to 12 embryos per try, and usually 1 to 3 are transferred into the mother's uterus. How are these 3 embryos chosen?

- The medical team selects those that seem strong enough to survive. Those that do not have these qualities are destroyed.
- Then, if more than 1 or 2 embryos develop during the pregnancy, the mom is asked to undergo "embryo reduction," in other words, the abortion of 1 or more children to limit the risks of a multiple pregnancy. Resorting to procreation outside the woman's body promotes the qualitative selection of embryos, which is a form of eugenics. There is no IVF without embryo selection. Some kinds of embryo selection, such as preimplantation genetic diagnosis, are possible only with IVF.

"Surplus" embryos

Do you know any surplus adult human beings? Can we say that a human being is superfluous? An embryo whose parents have no plan for him is disposed of in one of three ways:

- We can preserve him in a freezer.
- He is destroyed (which is to kill a human offspring).
- He becomes the subject of scientific experiments or research (which amounts to making a human being laboratory material).

"Wanted children"

The expression "wanted child" was developed during the debates about abortion. It reflects a mindset that regards a child as a human being only if his parents want him to be born. This makes the status of a human being depend on their choice! In fact, even if the parents no longer have plans for their child, the child, whether he is an embryo of a newborn, is still a human being and has the right to life.

Frozen embryos

In 2010 there were about 500,000 to 600,000 frozen embryos in the United States. These are human beings. Who would ever think of freezing their child until they had time to care for him?

Embryos for research

It is not legitimate to use human embryos for research because the research exploits and kills those embryos. These are human beings, and no one has the right to dispose of a human

being's life, even to save another life. "Act in such a way that you treat humanity as an end, and never merely as a means." (Immanuel Kant)

5 parents

"I am the product of IVF conducted with the sperm of a man, my biological father, and the ovum of a donor, my biological mother. Then I grew inside the body of another woman, my surrogate mother. "Now I live with my 2 adoptive parents. . . . ***Who are my parents?***"

"As of 2003 the estimated number of frozen embryos at IVF clinics in the United States was 400,000 ... That number increases annually by about 19,000, which puts estimates in 2010 at between 500,000 and 600,000."

(E. Christian Brugger)

Testimony

"I constantly think about the frozen embryos..."

"I'm the mom of a little 3-month-old girl who was conceived by IVF, and I think constantly about the 8 other frozen embryos. Since we, the parents, have no plans for future pregnancies, and since I cannot bring myself to destroy them, I do not know what to do. . . . The medical team that enabled us to realize our dream is not there for all these questions. . . I thank you for your help."

Anne

"God created man in his own image, in the image of God he created him; male and female he created them. And God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it....' And God saw everything that he had made, and behold, it was very good. And there was evening and there was morning, a sixth day."
Genesis 1:27-28, 31

What the Church says...

A child is a gift

"A child is not something owed to one, but is a gift. The 'supreme gift of marriage' is a human person. A child may not be considered a piece of property, an idea to which an alleged 'right to a child' would lead. In this area, only the child possesses genuine rights: the right 'to be the fruit of the specific act of the conjugal love of his parents,' and 'the right to be respected as a person from the moment of his conception.'" *Catechism of the Catholic Church,* no. 2378

Marriage, the only setting worthy of responsible human procreation

"Out of respect for human dignity, the Church cannot approve of the technologically assisted conception of a child through artificial insemination or fertilization. Every child has in God's plan the right to have a father and a mother, to know his parents, and if at all possible to grow up surrounded by their love. Artificial insemination and fertilization with the sperm of another man or the ovum of another woman (heterologous artificial insemination and fertilization) also destroys the spirit of marriage, in which husband and wife have the right to become a father or a mother only through the other spouse. But even homologous artificial insemination and fertilization (in which the sperm and the ovum come from the spouses) make a child the product of a technological procedure and does not allow it to originate from the loving union of a personal sexual encounter. If the child becomes a product, however, then that leads immediately to cynical questions about product quality and product liability." *Youcat,* no. 423

The temptation of omnipotence

"The gift of life which God the Creator and Father has entrusted to man calls him to appreciate the inestimable value of what he has been given and to take responsibility for it.... Various procedures now make it possible to intervene not only in order to assist but also to dominate the processes of procreation. These techniques can enable man to 'take in hand his own destiny,' but they also expose him 'to the temptation to go beyond the limits of a reasonable dominion over nature." *Donum vitae,* Introduction no. 1

5/What is preimplantation genetic diagnosis?

Preimplantation genetic diagnosis is a technique for selecting embryos that is used for fertile couples who are concerned about a possible genetic illness. The goal is to obtain, after in vitro fertilization, the birth of a baby who is not affected by that illness or who has a desired genetic trait. After creating several embryos, technicians choose those that will be implanted in the mother's uterus. The embryos who are carriers of illness or those who do not have a desired genetic trait are destroyed.

Method

1 - IVF

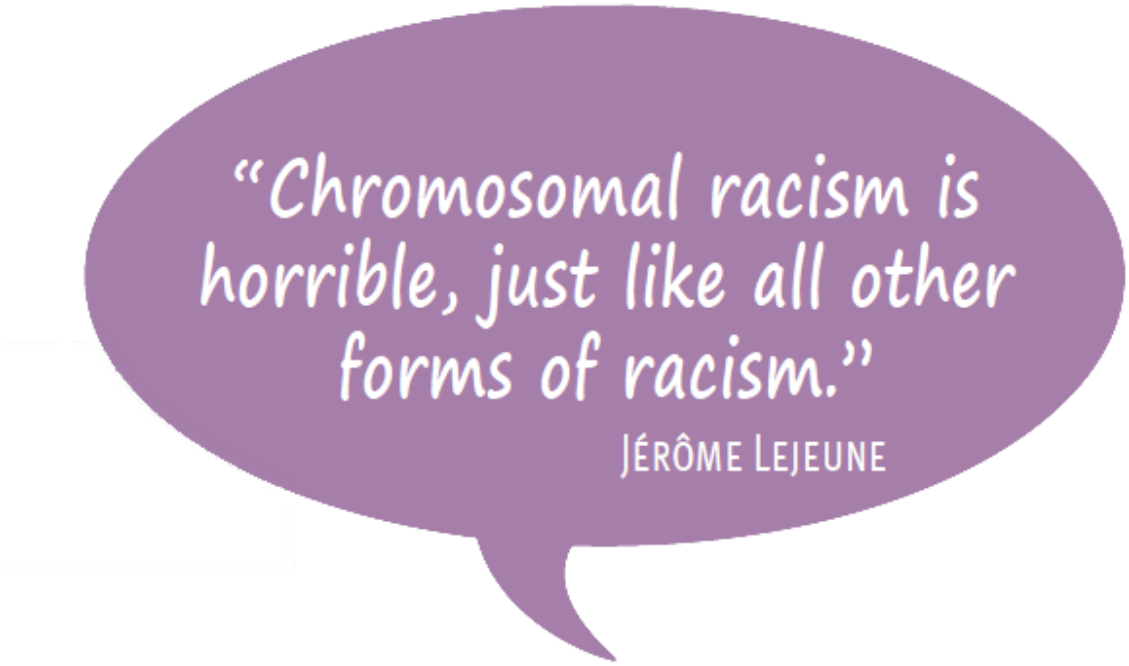
Through IVF, several embryos are created and allowed to develop to the 8-cell stage. One or 2 cells are taken from each embryo.

2 - Analysis

These cells are then analyzed to determine if the embryo is a carrier of the illness being investigated. This is called an embryo biopsy.

3 - Selection

Those embryos not affected by the anomaly being screened are then transferred (implanted) by the technicians into the uterus. If the other embryos are healthy, they are frozen; those who do not meet the criteria are destroyed or used for research.



Creating a "designer baby"

A "designer baby" (also called a "savior sibling") is a baby selected by preimplantation genetic diagnosis within the context of IVF to treat his older brother or sister who is afflicted by a serious genetic disorder. In order for the procedure to succeed, the embryo has to meet 2 criteria: he must not be a carrier of the disorder and he must be compatible with his sick brother or sister for a future transplant. Preimplantation genetic diagnosis is the technique that makes this two-fold triage possible. At least 100 embryos must be conceived for the birth of one designer baby. The first "designer baby," Adam, was born in the United States in 2000.

