

2. Particular Reproductive Technologies

2.4 Disposition of Frozen Embryos

In the procedure of in vitro fertilization (IVF), a number of ova are retrieved and fertilized to create embryos. To avoid the risk of multifetal pregnancies (twins, triplets, or more), only some of the embryos may be transferred to a woman at a given time; the remaining embryos may be frozen for later use. (1) However, these frozen embryos can become “spare” or “extra” when a couple feels that they have completed their family and are not interested in having more children. (2) Or again, repeated embryo transfers to the woman may not succeed in achieving a pregnancy; the couple may become discouraged and stop trying, but there are frozen embryos remaining. *From a moral point of view, what should be done with these extra frozen embryos?*

Pastoral counselors may encounter this situation with Catholic couples who have used IVF either in ignorance of or disregard of Church teaching against it. Couples may also wish to come into the Catholic Church who have previously used the IVF procedure and have extra frozen embryos.

The published literature discussing the disposition of frozen embryos remaining from the IVF procedure sets out various options:

- Thawing the frozen embryos and transferring them to the biological mother in an attempt to achieve pregnancy and give birth to the embryos.
- Donating the frozen embryos for research.
- Intentionally destroying the frozen embryos.
- Long-term storage of the frozen embryos until an artificial womb becomes available to bring the embryos to term.
- Long-term storage of the frozen embryos until they die naturally.
- On grounds of cryopreservation (freezing) being an extraordinary means of preserving life, thawing the embryos and allowing them to die naturally.
- Donating the frozen embryos for prenatal adoption by others. (3)

We are currently in a position where definitive Church teaching on the morally appropriate disposition of frozen embryos is still in the process of formulation. Certain of the aforementioned options have been ruled out by magisterial teaching. Others are still the subject of discussion, and we will review the theological and practical arguments which have been put forward in the case of these options.

Options which have been explicitly judged impermissible by the Church

Donating the frozen embryos for research.

The extra embryos may be donated for stem cell research to obtain embryonic stem cells. However, this process involves dismembering and thus destroying the embryo itself. (4) The embryos may also be donated for research studies which might “look at new ways of freezing or thawing embryos, new ways of growing embryos in the laboratory or at the genetic makeup of the embryos.” (5) Eventually the embryos involved in such research studies will be discarded. (6)

The option of donating embryos for research is explicitly ruled out in the Vatican’s *Instruction Dignitas Personae on Certain Bioethical Questions*:

Proposals to *use these embryos for research or for the treatment of disease* are obviously unacceptable because they treat the embryos as mere “biological material” and result in their destruction. The proposal to thaw such embryos without reactivating them and use them for research, as if they were normal cadavers, is also unacceptable. (7)

Intentionally destroying the frozen embryos.

This option may be offered by a fertility clinic storing frozen embryos. For example, the Pacific Fertility Clinic has in place a protocol for this purpose:

A formal request to destroy the embryos must be received in writing from the patients. The request must be signed by both partners and notarized, or witnessed by a member of our staff. Once the laboratory has received the disposition notice, no action is taken for 30 days. This gives the couple a cooling off period and an opportunity to change their decision.

When the 30-day waiting period has passed, two Embryologists take responsibility for carrying out the patients’ wishes. They fill out a form indicating that they have checked the disposition request and are in agreement that the patient wants the embryos discarded. They locate the embryos in the storage tank and double check the identity with the paperwork. The embryos are then thawed and discarded. The paperwork is complete when both embryologists sign, attesting that they performed and witnessed the destruction according to the patients’ wishes. The paperwork is kept in the laboratory files and a copy filed in the medical record of the patient. (8)

This option is not morally permissible as it is the intentional killing of an innocent human being. As stated in the Vatican’s *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*:

Thus the fruit of human generation, from the first moment of its existence, that is to say from the moment the zygote has formed, demands the unconditional respect that is morally due to the human being in his bodily and spiritual totality. 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. (9)

It is therefore not in conformity with the moral law deliberately to expose to death human embryos obtained 'in vitro.' (10)

Long-term storage of frozen embryos until an “artificial womb” becomes available to bring the embryos to term.

At some point in the future it might be possible to have a type of incubator (“artificial uterus,” “artificial womb”) which would allow for the gestation of embryos in an environment completely removed from a woman’s body. The suggestion is that extra frozen embryos should be kept frozen until this possibility materializes to bring them to term. (11)

However, the Vatican’s *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)* expresses a negative judgment on the use of “artificial uterus”:

Techniques of fertilization *in vitro* can open the way to other forms of biological and genetic manipulation of human embryos, such as...the hypothesis or project of constructing artificial uterus for the human embryo. *These procedures are contrary to the human dignity proper to the embryo...* (12)

Options Under Discussion

Thawing the frozen embryos and transferring them to the biological mother in an attempt to achieve pregnancy and give birth to the embryos.

