

Legal and Ethical Considerations on the Use of Assisted Reproductive Technology in the United States and Italy

VALERIA CAMBONI MILLER*

I. INTRODUCTION

From the time Shannon Morell of Sterling, Michigan, underwent in vitro fertilization for the birth of twins in 2006, she and her husband, Paul Morell, regarded the six leftover frozen embryos as sacred. Then, on Feb. 17, 2009, Shannon and Paul Morell received astonishing news from the fertility clinic: all six of their frozen embryos had been accidentally transferred into the womb of another woman -- and she was pregnant. For 36 weeks, Carolyn Savage of Sylvania, Ohio, carried the couple's child, delivering a healthy 5-pound, 3-ounce boy. On Sept. 24, 2009, in an act of generosity and faith, Savage, then handed the baby back to his biological parents only 30 minutes after his birth, sealing a connection between the two families.¹ Unfortunately, not every case has a happy ending like the one experienced by Shannon and Paul Morell.

Issues on custody of frozen embryos and parentage of the resulting child may sometimes arise even before the child is born. Beginning in 1985, Mary Sue and Junior Davis went through six attempts at in vitro fertilization (IVF).² After fertilization was completed, a transfer was performed on December 10, 1988; the rest of the pre-embryos were cryogenically preserved.³ Unfortunately, a pregnancy did

* J.D., William Mitchell College of Law, St. Paul, Minnesota, 2013. B.S., University of Great Falls, 2009. Currently licensed to practice law in Minnesota and Montana. I would like to thank my husband Kevin and my children for their patience, support and encouragement throughout the article-writing process.

1. Susan Donaldson James, *Shannon Morell: Embryo Mix-Up Gave Miracle Baby*, ABC NEWS (May 4, 2010), <http://abcnews.go.com/Health/embryo-mix-mother-shannon-morell-writes-book-miracle/story?id=10522218>.

2. IVF is a process in which a doctor surgically retrieves a woman's eggs and the eggs are mixed with sperm in a petri dish. Fertilization usually occurs within hours, and after three days the one-cell zygote grows from one cell to eight cells. Once the pre-embryo is an eight-cell entity, it can either be transferred into a woman's womb or frozen for future use.

3. Cryopreservation is the freezing of embryos in liquid nitrogen at a temperature of negative 195 degrees centigrade in order to preserve them.

not result from the December 1988 transfer, and before another transfer could be attempted, Junior Davis filed for divorce.⁴ The controversy arose when Mary Sue requested custody of the couple's seven frozen embryos during the divorce proceedings.

Controversies may arise when couples do not agree on what to do with their frozen embryos in cases of unforeseen circumstances such as divorce or death, or in cases of implantation of embryos in the wrong woman. Controversies on parentage may also arise when a valid surrogacy agreement is in place. This article examines how laws in the United States and Italy regulate access to assisted reproduction, control the use of surrogacy and deal with issues relating to parentage of children conceived through assisted reproduction. Part II of this article explains in detail what assisted reproductive technology is and Part III discusses the statistics (how many births occur each year using assisted reproductive technology and the cost of in vitro procedure). Part IV explains Italian law no. 40/2004; the subsequent litigation that challenged the constitutionality of that law is detailed in Parts V and VI. Part VII discusses the American Bar Association Model Act Governing Assisted Reproductive Technology. Part VIII deals with surrogacy, which is illustrated in recent caselaw. Part IX discusses the Uniform Parentage Act (UPA), and Part X lists and explains the legal tests to determine parentage in addition to the UPA. Part XI discusses the ethical considerations of assisted reproductive technology, and their role in modern society.

II. ASSISTED REPRODUCTIVE TECHNOLOGY

In vitro fertilization, the most common type of assisted reproductive technology, was pioneered in 1978 by doctors in the United Kingdom; it has been used in the United States since 1981. Assisted Reproductive Technology (ART) includes in vitro fertilization-embryo transfer (IVF-ET)⁵, gamete intrafallopian transfer (GIFT)⁶, zygote

4. *Davis v. Davis*, 842 S.W. 2d 588 (Tenn. 1992).

5. IVF-ET is a four-step process: The first step involves superovulation, where you take injected medications to cause your ovaries to make multiple follicles/eggs. Monitoring of this process is done with blood draws, and ultrasounds to check on the growth of the

intrafallopian transfer (ZIFT)⁷, pronuclear stage tubal transfer (PROST)⁸ and frozen embryo transfer (FET)⁹. These techniques also apply to oocyte donation and gestational carriers. Approximately 99 percent of ART cycles performed are IVF-ET. IVF-ET has helped many couples conceive

follicles and development of the uterine lining. When it is determined that the follicles and the uterine lining are appropriately mature, a trigger shot of Human Chorionic Gonadotropin (hCG) is administered. The second step begins approximately thirty-six hours after the trigger shot with the retrieval of eggs/oocytes. The night prior to the egg capture, the woman will do a vinegar douche to reduce the vaginal bacteria. She will arrive at the office then next morning, fasting, (NPO), and get prepared for conscious sedation with an IV placement and medications. Guided by ultrasound, the doctor aspirates the eggs from the follicles during a procedure performed in the office. Shortly after the egg capture procedure, a sperm specimen (3 days abstinence) is collected from the partner or thawed from a donor and prepared for mixing with the eggs. The two are then placed together in a dish and incubated for 18 hours and fertilization is allowed to occur naturally. After 18-20 hours, the embryos are examined for normal fertilization. Normal fertilization is characterized by a pronucleus of the egg and sperm that can be visualized under a microscope. This third stage is called the embryo culturing stage and can go out for five days. The day of egg capture is called day Zero, and day one we expect to see pronuclei or 2PNs, and by day three, 6-8 cell embryos, and by day five, blastocysts. The proembryos can then be transferred to the uterus or incubated for further development into multi-cell embryos and transferred two to five days later. The fourth and final step is the transfer of the embryos into the uterine cavity using a small tube that is inserted through the cervix. The number of embryos transferred varies with the desires of the couple, their feelings about selective reduction in the case of multiple pregnancies, the quality of the embryos and the days of growth, and the age of the woman. IVF PHOENIX: ADVANCED TECHNOLOGIES: MAKING CONCEPTION AFFORDABLE, available at <http://www.ivfphoenix.com/services/in-vitro-fertilization/> (last visited April 03, 2016).