Whether in vitro (by IVF) or in vivo (within the woman's body), the destruction of an embryo is an abortion.

Frequently asked questions

Does preimplantation genetic diagnosis cure a child?

In 2000 the public learned that Adam was the first child born in the U.S.A. free of a genetic illness "thanks to" preimplantation genetic diagnosis. Many people thought that he had been cured. Is that true? No, because PGD neither treats nor cures anyone. A child conceived by PGD is born free of a genetic illness that he never had. PGD allows technicians to sort and select embryos so as to transfer a healthy embryo and to kill those who are sick. Adam was able to be born because he was in good health; otherwise he would have been destroyed like the others.

Doesn't preimplantation genetic diagnosis prevent abortion?

No. The practice of preimplantation genetic diagnosis fosters the development of a mentality of selection and elimination. The purpose of preimplantation genetic diagnosis is to detect sick embryos so as to destroy them. This is ethically equivalent to an abortion.

Isn't preimplantation genetic diagnosis better than late-term abortion?

For the sick babies who are detected, the result is the same: they are killed. Therefore, there is no hierarchy of value. For the parents or the siblings, destroying an embryo in vitro is apparently less upsetting than to destroy the child later during pregnancy, since they are not yet as emotionally attached to the embryonic child as they would be to a several-month-old preborn baby. However, even if they are not aware of it, the moral significance of the act is identical, and they may show some post-abortive symptoms. Ignoring the truth of an action does not free one from its consequences.

Ethical reflections

Preimplantation genetic diagnosis and eugenics

Preimplantation genetic diagnosis is a technique for early screening of genetic disorders. However, it promotes the elimination of some human beings (embryos) based upon their genetic code. Another term for this is eugenics. Professor Jacques Testart, a French pioneer in IVF, said "preimplantation genetic diagnosis is a promise of discreet, consensual, and large-scale eugenics. . . . In the future the use of preimplantation genetic diagnosis will expand severely." "The movie Gattaca (1997) attempted to portray a future society that had turned to biotechnology to produce genetically enhanced children. Children conceived in the natural way were called 'Invalids' and were looked down upon. Some believe that we may be headed toward Gattaca— a world where 'most children will be conceived in IVF clinics' and selecting the health traits of children will be encouraged by insurance companies and the government to control health care costs."

Bruce Goldman

Toward the creation of a "superman"?

In proposing that parents who are not sterile should have recourse to IVF in order to select their child based on genetic criteria, preimplantation genetic diagnosis plays into the hands of transhumanism (or posthumanism). The transhumanist ideology, which originated in the United States in the 1990s, maintains that science and technology can improve the physical and mental characteristics of man and claims that a new species is appearing. Thus the "techno-prophet" Raymond Kurzweil rejects "all sorts of checks, limits, and prohibitions which, in the name of prudence or ethics, would prevent man from going 'further.' Those who decide to remain human and refuse to improve themselves will be a subspecies."

Making a "designer baby"

The suffering of parents who face their child's illness is understandable. But is it ethical to create one child to save another? How many embryos will they conceive and eliminate so that just one can live? Even if a "designer baby" got a lot of love from his parents, he would be regarded as an object because of the act by which he was brought to life. He is chosen for what he will offer to a sick person. How would a child react when he realizes that he was conceived as a medication for his older sibling? And how would he react if he was not "capable" of curing his older brother or sister, who died anyway? How would the parents see this child who was not able to save the older sibling, despite all their efforts? How would the older sibling feel, knowing that dozens of embryos were killed because they could not serve as his medication?

Testimonies

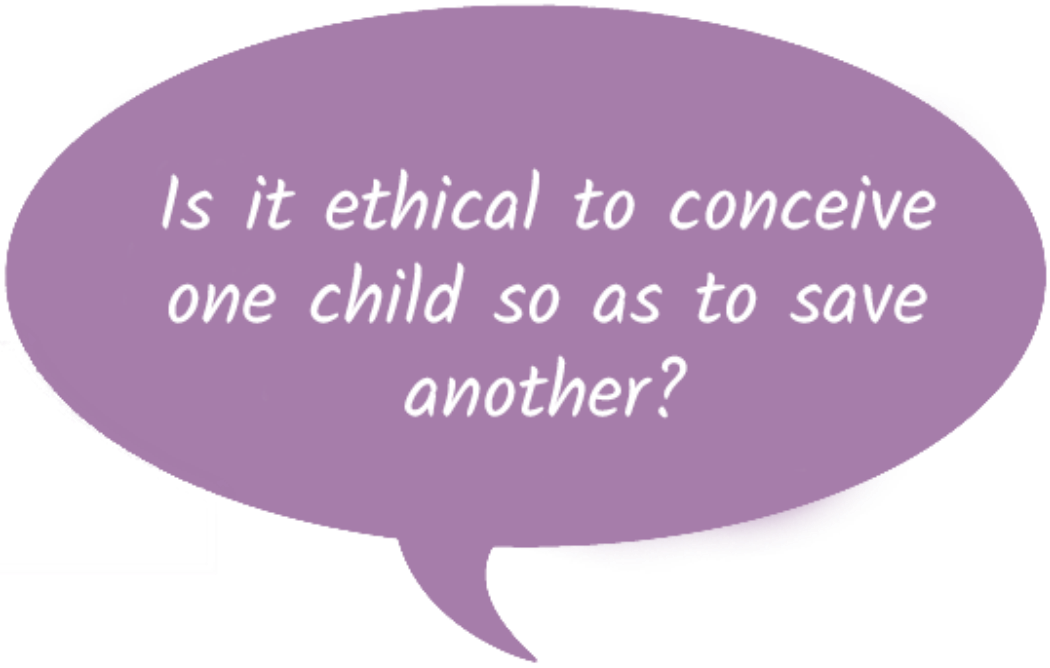
Jacques Testart, technological "father" of the first French test-tube baby:

"Preimplantation genetic diagnosis is the means by which eugenics will be able to reach its goals."

Jacques Cohen, pioneer in human procreation and head of an American laboratory:

"Within the next 10 or 20 years, we will be able to screen every human embryo for all numerical chromosomal abnormalities as well as for many genetic disorders. In the near future it will be possible to determine individual predispositions for cardiovascular illnesses, all types of cancers, and infectious diseases. In the distant future we should be able to identify various genetic traits such as height, baldness, obesity, hair and skin color, and even IQ. Thus, little by little, the ultimate goal of PGD could very well be to normalize the species."

Quoted from Le Monde, June 5, 2001



"I will demand an accounting of every man for the life of his brother."
Genesis 9:5

What the Church says...

Sickness and disability concern everybody

"By treating the human embryo as mere 'laboratory material,' the concept itself of human dignity is also subjected to alteration and discrimination. Dignity belongs equally to every single human being, irrespective of his parents' desires, his social condition, educational formation or level of physical development (…) Today there is a no less serious and unjust form of discrimination which leads to the non-recognition of the ethical and legal status of human beings suffering from serious diseases or disabilities... Sickness and disability are part of the human condition and affect every individual." *Dignitas personae,* no. 22

The life of a disabled person is precious too

"The diagnosis of disability in the unborn child cannot be a reason for abortion, because life with such a disability is also desired and appreciated by God, and here on earth no one can ever be sure that he or she will live without physical or spiritual limitations." Benedict XVI, *Youcat,* no. 211