Rev. Thomas Berg and Edward Furton have taken the position that “when a couple seeks moral guidance concerning the disposition of their frozen embryos, the first recommendation should always be that the wife attempts to implant each embryo and bring it to term, unless there are grave reasons not to.” (13) The moral permissibility of this option has been supported in a number of published sources. (14)

PRO

Several arguments can be brought forward in support of this option.

First of all, it is a central tenet of Catholic teaching that human embryos (including frozen embryos) are human beings with a right to life. As stated in the Vatican’s *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, “Human embryos obtained *in vitro* are human beings and subjects with rights: their dignity and right to life must be respected from the first moment of their existence.” (15) The embryo’s right to life is reiterated in this document:

Thus the fruit of human generation, from the first moment of its existence, that is to say from the moment the zygote has formed, demands the unconditional respect that is morally due to the human being in his bodily and spiritual totality. 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. (16)

The Vatican document *Dignitas Personae* also states that “ ‘frozen’ embryos... are and remain the subjects of essential rights and should therefore be protected by law as human persons.” (17) Thawing frozen embryos and transferring them to their biological mother gives them an opportunity to be restored to normal development and brought to birth, thus respecting their right to life.

Further, the *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)* takes the position that freezing embryos “constitutes an offence against the respect due to human beings by exposing them to grave risks of death or harm to their physical integrity and depriving them, at least temporarily, of maternal shelter and gestation...”. (18) This claim is reiterated in *Dignitas Personae*. (19) Thawing frozen embryos and transferring them back to the biological mother can be seen as righting this wrong. Brian Scarnecchia, who supports this option, argues that it serves to reunite the genetic, gestational, and rearing dimensions of parenthood. (20)

Moreover, it needs to be remembered that these frozen embryos are in fact the couple’s children “for whom they have the primary responsibility.” (21) As Sarah-Vaughan Brakman comments:

What does it mean to be a good steward of frozen embryos? In the Catholic tradition in particular, embryos as nascent human life are morally equivalent to born children. As such, it follows that stewardship of frozen embryos by those couples who participated in the creation of the embryos is similar to the stewardship responsibilities they have to their (born) children. Sutton reminds us that when “viewed as a gift from God entrusted to our care as our neighbor, created in the image of God, the child cannot be viewed as an object that we may dispose of as we wish. To treat children as products and properties is incompatible with that caring and respectful attitude towards the child called for by the parental vocation understood as delegated by God...” The answer to what it means to be a good steward of a couple’s frozen embryos is therefore that a couple ought to have the embryos thawed and implanted, with a view to welcoming any children born to them. (22)

Finally, this option respects the unity of the marriage:

...when third parties impregnate a woman through homologous embryo transfer with a couple’s own child in order to save their child’s life, the unity of their marriage suffers no offense. It does not destroy the pledge given by the spouses to become biological parents only through a pregnancy that bears a child who in his or her flesh unites them as procreators. (23)

CON

Some have raised objection to this option on grounds of irregularity in the way in which the pregnancy is established. Specifically, a woman does not become pregnant by a conjugal act with her husband; rather, the clinician performing the procedure of transferring the embryos

becomes the impregnator of the woman. (24) A reply to this line of argument has been offered through an analogy with the hypothetical case of a physician being able to treat an ectopic pregnancy (which is not viable) by transferring the embryo to the mother's uterus (25):

Are these physicians to be condemned because they impregnated a woman with her living child? Were these operations immoral just because the new uterine pregnancy was achieved by third parties in an act other than one of conjugal love between husband and wife? (26)

Similarly, it is argued that the involvement of a clinician (third party) in impregnating a woman with the embryos created by her husband and herself in order to save the lives of those embryos/children, does not ipso facto make the act morally reprehensible.

In considering this option, there are some practical limitations that must be recognized. First of all, not all embryos "survive" when thawed, and not all of the embryos transferred may implant and result in a live birth. (27) Thus, a couple choosing this option may succeed in bringing some (but not necessarily all) of their frozen embryos to birth. Further, the number of frozen embryos is also a factor. In order to avoid multifetal pregnancies which can pose health risks for both the fetuses and the mother, only a few embryos are transferred to a woman at a given time. (28) A couple may have so many frozen embryos that not all will be used. Although the longevity of frozen embryos could allow them to plan having additional children in the future (29), responsible parenting in terms of the number of children already in the family and the age of the parents must also be considered.

