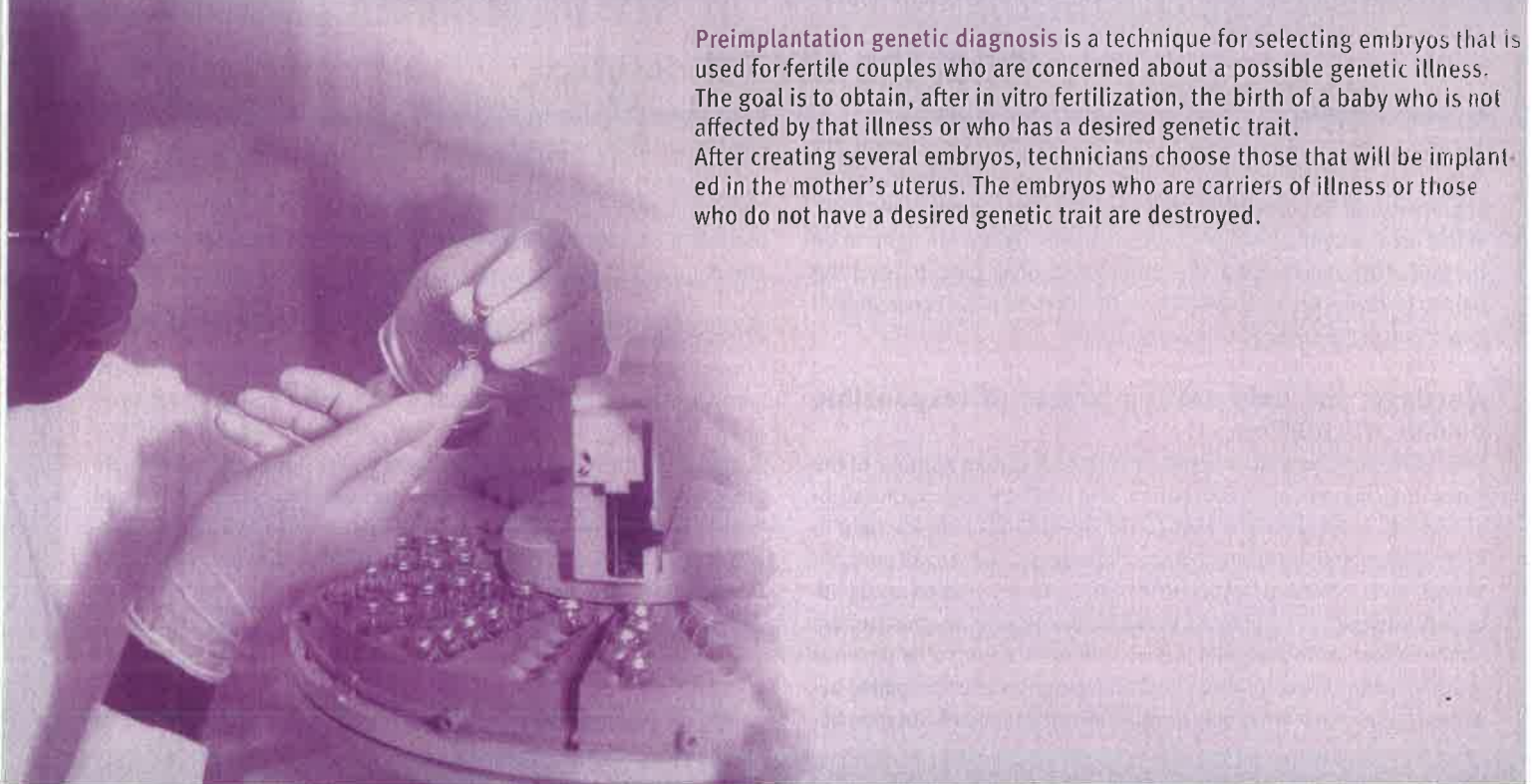


## What is preimplantation genetic diagnosis ?

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.

*"Chromosomal racism is horrible, just like all other forms of racism."*

JÉRÔME LEJEUNE

## Creating a "designer baby"

The term "designer baby" has been used to indicate the possibility of parents using preimplantation genetic diagnosis to select a baby for his physical traits like sex or eye color. In some cases, an embryo may be selected by preimplantation genetic diagnosis 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 twofold triage possible. Many embryos must be created for the birth of one designer baby. The first "savior sibling," Adam Nash, was born in the United States in 2000 to attempt to cure his sister from Fanconi Anemia.

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?”

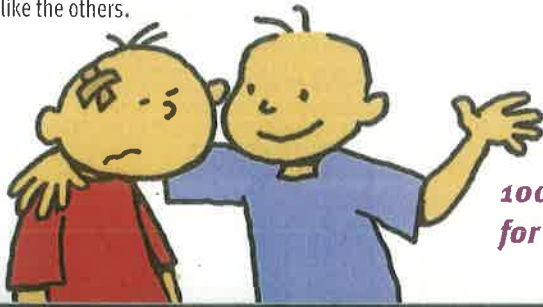
In 2000 the public learned that Adam was the first child born in the U.S.A. free of a genetic illness “thanks to” pre-implantation genetic diagnosis. Many people thought that he had been cured. Is that true? No, because PGD neither treats nor cures anyone. A child conceived by PGD is born free of a genetic 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.



*100 embryos  
for 1 birth*

## 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



Is it ethical to conceive one child  
so as to save another?

*"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*, p. 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