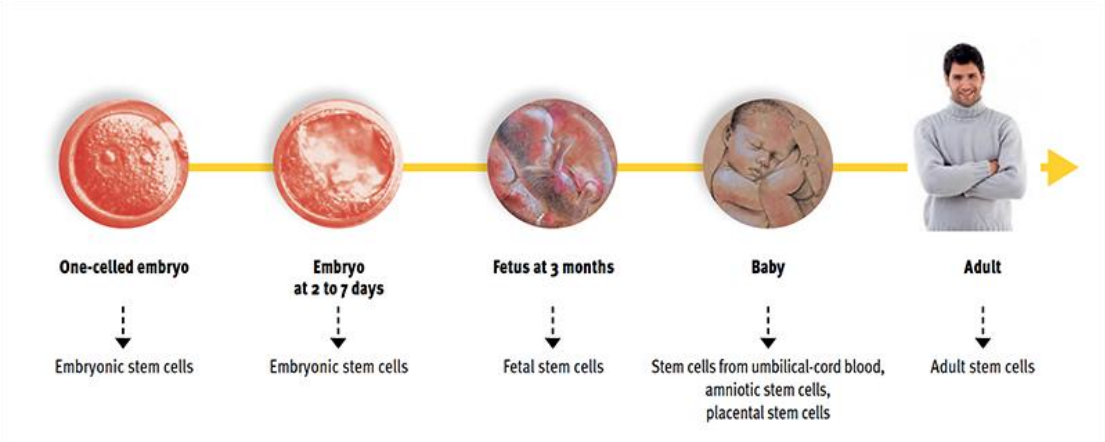
Freedom of conscience

"In creating the person, God wrote on the human heart a law which everyone can discover. Conscience for its part is the ability to judge and act according to that law: 'To obey it is the very dignity of man.' No human authority has the right to interfere with a person's conscience. Conscience bears witness to the transcendence of the person, also in regard to society at large, and, as such, is inviolable. Conscience, however, is not an absolute.... By its very nature, it implies a relation to objective truth, a truth which is universal, the same for all, which all can and must seek.... "The guarantee that objective truth exists is found in God, who is Absolute Truth; ... the search for truth and the search for God are one and the same." (John Paul II, *Message for the World Day of Peace,* 1991)

6/Stem cell research: What are the stakes?

Stem cells are immature, undifferentiated cells that are capable of developing into many types of cells, which make up different tissues in the adult organism. They are “mother cells” obtained and cultivated for the research and treatment of some illnesses. There are several kinds of stem cells: adult, umbilical, placental, fetal, induced pluripotent, and embryonic. These cells are leading to interesting therapeutic results in some diseases. Of these types listed, only the use of human embryonic stem cells is illicit because they are obtained by destroying human embryos. The use of fetal cells may also be problematic if obtained through direct abortion.

Types of human stem cells and their relation to human development



Sources of stem cells

3 types of stem cells

1. Totipotent stem cells:

These, from the cells of an embryo up to the morula stage, are capable of generating all types of the organism's cells, including the placenta, but not a new organism.

2. Pluripotent stem cells:

These are capable of generating all types of the organism's cells, except the placenta.

3. Multipotent stem cells:

These are capable of generating a large number of cells but not all.
> adult stem cells
> umbilical stem cells
> amniotic and placental stem cells
> fetal stem cells

Where do stem cells come from?

Adult stem cells are extracted from adults and children (from the skin, muscles, blood, bone marrow, fat, etc.).

Umbilical stem cells come from umbilical cord blood. **Amniotic and placental stem cells** come from the amniotic fluid and placenta. **Fetal stem cells** come from aborted fetuses and from miscarriages.

Where do pluripotent stem cells come from?

Embryonic stem cells are extracted from so-called surplus embryos conceived through assisted reproductive technology and then abandoned for use in research. The frozen embryos are thawed and allowed to develop for 6 to 7 days, to the blastocyst stage. They are then destroyed so that their cells can be extracted. **Induced pluripotent stem cells** are adult cells (for example, skin cells) that have been deprogrammed so as to become undifferentiated. They can then be reprogrammed to develop into many different types of cells; hence their name: induced pluripotent stem cells, or IPS cells. This important discovery made by Prof. Shinya Yamanaka in 2006 makes it possible to obtain pluripotent cells without destroying human embryos. For this he won the 2012 Nobel Prize for Medicine, which he shares with Sir John B. Gurdon.

Stem cells and cellular therapy

"Cellular therapy" refers to cell grafts or implants aimed at restoring the function of a tissue or an organ when it is impaired. These therapies have benefited from recent scientific advances with stem cells. Adult stem cells are already being used for the treatment of blood diseases (forms of leukemia) to repair wounds and burns, to repair tendons and to engineer tissues (reconstituted trachea). Some adult stem cells, especially from umbilical cord blood, make it possible to restore cells in the walls of blood vessels. Some are now being evaluated for the treatment of cerebral infantile palsy (infant cerebral motor infirmity), Krabbe's disease, and other conditions. Although these therapies have benefited from advances with stem cells and hold promise for regenerative medicine (the reconstitution of organs), stem cells will not cure all diseases.

Stem cells and research

Human embryonic stem cells and induced pluripotent stem cells are being used to treat patients in clininal trials. They serve to model illnesses and to screen molecules, useful in pharmaceutical research. Recent studies show that induced pluripotent stem cells could also produce therapeutic results (e.g., recent authorization issued to a Japanese laboratory for a clinical research program to treat AMD agerelated macular degeneration. It is important to remember the ethical distinction between embryonic stem cells and IPS cells. The use of embryonic stem cells is always immoral because it requires the destruction of human embryos.

Embryonic stem cells	Induced pluripotent stem cells
+ Same capacities for proliferation and differentiation	
- Cause cancerous tumors	
- So far, no approved clinical application	
+ Of interest for molecular screening and modeling diseases	
- The patient's immune system rejects them because they are from somebody else's body	+ Not a problem if they are the patient's own cells
- Pathological models not targeted at the patient's ailment	+ Potential for generating IPS targeted at the patient's ailment
- You have to destroy human embryos to get them	+ No ethical problem for use

Frequently asked questions

Can we use cord blood?

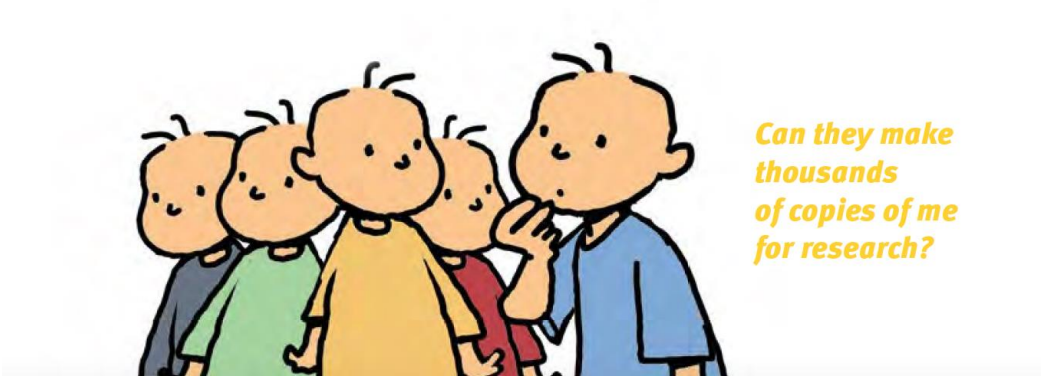
Yes. Umbilical cord blood is rich in stem cells and very useful as a substitute for bone marrow grafts, especially for children. According to the Herbert Irving Comprehensive Cancer Center's The Nuts and Bolts of Bone Marrow Transplants, "In 1991, more than 7,500 people underwent BMTs [bone marrow transplants] nationwide. Although BMTs now save thousands of lives each year, 70% of those needing a BMT using donor marrow are unable to have one because a suitable bone marrow donor cannot be found."

Can we use animal embryos for research?

Yes. In order to study embryonic development, researchers can use animal embryos; this poses no ethical problem. Professor Shinya Yamanaka made the revolutionary discovery of induced pluripotent stem cells through his work on embryonic mice. The destruction of human embryos is not necessary in order to make scientific progress and improve our knowledge.

Is human cloning okay?

No. Cloning is a manipulation aimed at asexually reproducing a human being genetically identical to the original. The nucleus of an ovum is replaced by the nucleus of a somatic cell (i.e., not a gamete) of the human being who is to be cloned. In theory, scientists distinguish reproductive cloning (which aims to reproduce a human being who is supposed to be born) from so-called therapeutic cloning (whereby the development of the embryo is stopped at the age of one week so as to use his stem cells for research). In reality there is no difference. Both are immoral.



Ethical reflections

Using human embryos for research

Research on a human embryo is unethical because it destroys and exploits a human being. It is even more objectionable since there are alternatives, such as research using induced pluripotent stem cells and animal embryos.

Conscientious objection

In some parts of the world, health care workers are protected from participating in immoral acts, including any act that would cause the death of a human fetus or embryo. In the United States, the Church Amendments, named after former senator Frank Church (D-ID), were enacted in the 1970s to protect health care workers and faith-based hospitals from being required to participate in abortions or sterilizations as a condition for receiving federal funds. These protections are increasingly challenged in the United States, with proposed legislation that undermines the right of conscientious objection.