Long-term storage of the frozen embryos until they die naturally

This option has been proposed by Fr. Tadeusz Pacholczyk:

Perhaps the closest we can come to finding a morally acceptable path would be to maintain those embryos that currently exist in the frozen state... With the passage of time, the currently frozen embryos should become less and less viable and eventually decay of their own accord. One could even make use of non-human primate embryos to experimentally determine how rapidly primate embryos tend to decay in frozen storage. Perhaps after a few hundred or a few thousand years, all the embryos would have become "unthawable," since their lives would have ended spontaneously during their time in their frozen orphanages. (30)

PRO

In favor of this option from a moral point of view, Fr. Pacholczyk argues that it "would not involve us in the direct moral agency of actively terminating their lives [the lives of the frozen embryos] by withdrawing what is keeping them alive, namely, the liquid nitrogen, and might be somewhat analogous to a natural 'process of aging.'" (31)

CON

One practical problem with this option is when a frozen embryo in fact "dies." The biological parents of frozen embryos have come back to fertility clinics "after 10-12 years and the embryos have been thawed successfully and created healthy babies." (32) Births have been reported from

embryos which have been frozen for 19 and 20 years. (33) It is now being reported by fertility clinics that “with the rapid advances in reproductive medicine, cryopreserved or frozen embryos can potentially remain viable for an indefinite period of time.” (34) Thus long-term storage of frozen embryos may well involve a very, very long period of time. Indeed, Fr. Pacholczyk speaks in terms of “a few hundred or a few thousand years.”

Further, a fee must be paid to a clinic to keep embryos frozen. (35) What will be the fate of these embryos if the biological parents are not able to pay such a fee for an extended period of time? What will happen to these embryos when the parents die? (36) In these cases, will the embryos simply be disposed of by the clinic?

Moreover, it has been estimated that there are now nearly one million human embryos existing in a frozen state in the United States. (37) In the United Kingdom it is government policy that all embryos in frozen storage for more than 5 years be destroyed. (38) No such laws or policies have yet been established in the United States. (39) However, it is not inconceivable that such policies could be instituted in the U.S. if a very large number of frozen embryos are in fact being kept in storage for a long period of time.

On the long-term storage of frozen embryos, Hank Greely, director of the Center for Law and the Biosciences at Stanford University, has commented: “Imagine in a thousand years someone doing IVF with a long-frozen embryo just to see what a 21st century – or, in this case, 20th century – human being was like. ...Just keeping them frozen – kicking the can down the road a little farther – seems wrong to me. ...If you keep putting it off by keeping the embryos in liquid nitrogen limbo, who knows how they may eventually be used?” (40) This is reminiscent of the concern expressed in the *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)* ---and reiterated in *Dignitas Personae* ---that freezing embryos “plac[es] them in a situation in which further offences and manipulation are possible.” (41)

Donating the frozen embryos for prenatal adoption by others

In the event that the biological parents do not wish to transfer frozen embryos into the mother, the issue arises of another woman gestating the embryos to bring them to birth. Various possibilities have theoretically been raised concerning who may serve as the gestational mother for the embryos: a single woman; a married woman with other children; a married woman whose marriage is infertile; a consecrated celibate woman; a post-menopausal woman. (42) The question has also been raised of whether the gestational mother must also raise the child or is at liberty to put the child up for adoption after birth. (43) As a matter of fact, the option that has emerged most prominently is prenatal embryo adoption as evidenced by the existence of embryo adoption agencies such as the Snowflakes Embryo Adoption Program, the National Embryo Donation Center, Embryos Alive, and Crystal Angels Embryo Adoption Services. (44)

The moral permissibility of a couple *donating* their frozen embryos to such an agency is dependent, at least in part, on the moral permissibility of *others adopting* the embryos to bring them to birth. The latter is ethically controversial.

The option of prenatal adoption of frozen embryos is explicitly addressed in the Vatican document *Dignitas Personae*:

The proposal that these embryos could be put at the disposal of infertile couples as a *treatment for infertility* is not ethically acceptable for the same reasons which make artificial heterologous procreation illicit as well as any form of surrogate motherhood; this practice would also lead to other problems of a medical, psychological and legal nature.

It has also been proposed, solely in order to allow human beings to be born who are otherwise condemned to destruction, that there could be a form of “*prenatal adoption*.” This proposal, praiseworthy with regard to the intention of respecting and defending human life, presents however various problems not dissimilar to those mentioned above. (45)

Immediately after the release of *Dignitas Personae*, the USCCB national office issued a Q&A on the document which gives the following interpretation of this stretch of text:

Proposals for “adoption” of abandoned or unwanted frozen embryos are also found to pose problems, because the Church opposes use of the gametes or bodies of others who are outside the marital covenant for reproduction. The document raises cautions or problems about these new issues but does not formally make a definitive judgment against them. (46)

PRO

The central argument in favor of allowing prenatal adoption of frozen embryos is that preserving the life of the embryo is primary. As Edward Furton states:

The defenders of embryo adoption believe that the good of human life must be the first principle in any consideration of what is at stake in this debate. These innocent human lives, brought into being and abandoned, deserve our utmost effort to give them a chance at a normal existence. It is sometimes distressing to see the endlessly convoluted and technical discussions about the morality of embryo adoption when we are faced with such an immediate and pressing human need. Innocent human lives are in danger. They deserve our assistance. (47)