6. Gamete intrafallopian transfer (GIFT) uses multiple eggs collected from the ovaries, which are placed into a thin flexible tube (catheter) along with the sperm to be used. The gametes (both eggs and sperm) are then injected into the fallopian tubes using a surgical procedure called laparoscopy under general anesthesia. *Infertility & Reproduction Health Center*, WEBMD, <http://www.webmd.com/infertility-and-reproduction/gamete-and-zygote-intrafallopian-transfer-gift-and-zift-for-infertility> (last visited April 03, 2016).

7. Zygote intrafallopian transfer (ZIFT) combines in vitro fertilization (IVF) and GIFT. Eggs are stimulated and collected using IVF methods, then mixed with sperm in the laboratory. Fertilized eggs (zygotes) are then laparoscopically returned to the fallopian tubes where they will be carried into the uterus. The goal is for the zygote to implant in the uterus and develop into a fetus. *Id.*

8. Pronuclear stage tubal transfer (PROST), similar to ZIFT, uses in vitro fertilization but transfers the fertilized egg to the fallopian tube before cell division occurs. *Id.*

9. "Frozen embryos" is a term used to refer to those embryos that are not transferred during in vitro fertilization cycles and are subsequently cryopreserved. A frozen embryo transfer can be used to produce a viable pregnancy by first thawing the frozen embryo,

successfully. ART may be recommended when other treatments (such as intrauterine insemination) have not been successful or when there is severe male factor infertility, severe endometriosis or tubal obstruction.¹⁰

Three-person IVF is a critical departure from the traditional kind. This new and biologically extreme technique, which has generated scientific and bioethical controversy on both sides of the Atlantic, would combine genetic material from one man and two women in a single embryo.¹¹

III. STATISTICS

According to CDC's 2012 ART Fertility Clinic Success Rates Report, 176,247 ART cycles were performed at 456 reporting clinics in the United States during 2012, resulting in 51,267 live births (deliveries of one or more living infants) and 65,160 live born infants. Although the use of ART is still relatively rare as compared to the potential demand, its use has doubled over the past decade. Today, over 1% of all infants born in the United States every year are conceived using ART.¹²

According to recent data from National Register of PMA,¹³ in the period 2005 – 2012, 655,075 cycles of treatment were performed on 493,086 couples, which resulted in 105,003 pregnancies and 79,028 live births, about 2% of the total number of newborns in Italy.¹⁴ One reason for the low numbers of ART newborns might be due to the cost of the

and transferring it into an appropriately prepared uterus. *Protocols for frozen embryos transfer*, IVF1, <http://www.ivf1.com/frozen-embryo-transfer/> (last visited April 03, 2016).

10. *Assisted Reproductive Technologies*, SOCIETY FOR ASSISTED REPRODUCTIVE TECHNOLOGY, http://www.sart.org/SART_Assisted_Reproductive_Technologies/ (last visited April 03, 2016).

11. Jessica Cussins. "Three-Person IVF" Update Reveals How Little We Know, HUFFINGTON POST (Aug. 5, 2014), http://www.huffingtonpost.com/jessica-cussins/threeperson-ivf-update-re_b_5455869.html.

12. *What is Assisted Reproductive Technology?*, CENTER FOR DISEASE CONTROL AND PREVENTION (Nov. 14, 2014), <http://www.cdc.gov/art/whatis.html>.

13. PMA stands for procreazione medicalmente assistita (medically assisted procreation).

14. *Servono Nuove Norme Sulla Fecondazione Assistita [New Rules on Assisted Reproduction Needed]*, MOLECULAR LAB (Feb. 28, 2014), <http://www.molecularlab.it/news/view.asp?n=8136>.

procedure: a person may pay 15,600 euros in Lombardia, double the price asked in Emilia Romagna, which is 6,900 euros. The national average is around 12,300 euros. According to the data gathered from an investigation by the Commission on Inquiry on medical errors and deficits, the price is too high counting that the ASL (Azienda Sanitaria Locale)¹⁵ reimburses only 1,934 euro for the procedure.¹⁶ Another reason might be the constrictive Italian legislation that regulates access to assisted reproduction.

IV. ITALIAN LAW NO. 40/2004

The Italian Parliament passed Law no. 40 on February 19, 2004; the new law was published in the Gazzetta Ufficiale no. 45 of February 24, 2004. The law was created to favor the solution of reproduction problems deriving from human sterility or from human infertility.

Under Article 4 of law no. 40, persons may use assisted reproductive technology only if it has been assured the impossibility to remove causes of impediment to procreation, and its use is only available to cases of sterility or infertility documented by a physician or in cases of fertility and sterility the cause of which has been medically documented by a physician. Article 4 also prohibits the use of an egg or sperm donor.¹⁷

Only persons of opposite sex, living at the time of the procedure, that are over the age of majority (18 years of age) and married or living together are allowed to use assisted reproductive technology.¹⁸

Under Article 8 of law no. 40, the child born through the use of assisted reproductive technology is a legitimate child of the parents.¹⁹ Law no. 40 provides for situations in which the law is violated: in cases where the child is conceived using a donor egg or sperm in violation of

15. Azienda Sanitaria Locale (ASL) is a public entity in charge of the financial organization and management of medical services.

16. Cosimo Colasanto, *Un figlio in provetta costa fino a 16.000 euro [A child in a test tube costs up to 16,000 euros]*, . SALUTE24, (Dec. 13, 2012), http://salute24.ilssole24ore.com/articles/15011-un-figlio-in-provetta-costa-fino-a-16-000-euro-la-legge-40-torna-alla-consulta?refresh_ce.

17. Legge 19 febbraio 2004, n. 40, in G.U. Feb. 24, 2004, art. 4 (It.).

18. *Id.* at art. 5.

19. *Id.*

Article 4, the father whose consent can be found, cannot deny paternity.²⁰

Article 13 of law 40, strictly prohibits the use of experiments on embryos, unless such experiments are conducted for therapeutic or diagnostic reasons towards the healthy development of the embryo.²¹

Law no. 40, Article 14, paragraph 1, further prohibits the cryopreservation and suppression of embryos. However, the cryopreservation of female and male gamete is allowed with prior written, informed consent. The penalty for the violation of Article 14 is between 5,000 and 50,000 euros.²²

The penalties for violations of other articles of law no. 40/2004 are severe: for violations of Article 4, the civil penalty is any amount between 300,000 to 600,000 euros. Violations of Article 5 call for a penalty of 200,000 to 400,000 euros. Other penalties punish a person who “in whatever form, realizes, organizes or publicizes the commercialization of gametes or embryos or surrogacy” with incarceration from three months to two years and a fine between 600,000 to a million euros.²³ Due to its many restrictions and steep penalties, law no. 40/2004 has been challenged several times by Italian couples.