New slaves

Now that human embryos are being made available for research, one class of human beings is being exploited to satisfy the needs of other humans.

Whatever the manner of conception, whether by fertilization or by cloning, the developing embryo is a living being. If it is a human embryo, it is a human being.

Research with adult stem cells

Why persist in conducting research on human embryos, which has not proven effective and is unethical, since it destroys an embryo, whereas adult stem cells and IPS cells are promising and pose no ethical problem? Do we have the right to slow progress toward the discovery of treatments by financing research that is less promising?

Cloning

All countries agree that reproductive cloning is a crime. But some countries accept cloning for research purposes. In so-called “therapeutic cloning,” however, a human embryo is created by cloning, only to be destroyed and used as research material. In both “reproductive” and “therapeutic” cloning a new human embryo is created by illicit means. Both are immoral practices.

Patenting embryos

On September 16, 2011, the U.S. Congress passed a ban known as the Weldon Amendment, which prohibits the patenting of genetically engineered human embryos. Tony Perkins, president of the Family Research Council, stated, "While biotechnology offers great hope for treatments and science should be explored, it must always be in the service of humanity, not the other way around. We must never lose sight of the fact that all human life, including human embryos, deserves legal protection" (Steven Ertelt, "Congress Approves Bill Banning Patenting of Human Embryos," LifeNews.com, September 15, 2001).

Testimony

Ian Wilmut is the first researcher in the world to have cloned a mammal, Dolly the sheep.

After the discovery of induced pluripotent stem cells in 2006, he announced that he was giving up cloning. "Before the discovery of IPS cells, we were trying to derive stem cells from embryos produced by cloning. To date, no one has succeeded. But now, the dedifferentiation of somatic cells [IPS cells] has demonstrated that the same objective could be attained by using the patient's somatic cells directly. There is a major therapeutic advantage with IPS cells: they are genetically identical to the patient, allowing us to model pathologies and rapidly to discover medications to treat the symptoms of the sickness in advance. The cloning technique is therefore no longer a current technique. If science offers ways that are faster, more interesting and effective, in my opinion we should follow them."

From genethique.org, May 2009

"As you did it to one of the least of these my brethren, you did it to me."
Matthew 25:40

What the Church says...

Dignity of the human person from conception

"The body of a human being, from the very first stages of its existence, can never be reduced merely to a group of cells... The human being is to be respected and treated as a person from the moment of conception; and therefore from that same moment his rights as a person must be recognized, among which in the first place is the inviolable right of every innocent human being to life." *Dignitas personae,* no. 4

A human embryo is not biological material

"Regarding embryos as biological material, 'producing' them and then 'using' their stem cells for purposes of research is absolutely immoral.... Research on adult stem cells is a different matter, since they cannot develop into human beings. Medical interventions on an embryo are justifiable only if they are made with the intention of healing, if the life and unimpaired development of the child are assured, and if the risks involved are not disproportionately great." *Youcat,* no.385

The Church celebrates and defends life

"You have fashioned and made me.... You have granted me life and steadfast love; and your care has preserved my spirit." (Job 10:8-12). "How can anyone think that even a single moment of this marvellous process of the unfolding of life could be separated from the wise and loving work of the Creator, and left prey to human caprice?" *Evangelium vitae,* no. 44

"The present Encyclical... is therefore meant to be a precise and vigorous reaffirmation of the value of human life and its inviolability, and at the same time a pressing appeal addressed to each and every person, in the name of God: respect, protect, love, and serve life, every human life! Only in this direction will you find justice, development, true freedom, peace, and happiness!" *Evangelium vitae,* no. 5

7/Euthanasia: What are the stakes?

Each stage of our life has an irreplaceable value. The end of life is perhaps the most important.

This chapter concerns the end of life and the question of **euthanasia.**

Caring for a person at the end of life is an opportunity to show him that he has worth, that he deserves respect and attention.

Sometimes care at the end of life can mean mitigating his pain and distress by means of palliative care.

Palliative care versus euthanasia

Palliative care

A sick person must always be cared for. However, the care that he needs changes over time: there comes a moment when therapeutic treatments must give way to palliative care that no longer aims to cure but rather to **assist the patient.** Besides basic care, they include the treatments needed to alleviate pain and reduce anxiety. A palliative care team does everything possible to help the sick person keep his ability to communicate and keep his autonomy. It provides psychological counseling and offers a reassuring presence by being attentive to the expectations of the sick person and his family. It is essential to relieve all suffering as much as possible. The kinds of care that can be provided at home or in hospital are:

- **Medical care:** Alleviating pain by all possible means. • **Psychological care:** Providing attention and a caring presence, music, spiritual counseling, and support.
- **Physical care:** Feeding the patient, keeping the patient clean and comfortable, and providing massages.
- **Making sure that the family and friends are welcomed.**
  Pain relief is part of palliative care. It may require very powerful analgesics, such as morphine and tranquilizers, which sometimes have a secondary effect of involuntarily hastening the death of the patient. In this case, the purpose is not to bring about death but to alleviate the patient's pain (unlike euthanasia, which gets rid of the patient instead of getting rid of the pain).

Euthanasia

Euthanasia is always a deliberate action or deliberate omission, the intention of which is to **cause the death of the patient:** injecting a lethal substance or discontinuing basic care (such as providing nutrition and hydration). Those involved in euthanasia cause death under the pretense of reducing the patient's suffering. Instead, we must relieve the pain until natural death occurs.

"To die" is a frightening verb. What if this was the last moment of our life in which to love?

Frequently asked questions

What is therapeutic obstinacy?

The distinction between euthanasia and discontinuing disproportionate treatments (therapeutic obstinacy or "heroic treatment") is essential. Therapeutic obstinacy consists of continuing a burdensome treatment that becomes futile, given the state of the patient. It is always necessary, however, to continue basic care. The physician must avoid any unreasonable care, for example a treatment that has proved ineffective or has the sole purpose of artificially prolonging the patient's life. On the other hand, the physician must not discontinue the care that assures that the basic needs of the patient are met (for example, personal hygiene, nutrition and hydration, pain relief, and communication).

At what point does hospice care veer into euthanasia?

Some laws, while upholding the prohibition of euthanasia, do not classify feeding and hydration as basic care that must be given to patients but instead consider them as "treatments" that can be interrupted at the patient's request. Discontinuing them condemns the patient to death by starvation and thirst.

Is there a difference between active euthanasia and passive euthanasia?

There is no reason to make a distinction between active euthanasia and passive euthanasia; it only falsifies the debate. It makes no difference whether euthanasia is by action or omission if there is an intention to put an end to the patient's life by injecting a lethal substance, or by refraining from administering a useful treatment.

Ethical reflections

What about moral suffering?

Moral suffering often accompanies physical pain and may lead the sick person to ask for euthanasia or to think about suicide. This suffering can be alleviated by sympathetic counseling and appropriate medical treatment. “It is quite rare for sick persons who receive care and affection to ask for death.” (Professor Lucien Israël, member of the American Society of Clinical Oncology and of the Academy of Sciences in New York)

Dying with dignity

Some defend palliative care in terms of the essential idea of “dignity,” while others invoke it in defense of euthanasia. Dignity is the unconditional status of a human being. Everyone has dignity because he/she is unique and cannot be replaced by anything or anyone. Every human person has dignity, whatever his or her condition, whether young or old, sick or well, disabled or able-bodied, conscious or unconscious. Because it is the very essence of a human being, his or her dignity cannot be called into question. Dying with dignity, therefore, implies being respected and not being subjected to euthanasia.

Denying death

According to a poll conducted by the French magazine BVA/Psychologie, 82% of the respondents would prefer to die without realizing it. This sums up a widespread feeling that instead of “experiencing” your death and confronting it, you should let yourself be surprised by it. Today, people do not want to think about death; it is considered a failure. Nevertheless, looking squarely at death and preparing for it is calming and liberating. The acceptance of death by society would more often allow the patient to die at home, surrounded by the affection of his friends and neighbors and the love of his family.

What good is it to live hooked up to a machine?

1 - Being hooked up to a machine may allow the patient to get beyond immediate danger to survive an accident. It may also save a patient’s life by assisting one of his vital functions that is defective.