As Catholics, we must have a consistent ethic of life. The unborn deserve our protection no less than other human beings, whatever their condition. (48)

In defending embryo adoption, Brandon Brown and Jason Eberl similarly comment:

Aside from implantation in their genetic mothers, adoption is the sole response to the injustice of supernumerary embryos created through IVF that does not knowingly ignore or permit the destruction of human life so abhorrent to the Church. (49)

Admittedly, the frozen embryos were brought into being in a morally illicit way through IVF. Monica Lopez Barahona, Rev. Ramon Lucas Lucas and Salvador Antunano Alea, who defend embryo adoption, point out that “the good of the embryo’s life always prevails (according to Catholic morality) in those cases where sexuality has been violated.” (50)

Such is the case when a married or single woman becomes pregnant after being raped. From the point of view of Catholic morality, abortion can never be recommended. The good of the embryo's life always prevails, not the harm to the mother's sexuality or her matrimonial bond (if there is one)... When a woman becomes pregnant as a consequence of matrimonial infidelity, the same principle applies. Not even in this case does Catholic morality recommend abortion, even though the woman's sexuality and matrimonial bond have both been seriously compromised. Again, the good of the embryo's life prevails. (51)

CON

Although the option of embryo adoption has not been definitively ruled out by the Church, the aforementioned ecclesiastical statements do indicate that there are problems with this option.

The *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)* states that “the fidelity of the spouses in the unity of marriage involves reciprocal respect of their right to become a father and a mother only through each other.” (52) This principle is violated when a couple has a child by adopting an embryo, engaging in transfer of an embryo created by gametes (ovum and sperm) coming from persons other than the married couple in question (heterologous embryo transfer). (53)

The Q&A on *Dignitas Personae* issued by the USCCB national office notes:

Proposals for “adoption” of abandoned or unwanted frozen embryos are also found to pose problems, because the Church opposes use of the gametes or bodies of others who are outside the marital covenant for reproduction. (54)

Nicholas Tonti-Filippini likewise comments:

However, the rights of the child are not the only intrinsic issue. The question of the unity of marriage, the dignity of the spouses, and their fidelity to each other are also at issue... In regard to a married woman, this question of fidelity seems the most troubling concerning her *becoming a mother* through an intervention in which an embryo (of other parents) is transferred to her uterus... (55)

By contrast, in *heterologous embryo transfer* the husband is isolated from this process by which his wife becomes *with child*. Her body --- which she gave to him in love in the sacrament of marriage, a gift which they renew in the conjugal act --- for a time, becomes the home of a child that bears no relationship to him, that is from outside their union. It is in this sense that heterologous embryo transfer may be an infidelity to the marriage. The pregnancy is in fact achieved *outside the marital relationship*. (56)

Similar sentiments have been expressed by Fr. Tadeusz Pacholczyk. (57) Regarding embryo adoption, he comments that “the desired outcome or end state is certainly good (i.e., the offering of life and growth to young humans trapped in liquid nitrogen) but the means chosen to realize those good ends involve grave violations of marriage, and are intrinsically problematic.” (58)

Further, the practice of embryo adoption may serve to reinforce the morally illicit practice of IVF and the creation of extra embryos to be frozen:

...there is the serious concern that standardizing the practice of adopting human embryos would encourage the production of more embryos in the future, because those very clinics where IVF is being done and where new embryos are being created, will be able to say to themselves, “Now we don’t have to be too concerned about producing numerous extra embryos, because there will always be some couples willing to adopt any that are left over.” This offers the clinics something of an excuse to continue their current immoral practices, if not to expand them. (59)

As a practical matter, it must be recognized that not all embryos “survive” when thawed, and that not all of the embryos transferred to a woman’s body may implant and result in a live birth. (60) Further, there is no guarantee that frozen embryos put up for adoption will in fact be adopted. (61) Thus the option of embryo donation and adoption may succeed in bringing some, but not necessarily all, of the frozen embryos to birth.

On grounds of cryopreservation (freezing) being an extraordinary means of preserving life, thaw the embryos and allow them to die naturally

This option has been put forward by Rev. Thomas Berg and Edward Furton as a course of action to be taken *by default*:

When a couple seeks moral guidance concerning the disposition of their frozen embryos, the first recommendation should always be that the wife attempts to implant each embryo and bring it to term, unless there are grave reasons not to. In some cases, especially when many embryos remain after IVF, this will be impossible...

If it is impossible for the couple to implant all their embryos, then the question of embryo adoption naturally arises...

If the couple decides, in the light of conscience, that embryo adoption is not appropriate, they face yet another choice: whether to allow their offspring to be kept in frozen storage indefinitely or to remove them from liquid nitrogen and allow them to die a natural death. Neither option is completely satisfactory; both display the immoral consequences of the couple’s initial decision to use IVF.