V. THE ITALIAN CONSTITUTIONAL COURT

On April 1, 2009, the Italian Constitutional Court reviewed the constitutionality of law n. 40/2004 striking down, as unconstitutional, Article 14, paragraphs 1, 2 3 and 4 in decision no. 151/2009.²⁴

Paragraph 2 reads: “ the production techniques of embryos, keeping in mind the technical-scientific evolution and what Article 7, paragraph 3 provides, cannot create a number of embryos superior to the one strictly necessary for a sole and contemporaneous implant, in any case not superior to three.” Only the following words have been declared unconstitutional: “*for a sole and contemporaneous implant, in any case not superior to three.*” The Constitutional Court reasoned that the

20. *Id.* at art. 9.

21. *Id.* at art. 13.

22. *Id.* at art. 14.

23. *Id.* at art. 7.

24. Corte Cost., 01 aprile 2009, n.19, 2009 (It.), available at <http://www.cortecostituzionale.it/actionSchedaPronuncia.do?anno=2009&numero=151>.

predetermination of a unified health protocol would subject the woman to a health procedure that may not be wanted and that is not geared towards the protection of her health nor the health of other women.²⁵

Paragraph 3 reads:

In the event that the transfer of embryos to the uterus will not be possible due to a grave and documented cause related to the health of the woman not foreseeable at the time of fecundation, the cryopreservation of the embryos is allowed until the date of transfer, to occur as soon as possible.

This paragraph has been declared unconstitutional in the sense that the law does not take into consideration the detriment to the health of the woman. The Constitutional Court held that this law would cause the subjection of the woman to treatments that, because are invasive and not very effective, would be damaging to the principle of respect to the human dignity; it would create disparity of treatment in different situations that require different treatments in contrast with the principle of equality of Article 3 of the Constitution, violating the fundamental right to health with the risk of subjecting the woman to treatments that are highly dangerous to her physical and psychological health.²⁶ The Court stated that the legislation does not give the treating physician the possibility of evaluating, using the most recent scientific and technological resources, each case in front of him or her, with the consequent individuation of the maximum number of embryos to implant that is appropriate for a successful treatment while reducing the potential risk to the health of the woman.²⁷ “Decision no. 151 of 2009, is an historical decision that creates a path to be followed by the legislator intervening on delicate matters such as science, health and life.”²⁸

Other challenges to law no. 40/2004 have been brought by Italian

25. *Id.*

26. *Id.*

27. *Id.*

28. *Id.*

couples to the European Court on Human Rights in Strasburg, France.

VI. THE EUROPEAN COURT ON HUMAN RIGHTS

In 2012, the European Union Court on Human Rights reviewed Italian law no. 40/2004 in connection with the Convention for the Protection of Human Rights and Fundamental Freedoms. Rosetta Costa and Walter Pavan, an Italian couple, had a baby girl in 2006 with cystic fibrosis. Until that point, they were unaware that they were healthy carriers of the disease. When Rosetta Costa got pregnant again in 2010, she requested genetic testing. After a positive result for cystic fibrosis on the embryo, Rosetta Costa underwent an abortion.²⁹ Shortly after, the couple filed an application against the Italian Republic in the European Court on Human Rights in 2010 claiming that they had no access to preimplantation genetic diagnosis for the purposes of selecting an embryo unaffected by the disease. Under Law no. 40 of 19 February 2004, ART is available only to sterile or infertile couples. The European Union Court on Human Rights accepted the application and held that the law violates the Convention for the Protection of Human Rights and Fundamental Freedoms (the “Convention”). The Court ordered the Italian Republic to pay monetary damages to Rosetta Costa and Walter Pavan: fifteen thousand euros for moral damages and two thousand five-hundred euros for legal fees and costs.³⁰ The European Court on Human Rights’ reasoning was based on relevant domestic law, relevant European law, and the Convention. The Court noted that by a decree of 11 April 2008, the Ministry of Health extended access to ART to couples in which the man suffers from a sexually transmissible viral disease:

... having regard also to particular conditions in the presence of which – where the man is a carrier of a sexually

29. Case 54270/10, *Costa and Pavan v. Italy*, 2012 E.C.R. 2.

30. *Fecondazione assistita, legge 40 bocciata dalla Corte europea dei diritti umani* [Assisted fertilization, Law 40 rejected by the European Court of Human Rights], *CORRIERE DELLA SERA* (Aug. 28, 2012), http://www.corriere.it/salute/12_agosto_28/legge-procreazione-assistita-corte-europea-diritti-umani_881e1394-f0f1-11e1-a005-0150214880db.shtml?refresh_ce-cp.

transmissible viral disease by infection with HIV, or hepatitis B and C – the high risk of infection for the mother or for the fetus constitutes de facto, in objective terms, an obstacle to procreation, requiring precautions that necessarily result in infertility of a kind comparable to acute male infertility deriving from a verified and medically certified cause such as that referred to in section 4(1) of Law no. 40 of 2004.³¹

The Court also noted that in Order no. 12474/09 of the Salerno Court, filed on 13 January 2010, “following urgent proceedings, the delegated judge of the Salerno Court granted, for the first time, a couple who were neither sterile nor infertile, and both healthy carriers of muscular atrophy, access to PGD.”³² The judge of the Salerno Court

considered that PGD³³ had to be regarded as one of the prenatal monitoring techniques for ascertaining an embryo’s state of health. Accordingly, prohibiting access to the technique, in the claimants’ case, engaged the medical liability of the Health Director of the Center for Reproductive Medicine, who was the defendant in the proceedings, for failure to provide a health service.³⁴

The European Court on Human Rights also took into consideration the report “Preimplantation Genetic Diagnosis in Europe” drafted by the JRC (Joint Research Center) of the European Commission, published in December 2007 (EUR 22764 EN) that shows that PGD

31. *Costa*, 2012 E.C.R. at ¶14.

32. *Id.* at ¶16.

33. *Id.* at ¶18. PGD means preimplantation genetic diagnosis.