2 - When a patient is in the **terminal** phase, and the purpose of the machine is merely to prolong life, it is legitimate to ask whether such assistance might be disproportionate.

What good is it to be alive but unconscious?

What do we know about degrees of unconsciousness? It sometimes happens that people who come out of a coma tell about hearing and understanding what was being said around them even though they could not communicate externally. What do we know about the interior life of a person who is apparently unconscious but whose vital functions are intact? What do we know about the last moments of life? Who are we to judge that they are useless? Does anyone have the right to steal them from the patient? And what if they could be the most important moments of a whole life?

What if the suffering is unbearable?

Well-managed palliative care can alleviate all sorts of sufferings. This presupposes a specific training in the treatment of pain and the sufferings that can accompany the end of life. Therefore what should be promoted is not euthanasia but rather the training of physicians to combat suffering and of other personnel to care for the sick person. In fact, it is up to the caregivers to decode a patient's request for euthanasia as a call for help. (See the first of the Testimonies on the next page.)

Testimonies

Hospital employees report that they almost never hear clear requests for active euthanasia. "More frequently some patients say, 'I've had enough; I want it to end, Doctor.' But not so fast: this does not necessarily mean that they want to end their life," warns Dr. Christophe Tournigand, a hospital practitioner in medical oncology at Saint-Antoine Hospital in Paris. At the Gustave Rossy Cancer Institute in Villejuif (Val-de- Marne), a team of psycho-oncologists trains nurses and doctors to interpret these requests, "which are rarely requests for euthanasia," says Sarah Dauchy, a psycho oncologist. "You must try to find out whether this request comes from the patient or rather from the family or caregivers who can no longer cope," she explains. "Is the patient perhaps confused, as is often the case at the end of life? Is the request connected to some physical suffering or an anxiety that can be relieved?"

***Le Monde,** "Investigation into the practices of physicians in dealing with the end of life," by Emeline Cazi, September 7, 2011.*

"The end of life is often a great time of life: let us not steal these intimate moments. Let us not take their death away."

***Marie de Hennezel,** clinical psychologist, a specialist in questions related to the end of life and author of numerous books on the subject. Quoted in Valeurs actuelles, September 1–7, 2011.*

From a man whose wife died of cancer but while having palliative care:

"My voice breaks with emotion when I talk about the kindness and concern of the doctors and nurses who cared for her to the end, effectively comforting her with the help of morphine while letting nature take its course without any heroic measures.... Yes, she died with dignity, helped by extraordinary people."

Vincent Chabaud, La Croix, letter to the editor, April 2003

The case for palliative care.

"Palliative care, not euthanasia, is the response that respects human dignity. It consists of mobilizing all our forces of imagination and solidarity to face the enormous problem that presents itself to us when there is no other possible outcome. When death is no longer considered as part of life, then the civilization of induced death begins."

Robert Spaemann

"You shall not kill."
Exodus 20:13

What the Church says...

Life is a gift of God's love

"Most people regard life as something sacred and hold that no one may dispose of it at will, but believers see in life something greater, namely, a gift of God's love, which they are called upon to preserve and make fruitful.... "Nothing and no one can in any way justify the killing of an innocent human being, whether a fetus or an embryo, an infant or an adult, an old person, or one suffering from an incurable disease, or a person who is dying. Furthermore, no one is permitted to ask for this act of killing, either for himself or herself or for another person entrusted to his or her care, nor can he or she consent to it, either explicitly or implicitly.... "For it is a question of the violation of the divine law, an offense against the dignity of the human person, a crime against life, and an attack on humanity." *Declaration Iura et bona,* I and II.

Confusion between good and evil

"Even certain sectors of the medical profession, which by its calling is directed to the defence and care of human life, are increasingly willing to carry out these [criminal] acts against the person. In this way the very nature of the medical profession is distorted and contradicted, and the dignity of those who practise it is degraded.... "Not only is the fact of the destruction of so many human lives still to be born or in their final stage extremely grave and disturbing, but no less grave and disturbing is the fact that conscience itself, darkened as it were by such widespread conditioning, is finding it increasingly difficult to distinguish between good and evil in what concerns the basic value of human life." *Evangelium Vitae,* no. 4

The medical profession called to charity

"As for those who work in the medical profession, they ought to neglect no means of making all their skill available to the sick and dying; but they should also remember how much more

necessary it is to provide them with the comfort of boundless kindness and heartfelt charity." *Declaration Iura et bona,* Conclusion

Take care

The impossibility of a cure where death is imminent does not entail the cessation of medical and nursing activity. Responsible communication with the terminally ill person should make it clear that care will be provided until the very end: *"to cure if possible, always to care".* [...] the judgement that an illness is incurable cannot mean that care has come at an end. *Samaritanus bonus,* I.

Palliative care

It should be recognized [...] that the definition of palliative care has in recent years taken on a sometimes equivocal connotation. In some countries, national laws regulating palliative care *(Palliative Care Act)* as well as the laws on the "end of life" *(End-of-Life Law)* provide, along with palliative treatments, something called Medical Assistance to the Dying *(MAiD)* that can include the possibility of requesting euthanasia and assisted suicide. Such legal provisions are a cause of grave cultural confusion: by including under palliative care the provision of integrated medical assistance for a voluntary death, they imply that it would be morally lawful to request euthanasia or assisted suicide. *Samaritanus bonus,* V, 4.

The closeness of the family

It is essential that the sick under care do not feel themselves to be a burden, but can sense the intimacy and support of their loved ones. The family needs help and adequate resources to fulfil this mission. Recognizing the family's primary, fundamental and irreplaceable social function, governments should undertake to provide the necessary resources and structures to support it. In addition, Christian-inspired health care facilities should not neglect but instead integrate the family's human and spiritual accompaniment in a *unified program of care for the sick person. Samaritanus bonus,* V, 5.

Prenatal comfort care

Children suffering from so-called pre-natal pathologies "incompatible with life" - that will surely end in death within a short period of time - and in the absence of fetal or neo-natal therapies capable of improving their health, should not be left without assistance, but must be accompanied like any other patient until they reach natural death. *Prenatal comfort care favors a path of integrated assistance* involving the support of medical staff and pastoral care workers alongside the constant presence of the family. *Samaritanus bonus,* V, 6.

8/Organ donation

When someone dies in the hospital, his family might be asked to allow a medical team to remove some of the organs and transplant them into another patient. Organ transplants like this are becoming more and more common, but they pose some ethical questions, as do transplants from living donors. Why are there organ transplants? The transplantation of organs contributes to important medical progress. Note that we are talking here about solid organs (e.g., the kidney, heart, lung, and liver) and not about grafts of tissue or cells. It is a matter of replacing a defective organ with a healthy organ for the purposes of improving the living conditions of the patient or saving him from death. Thus kidney transplants, which have become routine, allow patients with kidney disease to live for many more years.

Methods

Organs that can be donated

The most common organs that are donated are kidneys and skin. Donations of the heart, liver, lungs, pancreas, and grafts of corneas are less common. On rare occasions, the intestines can be donated.

Getting organs from the dead

Once true death of the patient has been determined using criteria that have been carefully established, but before the individual organs have deteriorated, the transplant team may take the organs from the donor's body. Even after death has occurred, the body may be kept "biologically alive" with machines so the organs don't decay before the family can be consulted regarding their wishes.

Determining death

In 1968, the Harvard Medical School Committee determined that death is no longer defined solely by the definitive loss of the spontaneous activity of the cardiopulmonary system but also by the cessation of brain functions. Thus, since 1968, the death of the brain as a whole (and not only of the superior cerebral cortex) allows a physician to certify that the person is indeed dead.

Getting organs from a living donor

Living donors usually give a kidney or part of the liver, and, less often, a lobe of a lung. It is a directed gift (that is, the organ is for a relative), and both the donor and the recipient must freely consent to the procedure. The organ is removed only if doing so does not endanger the life of the donor.

Frequently asked questions

Is a deep coma the same as death?

No. People in a so-called persistent vegetative state are not dead, because they still have some brain activity. The cardiopulmonary system may even be functioning naturally for some of them. Therefore, the persistent vegetative state must not be confused with the absence of brain activity or with death.

Are the criteria we use to determine death valid?