If the couple chooses to keep the embryos in frozen storage indefinitely, they only delay the inevitable, as there is no prospect for continued life through implantation and birth. If, however, they remove the embryos from frozen storage, the embryos face certain death. The editors [Berg and Furton] believe that a sound argument can be made for the removal of frozen embryos from their storage containers on the grounds that continued cryopreservation constitutes extraordinary means. If putting the embryos up for adoption is not an option, there is no other way to preserve these tiny human lives. Continuing storage therefore becomes futile. (62)

This proposed course of action relies on a traditional principle of Catholic moral theology that it is morally permissible to forgo (withhold or withdraw) treatments which are “extraordinary” in character. The contemporary understanding of the extraordinary means distinction, as developed in the Vatican *Declaration on Euthanasia*, is concisely articulated in the *Ethical and Religious Directives for Catholic Health Care Services*:

A person may forgo extraordinary or disproportionate means of preserving life. Disproportionate means are those that in the patient’s judgment do not offer a reasonable hope of benefit or entail an excessive burden, or impose excessive expense on the family or the community. No. 57 (63)

Thus the following argument can be formulated for the case of frozen embryos:

The embryos were originally frozen with the prospect of later being used to produce a live birth.

The benefit of cryopreservation for the embryo is to preserve it until it can be brought to birth by being thawed and implanted within a woman.

This benefit is lost when there is no reasonable possibility that the embryo will be thawed and implanted (viz., no reasonable possibility of being implanted in its biological mother or of being donated and adopted).

In this circumstance, continuing cryopreservation of the embryo offers no reasonable hope of benefit for the embryo (i.e., is “futile” treatment) and hence is extraordinary treatment which need not be continued. (64)

PRO

Although this option results in the death of frozen embryos, it is arguably different morally than the aforementioned option of intentionally destroying the frozen embryos. In this case, the intention is not directly to “get rid of” the embryos, but rather, to remove a treatment that offers no reasonable hope of benefit for the embryo according to an accepted principle of Catholic moral theology. (65) Further, some who advocate this position also advocate that “those who have decided to remove their embryos from frozen storage should ask their local pastor whether some blessing or other appropriate ceremony might be possible” and that “the remains of the embryo (though microscopic) should be treated with the respect due to all human remains.” (66) This is different than simply disposing of the embryos at a clinic.

CON

On the other hand, some have argued that “Donum Vitae does not support but instead appears to rule out the thawing option under consideration.” (67) As this point is made by Jason Eberl:

One possible course of action the CDF [Congregation for the Doctrine of the Faith] does not address is to thaw the embryos without reactivating them, not for the purpose of using them in research, but to allow them to die if other avenues, such as prenatal adoption, are morally closed off.

...When a cryopreserved embryo is deliberately removed from storage without any subsequent implantation, death will inevitably result. In contrast, *Donum Vitae* I.5 asserts, “It is therefore not in conformity with the moral law deliberately to expose to death human embryos obtained ‘in vitro.’” This passage is referring to scientific experimentation, as is *D[ignitas] P[ersonae]* n. 19; yet it is not difficult to see how this general principle may be extended to any other practice that knowingly and inevitably exposes embryos to death... (68)

Conclusion: So what is a couple with frozen embryos to do with them?

The first step in making a judgment is to look at magisterial teaching. In this case, the Church has ruled out three options for the disposition of frozen embryos: donating the frozen embryos for research, intentionally destroying the frozen embryos, and long-term storage of frozen embryos until an “artificial womb” becomes available to bring the embryos to term. However, the Church has not yet offered definitive guidance on what course of action should be taken.

In such a case, the next step is to look at “theological opinion” and to see if there is consensus among theologians about the course of action that should be taken. In dealing with the disposition of frozen embryos, there is still ongoing theological debate rather than clear agreement about what should be done.

Thus the decision finally falls to individual conscience: an individual must act according to the dictates of his/her rightly formed conscience that has examined the arguments for and against the various options for the disposition of frozen embryos that have been left open by Church teaching (*viz.*, transferring the embryos to the biological mother in an attempt to bring them to birth, long-term storage of the frozen embryos until they die naturally, donating the frozen embryos for prenatal adoption by others, thawing the embryos and allowing them to die naturally on the grounds of cryopreservation being an extraordinary means of preserving life). (69)

Pastoral counselors working with couples having frozen embryos must be sensitive to the fact that the couple must struggle with an extremely difficult decision. Theologically and practically, there is no truly good solution for the disposition of frozen embryos. (70)