34. *Id.* at ¶18.

patients from countries where the practice is prohibited go abroad for the diagnosis. Italian patients generally go to Spain, Belgium, the Czech Republic or Slovakia. The report also points to the inconsistency of legislative provisions that prohibit access to PGD, but authorize access to prenatal diagnosis and medical termination of pregnancy in order to avoid serious genetic diseases in children.³⁵

Relying on Article 8 of the Convention, Rosetta Costa and Walter Pavan claimed that a violation of their right to respect for their private and family life occurred because their only means of producing children unaffected by the disease of which they were healthy carriers was to begin a pregnancy by natural means and medically terminate it whenever the prenatal diagnosis showed that the foetus was affected.³⁶ The Court found that

...the notion of “private life” within the meaning of Article 8 is a broad concept which includes, among other things, the right to establish and develop relationships with other human beings (see *Niemietz v. Germany*, 16 December 1992, § 29, Series A no. 251-B), the right to “personal development” (see *Bensaïd v. the United Kingdom*, no. 44599/98, § 47, ECHR 2001-I), or alternatively the right to self-determination (see *Pretty v. the United Kingdom*, no. 2346/02, § 61, ECHR 2002-III). Under Article 8 of the Convention, the Court has also acknowledged a right to respect for the decision to become genetic parents (see *Dickson v. the United Kingdom [GC]*, no. 44362/04, § 66, ECHR 2007-V, with the references cited therein) and concluded that Article 8 applies to heterologous insemination techniques for in vitro fertilisation (see *S.H. and Others v. Austria*

35. *Id.* at ¶26.

36. *Id.* at ¶35.

[GC], no. 57813/00, § 82, ECHR 2011). In the present case the Court considers that the applicants' desire to conceive a child unaffected by the genetic disease of which they are healthy carriers and to use ART and PGD to this end attracts the protection of Article 8, as this choice is a form of expression of their privacy and family life.³⁷

The Court noted that the Italian law's ban on the use of PGD amounted to an interference with the applicants' right to respect for their privacy and family life. The Italian law was also inconsistent: it banned implantation limited to those embryos unaffected by the disease of which the applicants are healthy carriers, while it allowed the applicants to abort a fetus affected by the disease. This inconsistency in Italian legislation on PGD gave the Court reason to believe that the interference with the applicants' right to respect for their private and family life was disproportionate. "Accordingly, there has been a violation of Article 8 of the Convention in the present case."³⁸

Costa and Pavan were not the only couple fighting for the right to preimplantation genetic diagnosis. On November 15, 2012, a court in Cagliari authorized a couple, in which the woman was affected by thalassemia major and the man was a healthy carrier, to obtain a preimplantation genetic diagnosis at the microcytic hospital in the Sardinian city.³⁹ Since the microcytic hospital in Cagliari lacked the necessary equipment for the test, the Asl in Cagliari became the first public medical facility in Italy to administer the preimplantation genetic testing on July 17, 2013. Before this date, only private medical facilities administered preimplantation genetic testing with a price tag between six

37. *Id.* at ¶48-50.

38. *Id.* at ¶64.

39. *Cagliari, giudice ordina diagnosi preimpianto[Cagliari, Court orders preimplantation diagnosis, LETTERA 43, (November 15, 2012), http://www.lettera43.it/cronaca/cagliari-giudice-ordina-diagnosi-preimpianto_4367572612.htm.*

thousand and nine thousand euros.⁴⁰

VII. THE ABA MODEL ACT GOVERNING ART

In the United States, the laws on assisted reproductive technology are less restrictive. Each state has its own laws regulating assisted reproductive technology, but no federal legislation exists; thus, the American Bar Association (ABA) proposed a model act “to give assisted reproductive technology (ART) patients, participants, parents, providers, and the resulting children and their siblings clear legal rights, obligations and protections.”⁴¹

The Model Act was approved and adopted by the ABA House of Delegates at the ABA Midyear Meeting in February 2008. Similarly to Italian law no. 40/2004, the ABA Model Act requires that informed consent be provided by all participants prior to the commencement of assisted reproduction. However, Article 2 of the ABA Model goes into much deeper detail of what informed consent is and what is required. Informed consent requires that all of the following be provided to all participants:

- A) A statement that the patient retains the right to withhold or withdraw consent at any time prior to transfer of gametes or embryos without affecting the right to future care or treatment.
- B) A statement that the donor’s, if any, right to withhold or withdraw consent to fertilization terminates upon retrieval of his or her gametes.
- C) A description of the known and potential risks, consequences, and benefits of ART.

40. *Primo test preimpianto in una struttura pubblica [First preimplantation testing in a public facility]*, . LETTERA 43, (July 17, 2013), http://www.lettera43.it/cronaca/primo-test-preimpianto-in-una-struttura-pubblica_43675102761.htm.

41. MODEL ACT GOVERNING ASSISTED REPRODUCTIVE TECHNOLOGY (AM. BAR ASS’N 2008), <http://apps.americanbar.org/family/committees/artmodelact.pdf>.

- D) Description of alternative therapies and treatments, including adoption and natural cycling.
- E) A statement that all existing confidentiality protections apply, and information about what these confidentiality protections are.
- F) A guarantee that a patient has access to all of his/her medical information to the extent the law allows in this jurisdiction.
- G) Disclosure that intended parents have a right to access a summary of medical and psychological information about donors and gestational carriers.
- H) A statement that release of any participant-identifiable information, including images, shall not occur without the consent of the participant in a record.
- I) A statement that the intended parent(s), not the clinic or storage facility, has the right to possession and control of their embryos, subject to any prior agreement.
- J) A statement of the need for intended parents to agree in advance who shall acquire the right to possession and control of the embryos or gametes in the event of marriage dissolution, death of one or both of them, or subsequent disagreement over disposition.
- K) The policy of the provider regarding the number of embryos transferred and any limitation on the number of embryos transferred, as well as the existence of national guidelines as published by the ASRM and SART.⁴²
- L) A statement of the need for participants to decide whether the embryos or gametes can be used for purposes other than assisted reproduction.⁴³

42. *Id.* ASRM is the American Society of Reproductive Medicine and SART is the Society of Assisted Reproductive Technology.

43. MODEL ACT, *supra* note 41, at §201(2)(a-1).

The informed consent must be in writing, it must be written in plain language that can be easily understood, and it must be dated and signed by all parties. The issue of informed consent is important to protect all the persons involved, the donors, the future parents, the children, and the physicians from possible future litigation.