Yes. There has been broad international consensus on using "brain death criteria" to determine death since the criteria were defined in 1968. Regardless, some challenge this definition, asking if the patient is really dead when his organs are removed. They question the validity of these criteria and ask to reopen the debate. Questioning such an important decision is essential as new science and understanding become available; however, it is important to note that these criteria for determining death have been re-evaluated and sustained many times since 1968.

Is a person dead when his heart stops beating?

The criterion of "brain death" is generally accepted as legitimate. However, given the growing demand for organs, some people propose using criteria based on cardiopulmonary criteria, which state that in the case of cardiac arrest, if the heartbeat does not start again after 30 minutes of resuscitation efforts, the patient is considered dead. At that point, resuscitation is stopped for 5 minutes, then artificial ventilation and circulation are started again to oxygenate the organs while waiting for the transplant team to remove them. Is this proposed protocol better than "brain death criteria"? Organs must be removed within 120 minutes after the heartbeat stops, often resulting in a pressured decision by the family to allow the removal of organs, and in ambiguity for the medical personnel who, within a few moments, go from attempts to revive the patient to preparations for removing his organs.

Ethical reflections

Organ removal

In order for organ removal to be ethical, there must be free and informed consent on the part of the donor or his family. This requirement applies to both living and deceased donors. In order to remove organs from a cadaver, there must also be moral certainty of death. In the case of organ removal from a living person, the risks must be evaluated before performing the procedure.

Respect for the deceased donor

The removal of organs violates the integrity of the human body and must not be considered without good purpose. Respect for the integrity of the body continues after death. In fact, violation of a cadaver is illegal. How, then, can this principle be reconciled with the moral good of providing for the needs of the sick through organ transplantation? For organ removal to be ethical, the donor must, during his or her lifetime, make a free choice to donate organs for the generous intention of saving another human life. One's family may make the same choice on behalf of the deceased following death. Living donors, likewise, must make the same decision, free of any moral or financial coercion.

Consent

Consent can only be valid if it is given in freedom. It may be the case that one feels coerced to "donate" one's organs. Coercion can be the result of familial or moral pressure, or in some cases financial pressure. In some parts of the world the sale of organs from living persons is a profitable business. This is a direct violation of the donor, who is often paid by "brokers" who then sell the organs at much higher prices. This leads to "transplant tourism," which has been condemned by the World Health Organization and professional transplant organizations.

Respect for the living donor

Despite the generosity of the gesture, there are potential ethical difficulties in organ donation by a living person. The removal of organs is a voluntary mutilation, which is not done for the good of the person himself. This is contrary to the respect due to one's body and to the obligation of physicians always to perform an act for the good of the patient. These rules can be waived, however, for the sake of a higher good (saving the life of another person) provided that this is a voluntary act by the donor and that there is some proportionality between the benefit for the receiver and the risks for the donor. Finally, one must make sure that the donor's consent is free and informed.

Testimony

…every organ transplant has its source in a decision of great ethical value: "the decision to offer without reward a part of one's own body for the health and well-being of another person" (Address to the Participants in a Congress on Organ Transplants, June 20, 1991, No. 3). Here precisely lies the nobility of the gesture, a gesture which is a genuine act of love. It is not just a matter of giving away something that belongs to us but of giving something of ourselves, for "by virtue of its substantial union with a spiritual soul, the human body cannot be considered as a mere complex of tissues, organs and functions . . . rather it is a constitutive part of the person who manifests and expresses himself through it" (Congregation for the Doctrine of the Faith, Donum Vitae, 3). Accordingly, any procedure which tends to commercialize human organs or to consider them as items of exchange or trade must be considered morally unacceptable, because to use the body as an "object" is to violate the dignity of the human person. This first point has an immediate consequence of great ethical import: the need for informed consent. The human "authenticity" of such a decisive gesture requires that individuals be properly informed about the processes involved, in order to be in a position to consent or decline in a free and conscientious manner. The consent of relatives has its own ethical validity in the absence of a decision on the part of the donor. Naturally, an analogous consent should be given by the recipients of donated organs.

Address of the Holy Father John Paul II to the 18th International Congress of the Transplantation Society

August 29, 2000

"Is it not the same relativistic logic which justifies buying the organs of the poor for resale or use in experimentation, or eliminating children because they are not what their parents wanted?"
Encyclical letter Laudato Si, § 123

What the Church says...

Love as God loves

"The Gospel of life is to be celebrated above all in daily living, which should be filled with self-giving love for others….This is already happening in the many different acts of selfless generosity, often humble and hidden, carried out by men and women, children and adults, the young and the old, the healthy and the sick. It is in this context, so humanly rich and filled with love, that heroic actions too are born…. A particularly praiseworthy example of such gestures is the donation of organs, performed in an ethically acceptable manner, with a view to offering a chance of health and even of life itself to the sick who sometimes have no other hope." *Evangelium Vitae,* no. 86

Respect of the donor

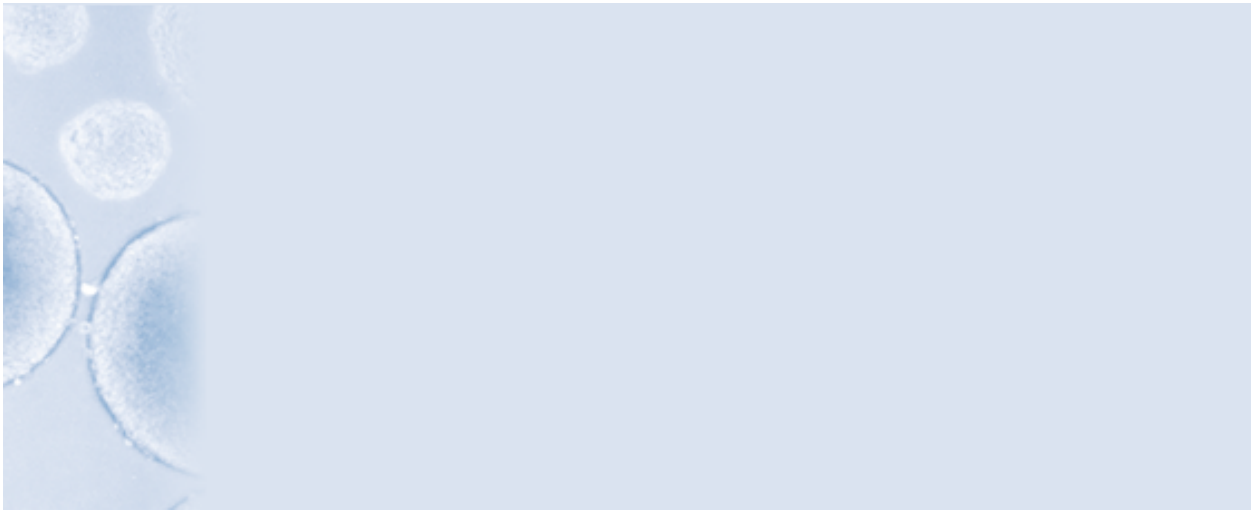
"It must be certain that the donor during his lifetime gave his free and deliberate consent and that he was not killed for the purpose of removing his organ(s). Donation by living donors is also possible, for example, in bone marrow transplants or in the donation of one kidney. Organ donation from a cadaver presupposes a certain determination of death and the consent of the donor during his lifetime or else of his representative." *Youcat,* no. 391

A culture of gift and free giving

"Organ donation is a peculiar form of witness to charity. […] "Indeed, a responsibility of love and charity exist that commits one to make of their own life a gift to others, if one truly wishes to fulfil oneself. "The act of love which is expressed with the gift of one's vital organs remains a genuine testimony of charity that is able to look beyond death so that life always wins. The recipient of this gesture must be well aware of its value. […] "In fact, what he/she receives, before being an organ, is a witness of love that must raise an equally generous response, so as to increase the culture of gift and free giving."

(Pope Benedict XVI, *International Congress,* Pontifical Academy for Life, November 7, *2008*)

9/Gender theory and sexual orientation



Gender theory states that the sexual identity of a human being depends on his or her socio-cultural environment and not on his or her genetically determined, biological sex.

In other words, it claims that our genetic sexual identity is a less decisive factor in who we are than our skin color, height, or hair color. It purports that our identity as male or female has nothing to do with our genetic reality but is something that is learned within our social environment from an early age.