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Notes

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3. Center for Advanced Reproductive Services, *Embryo Options*. <http://fertilitycenter-uconn.org/programs-services/embryo-options>. Accessed November 2013. Also Gwen Mayes, *Frozen in Time: Disposition of Frozen Embryos Gives Rise to Ethical, Legal, and Yes...Political Considerations*. (June 6, 2003). <http://www.medscape.com/viewarticle/456483>. Accessed November 2013. Also Patrick A. Tully, "Cyropreserved Embryos and Dignitas Personae: Another Option?" *Kennedy Institute of Ethics Journal* 22/4 (Dec. 2012): 367-89 at 368.
4. National Institutes of Health, *Embryonic Stem Cells*. https://stemcells.nih.gov/info/Regenerative_Medicine/2006Chapter1.htm. Accessed 2018. See also Center for Bioethics and Human Dignity, *An Overview of Stem Cell Research*. <https://cbhd.org/stem-cell-research/overview>. Accessed 2018.
5. Pacific Fertility Center, *Sperm and Embryo Freezing*.
6. *Ibid.*
7. Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 18 (2008). http://w2.vatican.va_ > English > Roman Curia > Congregations > Doctrine of the Faith > Documents. Accessed 2017.
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9. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, I.6 (1987). http://w2.vatican.va_ > English > Roman Curia > Congregations > Doctrine of the Faith > Documents. Accessed 2017.
10. *Ibid.*, I.5.
11. Fr. Tadeusz Pacholczyk, "On the Moral Objectionability of Human Embryo Adoption" in Sarah-Vaughan Brakman & Darlene Fozard Weaver (eds.), *The Ethics of Embryo Adoption and the Catholic Tradition* (Springer, 2007), p. 82. Also Tad Pacholczyk, "What Should We Do with the Frozen Embryos?" (June 2009). http://www.ncbcenter.org/files/7914/6984/9768/MSOBO48_What_Should_We_Do_with_the_Frozen_Embryos.pdf. Accessed 2018.
12. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, I.6.
13. Thomas V. Berg and Edward J. Furton, "Afterword" in Thomas V. Berg and Edward J. Furton (eds.), *Human Embryo Adoption Biotechnology, Marriage and the Right to Life* (Philadelphia: National Catholic Bioethics Center, 2006), p. 328.
14. Monica Lopez Barahona, Rev. Ramon Lucas Lucas, and Salvador Antunano Alea, "The Moral Licitness of Adopting Frozen Embryos, with Answers to Objections" in Berg and Furton (eds.), *Human Embryo Adoption*, pp. 278-79; Nicanor Pier Giorgio Austriaco, O.P., "On the Catholic

Vision of Conjugal Love and the Morality of Embryo Transfer” in Berg and Furton (eds.), *Human Embryo Adoption*, pp. 118, 131; Mark S. Latkovic, “*The Dignity of the Person An Overview and Commentary on Dignitas personae*,” *National Catholic Bioethics Quarterly* (Summer 2010): 283-305 at 296; D. Brian Scarnecchia, *Bioethics, Law, and Human Life Issues* (Lanham, MD: Scarecrow Press, 2010), pp. 176, 178-79; Helen Watt, “Becoming Pregnant or Becoming a Mother? Embryo Transfer With and Without a Prior Maternal Relationship” in Berg and Furton (eds.), *Human Embryo Adoption*, pp. 56-67.

15. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, I. 5.

16. *Ibid.*, I.1

17. Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 19.

18. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, I. 6.

19. Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 18.

20. Scarnecchia, *Bioethics, Law, and Human Life Issues*, pp. 176, 177, 179.

21. Berg and Furton, “Afterword,” p. 329.

22. Sarah-Vaughan Brakman, “Real Mothers and Good Stewards: The Ethics of Embryo Adoption” in Brakman & Weaver (eds.), *The Ethics of Embryo Adoption and the Catholic Tradition*, p. 129.

23. Scarnecchia, *Bioethics, Law, and Human Life Issues*, p. 178. For another discussion of preserving the unity of the marriage in the case of transferring a couple’s frozen embryos back to the biological mother, see Nicanor Austriaco, “On the Catholic Vision of Conjugal Love and the Morality of Embryo Transfer,” especially p. 131.

24. Nicholas Tonti-Filippini, “The Embryo Rescue Debate: Impregnating Women, Ectogenesis, and Restoration from Suspended Animation,” *National Catholic Bioethics Quarterly* (2003): 111-37 at p. 126 n. 37; quoted in D. Brian Scarnecchia, *Bioethics, Law, and Human Life Issues*, p. 176.

25. Scarnecchia, *Bioethics, Law, and Human Life Issues* , p. 176.

26. *Ibid.*

27. It has been reported that “the success rate for thawing frozen embryos will vary by clinic – from 50 – 75%.” Embryo Adoption Awareness Center, *What is the success rate for thawing embryos?* <https://www.embryoadooption.org/faqs/what-is-the-success-rate-for-thawing-embryos>. Accessed 2018. Based on data reported in 2016, “36.7% of embryo donation transfers (or embryo adoptions, as it is sometimes called) resulted in a live birth.” Creating a Family, *How*

Successful is Embryo Donation & How Much Does it Cost? <https://creatingfamily.org/adoption-category/how-successful-is-embryo-donation-how-much-does-it-cost>. Accessed 2018.