In addition to informed consent, disclosure is also important. Prior to each retrieval and each transfer, the ABA Model Act proposes that a provider must disclose to all participants all possible dispositions of embryos, such as storage, including length of time, costs, and location; transfer, donation (to a known individual for transfer; to an anonymous individual for transfer; to scientific or clinic research) or destruction.⁴⁴

Other information that should be disclosed, according to the ABA Model Act proposal, is the method used to achieve fertilization and the results of semen analysis, and the number of eggs retrieved. For the retrieval and transfer of fresh embryos, the ABA Model Act requires that the following information be disclosed: number of embryos created; number of embryos viable for transfer; number of embryos to be transferred; number of embryos preserved; quality of each embryo transferred; and the quality of each embryo preserved. Similar information is required to be disclosed for the retrieval and transfer of frozen embryos.⁴⁵

The ABA Model Act also proposes rules on embryo transfer and disposition of embryos not transferred. Article 5 discusses in details proposed regulations on embryo agreements, donation of embryos, abandoned embryos and disposition of those embryos.

Embryo agreements, which are binding agreements executed prior to embryo creation, contain provisions on the intended use and disposition of embryos; provision on the use and disposition of preserved embryos in the event of divorce of the intended parents, if married, illness, incapacity, or death of one or both intended parents, or other change of circumstances such as separation or estrangement; and provisions on the time at which, and conditions under which, preserved embryos will be

44. *Id.* at §203(1)(a-d).

45. *Id.* at §203(3)(c-d).

deemed abandoned and the policy of the clinic and/or storage facility as to their disposition.⁴⁶

Issues arise when the embryo agreements are not in place or are declared invalid. As a case of first impression, *Davis v. Davis*⁴⁷ involved the disposition of “frozen embryos” in a divorce action. The Davises did not execute a written agreement. The sole issue on appeal was “custody” of the seven frozen embryos stored in a Knoxville fertility clinic that had attempted to assist the Davises in achieving a much-wanted pregnancy during a happier period in their relationship. Mary Sue Davis originally asked for control of the frozen embryos with the intent to have them implanted in her own uterus, in a post-divorce effort to become pregnant. Junior Davis objected, claiming that he preferred to leave the embryos in their frozen state until he decided whether or not he wanted to become a parent outside the bounds of marriage. Based on its determination that the embryos were “human beings” from the moment of fertilization, the trial court awarded “custody” to Mary Sue Davis and directed that she be permitted the opportunity to have the embryos implanted. The Court of Appeals reversed, finding that Junior Davis has a “constitutionally protected right not to beget a child where no pregnancy has taken place” and holding that “there is no compelling state interest to justify ordering implantation against the will of either party.” The Supreme Court of Tennessee reasoned that to determine the outcome of the case, it was imperative to decide whether the pre-embryos should be considered persons or property. The Court ultimately decided that pre-embryos cannot be considered persons under Tennessee law,⁴⁸ and considering the other two views (preembryo as a human subject after fertilization and the preembryo deserves respect greater than that accorded to human tissue but not the respect accorded to actual persons), the Court held that

46. *Id.* at §501(b-c).

47. 842 S.W. 2d 588, 589 (Tenn. 1992) (the Davises did not execute a written agreement specifying what disposition should be made of any unused embryos that might result from the cryopreservation process).

48. *Id.* at 594-95. (citing *Hamby v. McDaniel*, 559 S.W.2d 774 (Tenn. 1977); *Durrett v. Owens*, 371 S.W.2d 433 (Tenn. 1963); *Shousha v. Matthews Drivurself Service*, 358 S.W.2d 471 (Tenn. 1962); *Hogan v. McDaniel*, 319 S.W.2d 221 (Tenn. 1958); as examples of cases that held that pre-embryos are not “persons” under Tennessee’s law).

the “preembryos are not, strictly speaking, either “persons” or “property.” Instead, they “occupy an interim category that entitles them to special respect because of their potential for human life.”⁴⁹ The Court concluded that any interest that Mary Sue Davis and Junior Davis have in the pre-embryos is not a true property interest.

The *Davis* decision is cause for concern. One issue is that the term “special respect” has never been defined by courts, not even by the *Davis* court. The term is highly ambiguous, which creates legal uncertainty and increased litigation over its meaning. The *Davis* Court noted that no statute exists in Tennessee, at the time of this opinion, governing the disposition of frozen embryos. Thus, this case creates difficulties for the public and the facilities storing the embryos to determine how to dispose of those unwanted (or unclaimed), frozen embryos.

VIII. SURROGACY AND RECENT CASELAW

When embryos cannot be implanted in the intended mother, or the mother chooses not to undergo the procedure, surrogacy is an attractive alternative.

In Italy, surrogacy is illegal.⁵⁰ Thus, some childless Italian couples participate in surrogacy programs in other countries where surrogacy is legal and then bring the child back to Italy. However, these arrangements can sometimes have poor results. A couple from Colletorto used to method to become parents, only to have their child taken away by the Italian government. On January 27, 2015, the European Union Court on Human Rights held that Italy violated the rights of a married couple to claim parentage of a child with no biological ties to them born in Russia from a surrogate mother. After failing at several attempts to conceive a child through assisted reproductive technology in Italy, a couple from Colletorto (near Campobasso, in the region of Molise) traveled to Russia where surrogacy is legal. In March of 2011, the surrogate mother gave birth to a baby boy. The couple returned to Italy with the child and tried to register the child’s birth at the local office of vital statistics in 2011;

49. *Davis*, 842 S.W.2d at 597.