Some have tried to correlate gender identity to sexual orientation, claiming that there may exist up to six genders: heterosexual male, heterosexual female, gay, lesbian, bisexual, and undifferentiated (or neutral, that is to say, neither male nor female). However, gender (one's internal self-perception of being male or female) and sexual orientation (one's physical or emotional attractions to the same or other sex) are not the same thing.

Gender theorists undervalue the biological and social reality of humans. The term "gender identity disorder" has been used by psychologists to describe those who believe themselves to be something other than their biological sex. Gender theorists assume a reductionist view of the human person, who is a uni-totality of body and spirit, and cannot be reduced to only one aspect of its own identity.

Consequences of gender theory

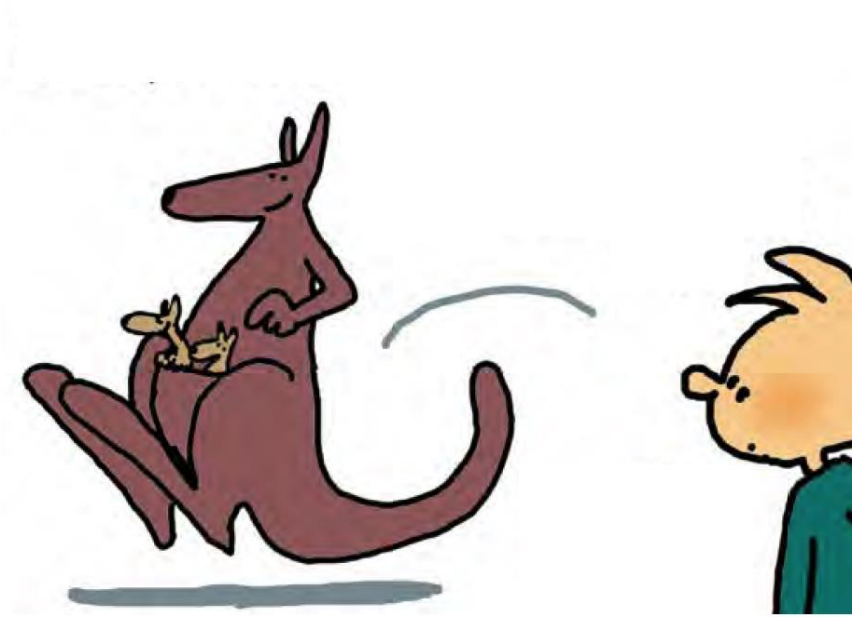
New family model

A family grows from the committed union of a man and a woman. Confusion of sexual roles undermines the family and leads to claims that other forms of "family" have equal dignity. Advocates for the legal recognition of homosexual "marriage," and those who claim that the "right" to have children should be open to homosexual couples through either adoption or the use of assisted reproduction, impose on society an unfounded and social structure.

New social organization

According to the proponents of gender theory, society should no longer be based on the differences between man and woman, but on the different perceptions of one's own sexuality.

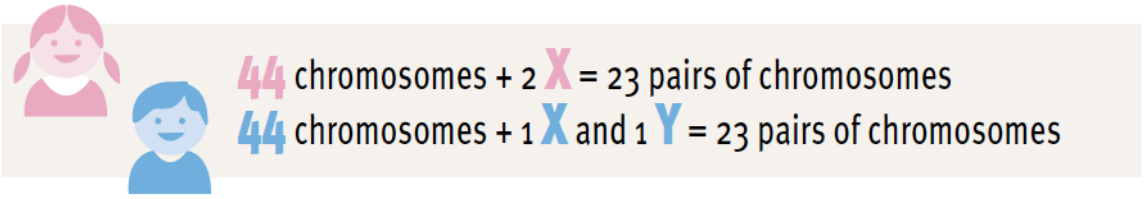
There is really only one way to create a child: the union of a man and a woman.



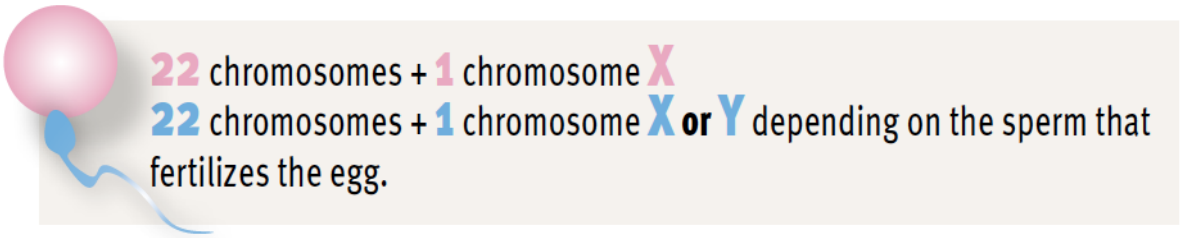
So if society decides which gender the kangaroo is, how does the mom get her pouch to carry her babies?

What makes a child a boy or a girl?

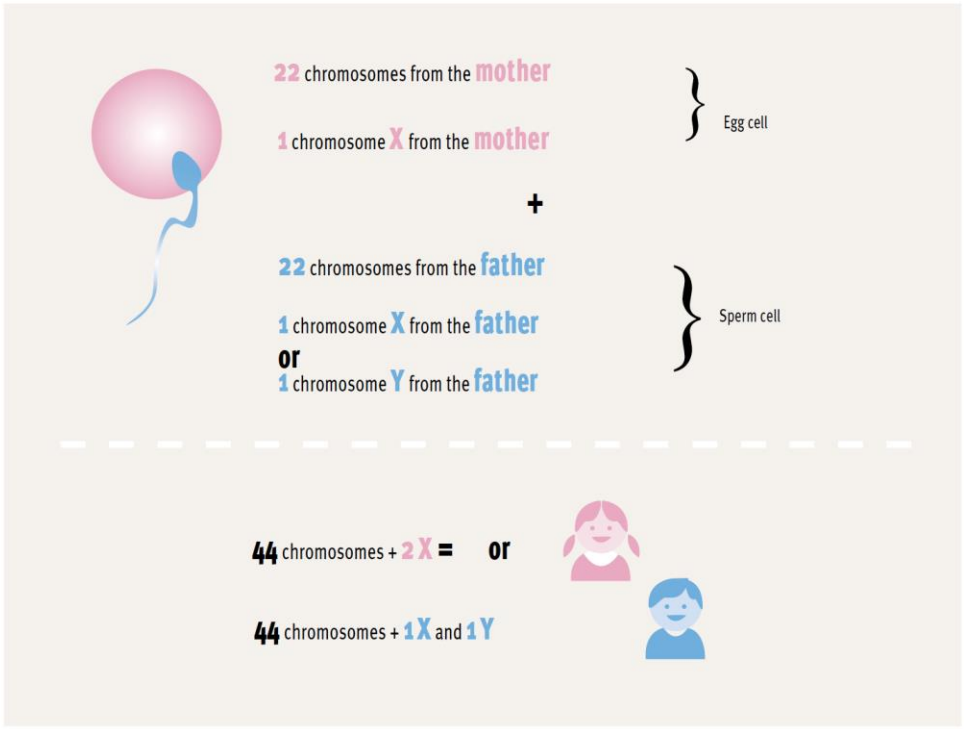
It is impossible to estimate the number of cells in the human body. Some say it could be as many as 70 trillion, but within the core of each somatic cell (cells which are not gametes) there are 23 pairs of chromosomes, including an **XX** pair for females and an **XY** pair for males.



The sperm and the egg are different from any other cell. Each sperm and each egg cell contain half the number of chromosomes as somatic cells. In women, the egg cell contains 22 chromosomes plus an X chromosome, and in men, the sperm cell contains 22 chromosomes plus one X or Y chromosome (since the XY pair that identifies a male divides during the process of division of the sex cells).



At the moment of fertilization, the 23 chromosomes from each parent combine, and the genetic heritage of the mother and the father is fused into a new human person. The sex of the child is determined at the moment of conception, from the formation of the first cell. All cells of this new human being, throughout his life, will have the same genetic makeup as the first cell created by the fusion of the parents' gametes at fertilization. Every newly created life is unique and irreplaceable.