28. Mayo Clinic, *In vitro fertilization (IVF)*. <https://www.mayoclinic.org/tests-procedures/in-vitro-fertilization/about/pac-20384716>. Accessed 2018.

29. For example, a case has been reported in which a child was born from an embryo that had been frozen for 20 years. Embryo Adoption Awareness Center, *Child born from 20 year old embryo*. <https://www.embryoadooption.org/2011/07/child-born-from-20-year-old-embryo>. Accessed 2018.

30. Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” p. 82; see also Pacholczyk, “What Should We Do with the Frozen Embryos?”.

31. Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” p. 82.

32. Pacific Fertility Center, *Sperm, Egg, and Embryo Freezing*. <http://www.pacificfertilitycenter.com/treatment-care/sperm-egg-and-embryo-freezing>. Accessed November 2013. See also Fairfax Cryobank, *Embryo Donation and Embryo Storage*. <http://www.fairfaxcryobank.com/emstorage.shtml>. Accessed November 2013.

33. Lisa M. Krieger, “Long-frozen embryo brings joy to adoptive parents” *San Jose Mercury News*. September 4, 2013; updated August 12, 2016. <https://www.mercurynews.com/2013/09/04/long-frozen-embryo-brings-joy-to-adoptive-parents>. Accessed 2018. Also Embryo Adoption Awareness Center, *Child born from 20 year old embryo*. <https://www.embryoadooption.org/2011/07/child-born-from-20-year-old-embryo>. Accessed 2018.

34. Fairfax Cryobank, *Embryo Donation and Embryo Storage*; Pacific Fertility Center, *Sperm, Egg, and Embryo Freezing*.

35. For example, the Fairfax Cryobank charges \$40 a month, \$395 dollars a year, \$1340 for five years, and \$2400 for ten years to keep embryos frozen. Fairfax Cryobank, *Embryo Storage*. <https://fairfaxcryobank.com/embryo-storage>. Accessed 2018. The Fertility Center of California charges \$200 for six months, \$350 a year, and \$1100 for five years to keep embryos frozen. Sperm Bank, Inc., Fertility Center of California, *List of Available Services and Fees*. https://www.spermbankcalifornia.com/list_available_services_fees.html. Accessed 2018.

36. Krieger, “Long-frozen embryo brings joy to adoptive parents.”

37. Embryo Adoption Awareness Center, *Frozen Embryo Population Could Be Nearly 1,000,000 in the United States*. July 20, 2015. <https://www.embryoadooption.org/2015/07/frozen-embryo-population-could-be-nearly-1000000-in-the-united-states>. Accessed 2018.

38. Pacific Fertility Center, *Sperm, Egg, and Embryo Freezing*.

39. *Ibid.*

40. Krieger, “Long-frozen embryo brings joy to adoptive parents.”

41. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, I. 6. See also Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 18.

42. Tonti-Filippini, “The Embryo Rescue Debate: Impregnating Women, Ectogenesis, and Restoration from Suspended Animation,” p. 112.

43. John Berkman and Kristen N. Carey, “Ethical and Religious Directives for a Catholic Embryo Adoption Agency: A Thought Experiment” in Brakman & Weaver (eds.), *The Ethics of Embryo Adoption and the Catholic Tradition*, p. 252.

44. *Ibid.*, pp. 254-58. See also Embryo Adoption Awareness Center, *Embryo Adoption Agencies-Providers*. <https://www.embryoadooption.org/embryo-adoption/where-to-find-embryos/embryo-adoption-agencies>.

45. Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 19.

46. United States Conference of Catholic Bishops, *Questions and Answers The Instruction ‘Dignitas Personae: On Certain Bioethical Questions,’* Question 5. Available at http://old.usccb.org/comm/Dignitaspersonae/Q_and_A.pdf. Accessed November 2013.

This interpretation is confirmed by comments made by Archbishop Rino Fisichella, then President of the Pontifical Academy for Life, immediately after the release of the document:

Archbishop Rino Fisichella, current president of the academy, told reporters that “the discussion is still open” and the Vatican has not ruled out the possibility of embryo adoption completely, although it is leaning toward a completely negative judgment because embryo adoption involves the future parents in an immoral process. (Cindy Wooden, “Adopting embryos raises moral questions, Vatican officials say.” *Catholic News Service* Dec. 12, 2008. <http://www.catholicnews.com/data/stories/cns/0806229.htm> Accessed November 2013.)

Further, Edward Furton notes that the summary of *Dignitas Personae* provided by the Congregation for the Doctrine of the Faith “states that various proposals have been offered to solve the problem of what to do with frozen embryos, including ‘prenatal adoption,’ and that all of the approaches ‘present real problems of various kinds’ ” but that “there is... no statement that embryo adoption is forbidden.” (Edward J. Furton, “Embryo Adoption Reconsidered,” *National Catholic Bioethics Quarterly* 10/2 (Summer 2010): 329-47 at 331.)