50. *Surrogacy Legislation in Different Countries of the World*, NOVA CLINIC, <http://nova-clinic.ru/enservices52/> (last visited Nov. 28, 2015).

however, since the office believed the birth certificate to contain false information, it refused to register the birth. Subsequently, the district court declared the child as abandoned since DNA testing showed no biological ties between the father and the child. The child was turned over to the authorities and placed in foster care.⁵¹ The couple then filed a claim with the European Union Court on Human Rights, which recognized their claim. Unfortunately, the European Union Court on Human Rights did not return the child to the couple, claiming that the child had formed a strong bond with his foster family with which he has lived since 2013.⁵²

While in Italy, as noted above, surrogacy is illegal, in the United States, surrogacy is legal in some states. A surrogate, also called gestational carrier, is often used in the United States to help couples become parents. The ABA Model Act on ART describes gestational carrier as

an adult woman, not an intended parent, who enters into a gestational agreement to bear a child, whether or not she has any genetic relationship to the resulting child. Both a traditional surrogate (a woman who undergoes insemination and fertilization of her own eggs *in vivo*) and a gestational surrogate (a woman into whom an embryo formed using eggs other than her own is transferred) are gestational carriers.⁵³

Before a gestational carrier becomes pregnant, all the parties involved must enter into gestational agreement, which is a contract between the intended parents and a gestational carrier intended to result

51. *Strasburgo dice sì al diritto di utilizzare una madre surrogata [Strasbourg says yes to the right to use a surrogate mother]*, CORRIERE DELLA SERA (Jan. 27, 2015 12:36 PM) http://www.corriere.it/salute/15_gennaio_27/strasburgo-dice-si-diritto-utilizzare-madre-surrogata-d1e46a64-a616-11e4-96ea-4beaab57491a.shtml.

52. *Id.*

53. MODEL ACT, *supra* note 41, at §102(16).

in a live birth.⁵⁴

Since most states do not have on point legislation governing such agreements, attorneys could look at Article 7 of the ABA Model Act, which discusses gestational agreements and their requirements, for guidance.

The ABA Model Act authorizes gestational agreements in which the prospective gestational carrier agrees to pregnancy by means of assisted reproduction, the prospective gestational carrier, her legal spouse if she is married, and the donors relinquish all rights and duties as the parents of a child conceived through assisted reproduction, and the intended parents become the parents of the child.⁵⁵ Such contracts must be drafted to list the parentage of the child (and thus, determinations of child custody), the rights and duties of all parties, amount payable for medical expenses, and other issues according to the specific facts of each case.

Most surrogacy agreements are preformed without any issues, but sometimes, disputes arise after the babies are born. In those cases, the outcome varies from state to state. Surrogacy is largely without regulation, with no authority deciding who may obtain babies through surrogacy or who may serve as a surrogate. Minnesota law is entirely silent on the issue of surrogacy. It has no statutes and no case law related to this area. In California, considered a friendly state for surrogacy, courts have upheld the validity of surrogacy contracts, meaning that the people who hire surrogates are very likely to keep the babies if a dispute arises. About 10 states have laws that allow for surrogacy but impose restrictions; several of those states require at least one parent to have a genetic relationship to the baby. However, the majority of states are silent on surrogacy. Legal uncertainty in some states means that babies are sometimes left in limbo, their parentage left up to the courts.⁵⁶

Michigan law holds that surrogacy is contrary to public policy, and that surrogacy agreements are unenforceable. Thus, who are the

54. *Id.* at §102(15).

55. *Id.* at §701(1).

56. Saul, Stephanie, *Building a Baby, With Few Ground Rules*, NY TIMES, Dec. 12, 2009,

http://www.nytimes.com/2009/12/13/us/13surrogacy.html?pagewanted=1&_r=4.

baby's parents? In 2009, Amy Kehoe, working mostly over the Internet, handpicked the egg donor, a pre-med student at the University of Michigan. From the Web site of California Cryobank, she chose the anonymous sperm donor, an athletic man with a 4.0 high school grade-point average. On another website, surromomsonline.com, Ms. Kehoe found a gestational carrier who would deliver her baby. Finally, she hired the fertility clinic, IVF Michigan, which put together her creation last December.⁵⁷ On July 28, the Kehoes announced the arrival of twins, Ethan and Bridget, at University Hospital in Ann Arbor. Overjoyed, they took the babies home on Aug. 3. A month later, the Kehoes relinquished their babies to the local police. Bridget and Ethan are now in the custody of the surrogate who gave birth to them, Laschell Baker of Ypsilanti, Michigan. Ms. Baker obtained a court order after learning that Kehoe faces psychological health challenges. Because Michigan law states that surrogacy contracts are void and unenforceable, it was an easy matter for Ms. Baker to go to court and have the Kehoes' guardianship rescinded.⁵⁸

When surrogacy agreements are unenforceable, children live under uncertainty about who their parents are. The issue of parentage is partly resolved in the Uniform Parentage Act, which most states have adopted.

IX. THE UNIFORM PARENTAGE ACT (UPA)

The Uniform Parentage Act (UPA) is a set of uniform rules for establishing parentage, which may be adopted by state legislatures on a state-by-state basis.⁵⁹ The UPA was originally approved by the National Conference of Commissioners of Uniform State Laws (NCCUSL) in 1973; its current revision combines the UPA, the UPUFA (1989, with revisions), and the Uniform Status of Children of Assisted Conception Act (1989, with revisions) into a single act. It includes nine sections on genetic testing. The UPA is used to officially establish a parent-child relationship between a child (or children) and unmarried parents. After

57. *Id.*

58. *Id.*

59. MINN. STAT. ANN. § 257.51-257.74 (2004) (was adopted in 1980 and is modeled on the Uniform Parentage Act.).

the parent-child relationship is established, the court may make determinations regarding child custody, child support, and parenting time, among others.⁶⁰

Article 6 of the ABA Model Act discusses proposed rules on the children of assisted reproductive technology, and more specifically, on the parentage of such children. Article 6 of the ABA Model Act was not intended to conflict with or supersede provisions of the Uniform Parentage Act or applicable intestacy provisions of the Uniform Probate Code. Article 6, section 602 states that a donor is not a parent of a child conceived by means of assisted reproduction. Many states adopted this view.

X. LEGAL TESTS TO DETERMINE PARENTAGE IN THE UNITED STATES

In the United States, courts generally use of the following three legal tests to determine parentage of a child conceived through the use of ART.

The Marital Presumption is the most common test used by courts to determine parentage of a child born to parents who used ART to conceive such child: the mother of the child is the woman who gave birth to the child. However, sometimes that is not the case, such as in surrogacy cases where one woman gives birth to a child, but she is not the intended mother of that child. In such cases, when a dispute arises in regard to parentage, the court may issue a declaratory judgment to declare who is the child's legal mother.

In regard to the father, for example, Minnesota law provides: "The donor of semen provided to a licensed physician for use in artificial insemination of a married woman other than the donor's wife is treated in law as if he were not the biological father of a child thereby conceived."⁶¹ Minnesota law, however, is silent regarding egg donation.