22 chromosomes from the mother
1 chromosome X from the mother
Egg cell
+
22 chromosomes from the father
1 chromosome X from the father
or
1 chromosome Y from the father
Sperm cell
44 chromosomes + 2 X =
or
44 chromosomes + 1 X and 1 Y

Frequently asked questions

What is the difference between sex and gender?

"Sex" designates the biological reality of the human person (they are male or female), whereas "gender" describes one's self-perception as influenced by culture and the social dimension of masculine and feminine roles.

What is homosexual parenting?

The term "homosexual parenting" refers to two adults of the same sex functioning as parents and promotes the idea that what matters is **raising** children, not **begetting** them as husband and wife or raising them with the complementary gifts of a man and a woman. Children deserve to be born out of the loving embrace of their mother and father, and to carry both parents' genetic heritage into the future generations of their family. They deserve to know their father and mother and to grow up with them.

Can two persons of the same sex have children?„

No. Two people of the same sex cannot engender a child. Through assisted reproductive technology, a donor of the other sex is always necessary, regardless of the technique that is used. A woman may provide an oocyte from her body, or a man may donate sperm, but two women or two men cannot provide the complementary biological parts required for fertilization. Two men will always need a woman to provide her uterus (surrogate motherhood). This should be a violation of the woman's dignity (reduced to an instrument) and of the child's dignity (reduced to the product of an exchange). The conception of a child **always** requires two persons of the opposite sex. When assisted reproductive technology is used by same-sex couples, only one can be the biological parent. (Please refer back to Chapter 4 to understand the ethical implications of oocyte or sperm donation.)

Ethical reflections

Changing sex

Every human being is genetically a boy or girl. While it is true that family, society, and culture contribute to a child's understanding of what it means to be a man or woman, children usually develop a perception of themselves that is consistent with their biological sex. To develop otherwise is a source of psychological, and often social, suffering. Proponents of gender theory argue that biological reality is insignificant, that the subjective perception of one's gender is of greater importance than one's anatomy, and that one can change one's sex medically. In fact, there is no way to change one's sex. To try to do so is to mutilate the body and to create a lie within the human person, who may be altered to **look** like the other sex but can never truly **be** the other sex.

Family models

Parental love is essential for the healthy formation of children. Fathers and mothers understand, as do their children, that each parent brings a unique perspective of love and devotion to a family. Mothers and fathers together assist children in developing a healthy understanding of their personhood, their relationships, and their sexuality. In our contemporary world, where we can so easily manipulate nature, we often fail to observe the essential lessons that nature teaches. Society has always acknowledged the relationship of mothers and fathers as the sanctuary in which children are engendered and best brought to adulthood. Parents are complementary in the sexual act that engenders children and also complementary in raising their children.

Right to a child

Nobody has a "right" to have a child. A child is not a commodity who comes into the world to satisfy the needs or desires of its parents. Adoptive families provide the same parental structure and support as those with natural-born children. Recent research has shown that a loving mother and father in a stable relationship are essential to the healthy development of children. (See Mark Regnerus, "How Different Are the Adult Children of Parents Who Have Same-Sex Relationships? Findings from the New Family Structures Study," Social Science Research, 2012.) The desire of homosexual couples to override the biological constraint on their ability to have children is not a sufficient reason to place children in a same-sex household. Adoption is for children, not adults. Every child deserves to be nurtured by the complementary love of a mother and a father.

To meditate on...

"The Lord God said: 'It is not good for the man to be alone. I will make a suitable partner for him.' ... The Lord God then built up into a woman the rib that he had taken from the man. When he brought her to the man, the man said: 'This one, at last, is bone of my bones and flesh of my flesh; this one shall be called "woman," for out of "her man" this one has been taken.' That is why a man leaves his father and mother and clings to his wife, and the two of them become one body."

Genesis 2:18; 21–24

"Thank you, every woman, for the simple fact of being a woman! Through the insight which is so much a part of your womanhood you enrich the world's understanding and help to make human relations more honest and authentic."

Letter of Pope John Paul II to Women

The story of Jérôme Lejeune

Professor jérôme lejeune was born in 1926 in Montrouge in the suburbs of Paris (France). After studying medicine, he became a researcher at the NCRS (National Center for Scientific Research) in 1952.

In 1958 he discovered the cause of what was then sometimes referred to as “mongolism,” namely the presence of an extra chromosome on the 21st pair of the karyotype.

On January 26, 1959, the Academy of Sciences published this discovery. It established for the first time ever a connection between a disorder and a chromosomal aberration.

In 1964 the first chair of fundamental genetics was created for him at the Faculty of Medicine in Paris.

Professor Jérôme Lejeune received many prizes for his work on Down syndrome and other chromosomal pathologies, among them the Kennedy Prize in 1962 and the William Allen Memorial Award in 1969.

J. LEJEUNE, M. GAUTIER et R. TURPIN. Les chromosomes humains en culture de tissus. C.R. Acad. Sciences, 26 janvier 1959

In 1993 he received the Prix Griffuel for his pioneering research into chromosomal anomalies in cancer.

While treating thousands of outpatients afflicted with an intellectual disability of genetic origin, Prof. Lejeune never abandoned the idea that Down syndrome could be treated some day. That is why throughout his life he conducted therapeutic research. For the sake of his patients he also took a firm pro-life stand immediately when plans were being made to legalize elective abortion and "medically indicated abortion" in the Western world: he gave hundreds of conferences and interviews throughout the world in order to defend human life.

In 1974 he was appointed by Pope Paul VI to the Pontifical Academy of Sciences. In 1982 he was elected to the Académie des Sciences Morales et Politiques (France). In 1994 he also became the first President of the Pontifical Academy for Life created by Pope John Paul II. Stricken with cancer, he died on Holy Saturday, April 3, 1994, thirty-three days after his appointment.

During the World Youth Day celebrations in Paris in August 1997, the Pope traveled to pray at the tomb of his friend in Chalô Saint Mars. The cause for the beatification and canonization of Jérôme Lejeune was initiated in Paris on June 28, 2007.

The Jérôme Lejeune Foundation was created and officially recognized as a non-profit organization in 1996 in order to continue the work of Prof. Lejeune. Now with an affiliate in the United States, it has a threefold mission: it designs and funds research projects aimed at developing treatments for Down syndrome and other intellectual disabilities of genetic origin; it created and finances the Institut Jérôme Lejeune, a center for specialized medical and paramedical consultations; and it defends the life and dignity of patients.

Because it defends human life, the Jérôme Lejeune Foundation monitors bioethical questions: in a world where accelerating scientific advances and ideological pressures confront society with fundamental questions, the Foundation offers its scientific expertise combined with its ethical values.

In 2021, Pope Francis proclaimed him venerable.

FOUNDATION
Jérôme Lejeune

Research, care, defend.

The Jérôme Lejeune Foundation is a private non-profit institution that carries on the work of Venerable Jérôme Lejeune, a geneticist doctor who devoted himself to the care, research and defense of persons with intellectual disabilities of genetic origin. It is represented in France, Spain, United States and Argentina.

The Chair of Bioethics "Jérôme Lejeune",

supported by the Foundation, develops research and training in bioethics to offer to a general or specialized public solid rational tools for the defense of the life of every human being, from conception to natural death. It offers the following courses:

Master's Degree in Bioethics: official European Master developed in collaboration with the Francisco de Vitoria University (Spain). It is aimed at graduates and licensed and allows access to the European doctorate.

Diploma in Bioethics: private degree addressed to a wide audience who want to know the main aspects of bioethics with systematic rigor.

Specialized courses of short duration, addressed to different audiences, with the aim of making the knowledge of bioethics affordable.

For more information, see:

www.fondacionlejeune.es

"This bioethics will not begin with a consideration of sickness and death in order to reach an understanding of the meaning of life and the worth of the individual. Rather, it will begin with a profound belief in the irrevocable dignity of the human person, as loved by God – the dignity of each person, in every phase and condition of existence – as it seeks out those forms of love and care that are concerned for the vulnerability and frailty of each individual."

Pope Francis to the Pontifical Academy for Life, 25 June 2018

"How can anyone think that even a single moment of this marvellous process of the unfolding of life could be separated from the wise and loving work of the Creator, and left prey to human caprice?"

Evangelium vitae, no. 44

"Respect, protect, love, and serve life, every human life! Only in this direction will you find justice, development, true freedom, peace, and happiness!"

Evangelium vitae, no. 5

Sommario