Noting the three aforementioned sources, Furton comments:

These statements, of course, do not carry any magisterial authority, but they are public reflections on a document of magisterial authority. Hence, they are valuable guides to interpreting how the Vatican itself understands the issue of embryo adoption. Surely, if the Vatican had intended *DP [Dignitas Personae]* to be a rejection of embryo adoption, it would not have let the fact go unremarked,

or worse, allowed pronouncements of an opposite caste to be publicly uttered without correction. (*Ibid.*)

47. Furton, “Embryo Adoption Reconsidered,” p. 346.

48. *Ibid.*, p. 340.

49. Brandon P. Brown and Jason T. Eberl, “Ethical Considerations in Defense of Embryo Adoption” in Brackman and Weaver (eds.), *The Ethics of Embryo Adoption and the Catholic Tradition*, p. 108.

50. Barahona, Lucas, and Alea, “The Moral Licitness of Adopting Frozen Embryos, with Answers to Objections,” p. 281.

51. *Ibid.*, pp. 281-82.

52. Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and On the Dignity of Procreation (Donum Vitae)*, II. 1.

53. Tonti-Filippini, “The Embryo Rescue Debate: Impregnating Women, Ectogenesis, and Restoration from Suspended Animation,” p. 114.

54. United States Conference of Catholic Bishops, *Questions and Answers The Instruction ‘Dignitas Personae: On Certain Bioethical Questions,’* Question 5.

55. Tonti-Filippini, “The Embryo Rescue Debate: Impregnating Women, Ectogenesis, and Restoration from Suspended Animation,” p. 114.

56. *Ibid.*, p. 120-21.

57. Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” pp. 70-71, 77, 79, 80.

58. *Ibid.*, p. 71.

59. Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” p. 80.

60. See note 27 above.

61. Couples may have the option of selecting which embryo(s) to adopt. See, for example, the Center for Human Reproduction, *Embryo Donation Listing of Available Embryos*. <https://www.centerforhumanreprod.com/fertility/embryo-donation-at-chr>. Accessed 2018.

62. Berg and Furton, “Afterward,” pp. 328-30.

63. United States Conference of Catholic Bishops, *Ethical and Religious Directives for Catholic Health Care Services*, 6th ed. (2018). <http://www.usccb.org>. Accessed 2018.

64. Cf. Tully, "Cryopreserved Embryos and Dignitas Personae: Another Option?," pp. 371, 373; Peter A. Clark, S.J., "Frozen Embryos: Application of the Extraordinary/Ordinary Means Distinction from the Catholic Perspective," *Internet Journal of Gynecology & Obstetrics* 12/2 (2010), sect. *Ethical Aspects*.
65. Tully, "Cryopreserved Embryos and Dignitas Personae: Another Option?," pp. 377-78.
66. Berg and Furton, "Afterword," p. 330. For mention of rites surrounding the thawing of frozen embryos and allowing them to die, see also Tully, "Cryopreserved Embryos and Dignitas Personae: Another Option?," p. 372 and note 8.
67. Tully, "Cryopreserved Embryos and Dignitas Personae: Another Option?," p. 373.
68. Jason T. Eberl, "What Dignitas Personae Does Not Say," *National Catholic Bioethics Quarterly* 10/1 (Spring 2010): 89-110 at 93.
69. This principle is suggested by Nicanor Pier Giorgio Austriaco, O.P. in *Biomedicine & Beatitude An Introduction to Catholic Bioethics* (Washington, DC: Catholic University of America Press, 2011), p. 109: "Given the ongoing debate among faithful Catholic moral theologians and until the Church teaches otherwise, individuals Catholics may choose to rescue abandoned embryos according to the dictates of a rightly formed conscience that has examined the arguments for and against the morality of such an act." See also Furton, "Embryo Adoption Reconsidered," p. 341: "Up to the present time, I have always said to them that the morality of the question [of embryo adoption] is in dispute, with good Catholic ethicists on both sides of the issue, and that in cases such as this, it falls to the Catholic couple to inform themselves of the conflicting arguments, to consider the matter prayerfully, and to make their own best decision in the light of conscience."
70. Cf. Congregation for the Doctrine of the Faith, *Instruction Dignitas Personae on Certain Bioethical Questions*, Part II, no. 19: "All things considered, it needs to be recognized that the thousands of abandoned embryos represent a *situation of injustice which in fact cannot be resolved*. Therefore John Paul II made an 'appeal to the conscience of the world's scientific authorities and in particular to doctors, that the production of human embryos be halted, taking into account that there seems to be no morally licit solution regarding the human destiny of the thousands and thousands of 'frozen' embryos which are and remain the subjects of essential rights and should therefore be protected by law as human persons'."