Montana law also does not address egg donation, but it addresses sperm donation.

60. *Uniform Parentage Act Law & Legal Definition*, USLEGAL, <http://definitions.uslegal.com/u/uniform-parentage-act/>.

61. MINN. STAT. ANN. § 257.56 subd. 2 (2014).

(1) If, under the supervision of a licensed physician and with the consent of the woman's husband, a wife is inseminated artificially with semen donated by a person who is not the husband, the husband is treated in law as if the husband were the natural father of a child conceived by artificial insemination. The husband's consent must be in writing and signed by the husband and the wife. The physician shall certify their signatures and the date of the insemination and file the husband's consent with the department of public health and human services, where it must be kept confidential and in a sealed file. However, the physician's failure to file the consent does not affect the father and child relationship. All papers and records pertaining to the insemination, whether part of the permanent record of a court or of a file held by the supervising physician or elsewhere, are subject to inspection only upon an order of the court for good cause shown.

(2) The donor of semen provided to a licensed physician for use in artificial insemination of a married woman other than the donor's wife is treated in law as if the donor is not the natural father of a child conceived by artificial insemination.⁶²

Section 605 of the ABA Model Act limits the possibility of the legal spouse of a woman who gives birth to a child by means of assisted reproduction to challenge the parentage of the child to only cases in which within two years after learning of the birth of the child a proceeding is commenced to adjudicate parentage, and the court finds that the legal spouse did not consent to assisted reproduction, before or

62. MONT. CODE ANN. §40-6-106 (2014).

after birth of the child.⁶³

Minnesota law provides, in part,

for the purpose of declaring the nonexistence of the father and child relationship presumed under section 257.55, subdivision 1, paragraph (a), (b), or (c), only if the action is brought within two years after the person bringing the action has reason to believe that the presumed father is not the father of the child, but in no event later than three years after the child's birth.⁶⁴

The Minnesota Supreme Court addressed this issue for purposes of determining intestate succession. The issue on appeal was whether the statute of limitation imposed by Minn. Stat. §257.55, subd. 1, applied to probate proceedings, since the Probate Code recognized that cases may arise in which a parent-child relationship must be established in order to determine heirship for purposes of intestate succession. In this particular case, Leonard Jotham married Margaret Jotham in 1942, and Diann Nelson was born to Margaret Jotham during this marriage. Leonard and Margaret Jotham divorced in 1947. Sandra Barnett was born to Margaret Jotham 279 days after the judgment of divorce was entered. Barnett's birth certificate identifies Leonard Jotham as her father, but there has been no judicial determination of Jotham's paternity of Barnett, and the parties agreed that Jotham did not acknowledge paternity in writing.⁶⁵

Leonard Jotham, who did remarry, died intestate on June 8, 2004. His widow filed a Petition for Formal Adjudication of Intestacy, Determination of Heirs, and Appointment of Administrator in which she named herself as Jotham's surviving spouse and Nelson and Barnett as his daughters. Nelson objected to the petition, contending that Jotham is not Barnett's father, and thus Barnett is not entitled to share in Jotham's

63. MODEL ACT, *supra* note 41, at §605.

64. MINN. STAT. ANN. §257.57, subdiv. 1(b) (2014).

65. *In re Estate of Jotham*, 722 N.W.2d 447, 449 (Minn. 2006).

estate.⁶⁶

The issue was one of first impression for the Court. The Court held that “that when a party benefits from a presumption of paternity found in the Parentage Act and relies on that presumption to establish paternity in a probate proceeding, the probate court must apply the Parentage Act in its entirety to determine paternity for purposes of intestate succession.” Therefore, probate courts cannot pick and choose among the provisions of the Parentage Act when ascertaining parentage for probate purposes.⁶⁷

The Parentage Act permits presumptions of paternity to be rebutted in "an appropriate action" by clear and convincing evidence. The presumption is rebutted by a court decree establishing paternity of the child by another man. However, the Parentage Act does not define "an appropriate action." Thus, the Appellant also claimed that this action was “an appropriate action” to rebut the presumption of paternity. The Court disagreed, holding “Parentage Act paternity presumption may be rebutted only by one who meets the standing and timeliness requirements for an action to declare the nonexistence of the presumed father-child relationship under section 257.57.” Since the appellant’s action did not satisfy the standing and timeliness requirements, it was not “an appropriate action.”⁶⁸

Montana also adopted the Uniform Parentage Act; however, contrary to Minnesota, Montana law does not impose a statute of limitation: an action may be commenced at any time for the purpose of declaring the existence or nonexistence of the father and child relationship presumed under 40-6-105(1)(a), (1)(b), or (1)(c).⁶⁹

The second legal test is intent of the parties.⁷⁰ Parties usually sign a gestational agreement in which the gestational carrier agrees to terminate her parental rights to any children resulting from the ART

66. *Id.* at 452.

67. *Id.* at 452-53.

68. *Id.* at 455.

69. MONT. CODE ANN. §40-6-105(1) (2014).

70. *See, Johnson v. Calvert*, 851 P.2d 776, 782 (1993) *cert. denied*, 510 U.S. 874 (1993); NEV. REV. STAT. § 126.045(2) (2009).

procedures, and to sign any forms necessary for the issuance of a replacement birth certificate naming the intended parents as the parents of such children.⁷¹ Mark and Crispina Calvert, a married couple, desired to have a child. Crispina was forced to undergo a hysterectomy in 1984. Since her ovaries remained capable of producing eggs, the couple eventually considered surrogacy. In 1989 Anna Johnson heard about Crispina's plight from a coworker and offered to serve as a surrogate for the Calverts. On January 15, 1990, Mark, Crispina, and Anna signed a gestational agreement providing that an embryo created by the sperm of Mark and the egg of Crispina would be implanted in Anna and the child born would be taken into Mark and Crispina's home as their child. Anna agreed she would relinquish all parental rights to the child in favor of Mark and Crispina. In return, Mark and Crispina would pay Anna \$10,000 in a series of installments, the last to be paid six weeks after the child's birth. Mark and Crispina were also to pay for a \$200,000 life insurance policy on Anna's life. The zygote was implanted on January 19, 1990. Less than a month later, an ultrasound test confirmed Anna was pregnant. Unfortunately, relations deteriorated between the two sides. In July 1990, Anna sent Mark and Crispina a letter demanding the balance of the payments due her or else she would refuse to give up the child. The following month, Mark and Crispina responded with a lawsuit, seeking a declaration they were the legal parents of the unborn child. Anna filed her own action to be declared the mother of the child, and the two cases were eventually consolidated. The parties agreed to an independent guardian *ad litem* for the purposes of the suit. The child was born on September 19, 1990, and blood samples were obtained from both Anna and the child for analysis. The blood test results excluded Anna as the genetic mother. At trial in October 1990, the parties stipulated that Mark and Crispina were the child's genetic parents. After hearing evidence and arguments, the trial court ruled that Mark and Crispina were the child's "genetic, biological and natural" father and mother, that Anna had no parental rights to the child, and that the surrogacy contract was legal and enforceable against Anna's claims. Anna appealed from the trial court's

71. Raftopol v. Ramey, 12 A.3d 783 (Conn., 2011).

judgment. The Court of Appeal for the Fourth District, Third Division, affirmed. The Supreme Court of California granted review, and it affirmed the lower courts' decision.⁷² The Supreme Court noted, "In deciding the issue of maternity under the [Uniform Parentage] Act we have felt free to take into account the parties' intentions, as expressed in the surrogacy contract, because in our view the agreement is not, on its face, inconsistent with public policy."⁷³

The third legal test to determine parentage is the genetic relatedness of the parties.⁷⁴ Anthony and Shelly Belsito, were married September 26, 1992. They decided they wanted a large family. Unfortunately, approximately one month prior to their marriage, Shelly had to undergo a hysterectomy as a result of recently discovered cervical cancer. Her physician had to remove her uterus, but was able to save her ovaries so that she could continue to produce eggs. Carol S. Clark, Shelly's younger sister, knew how much having a family meant to Shelly and Tony so, at that time, Carol told Shelly that, if she could, she would carry Shelly and Tony's baby for them. In October 1993, Shelly and Tony were accepted into the University Hospitals' program for in vitro fertilization: Shelly and Tony as the genetic parents and Carol as the surrogate host. Carol was to receive no compensation for her role as a surrogate for Shelly and Tony's baby. Carol planned to be no more than an aunt to the child. On February 10, 1994, Shelly Belsito was admitted to MacDonald Hospital for the retrieval of the eggs from her ovaries. A total of ten eggs was recovered from Shelly. Tony's sperm was collected in a labeled container, washed, and added to the eggs. On February 12, 1994, Carol Clark was admitted to MacDonald Hospital for transfer of the embryos into her uterus. The two fertilized eggs were transferred into Carol's uterus by her physician. Shelly was also present at the transfer. Approximately two weeks after the transfer, the parties went to the hospital for a pregnancy test, which confirmed that Carol was carrying Shelly and Tony's child. In preparing for baby's birth, Shelly spoke with

72. *Johnson v. Calvert*, 851 P.2d 776 (Cal., 1993).

73. *Id.* at 783.

74. *See, Culliton v. Beth Isr. Deaconess Med. Ctr.*, 756 N.E.2d 1133, 1135 (Mass. 2001); *Belsito v. Clark*, 644 N.E.2d 760, 765-66 (Ohio C.P. 1994).

Akron City Hospital regarding the birth certificate. She was told that, according to Ohio law, the woman who gave birth to the child will be listed on the birth certificate as the child's mother. Further, she was told that because Carol, the surrogate, and Tony, the genetic and biological father, are not married, the child will be considered illegitimate, and will be listed on his birth records as "Baby Boy Clark" and not as "Baby Boy Belsito." As a result of that information, Anthony and Shelly Belsito filed a complaint for declaratory judgment with the court on September 14, 1994. Court of Common Pleas of Ohio, Summit County, held that under Ohio law,

when a child is delivered by a gestational surrogate who has been impregnated through the process of in vitro fertilization, the natural parents of the child shall be identified by a determination as to which individuals have provided the genetic imprint for that child. If the individuals who have been identified as the genetic parents have not relinquished or waived their rights to assume the legal status of natural parents, they shall be considered the natural and legal parents of that child.⁷⁵

All the aforementioned methods, and ART itself, raise ethical questions such as adoption relating to embryos, disposition of embryos, consideration in favor, and against disclosing donor conception to offspring, and sex selection and preimplantation genetic diagnosis.

XI. ETHICAL CONSIDERATIONS of ART

In the United States, the Ethics Committee of the American Society for Reproductive Medicine (the Committee) issues reports on several ethical issues relating to assisted reproductive technology. Among these reports, the Committee has issued opinions on the following:

75. *Belsito*, 644 N.E.2d at 767.

1) “Adoption” relating to embryos

In a 2013 report, the Committee criticizes the use of the term “adoption” relating to embryos because it is inaccurate, and the Committee believes that it should be avoided. The Committee wrote in this report that the two family-building options that provide children who are typically genetically unrelated to the individuals raising them involve: a) the use of donated embryos, and b) the adoption of living children. According to the Committee, the embryos’ donation is an important option for patients considering the disposition of cryopreserved embryos in excess of those needed to meet the patients’ own reproductive goals. Adoption, on the other hand, refers to a specific legal procedure that establishes or transfers parentage of existing children.⁷⁶

The Ethics Committee already affirmed the ethical appropriateness of patients donating embryos to other patients for family building or for research. Some groups, however, have used the term “adoption” to describe the process by which infertile patients acquire embryos from others for their own family-building needs. Such groups are seeking to establish the legitimacy of embryo “adoption” as a process.⁷⁷

The Ethics Committee found that the term “adoption” was deceptive because it reinforced a conceptualization of the embryo as a fully entitled legal being and thus, it could lead to a series of procedures that are not appropriate, based on the American Society for Reproductive Medicine (ASRM) Ethics Committee’s consideration of the embryo’s status. In previous reports, the Committee decided that embryos should be accorded an elevated moral status compared with other human tissues, but that they should not be viewed as persons. In fact, in 1986, the Committee stated,

The (pre)embryo is due greater respect than other human tissue because of its potential

76. *Defining Embryo Donation: a Committee Opinion*, ETHIC COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE, available at http://www.sart.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_Statements/Defining%20embryo%20donation2013.pdf.

77. *Id.*

to become a person and because of its symbolic meaning for many people. Yet, it should not be treated as a person, because it has not yet developed the features of personhood, it is not yet established as developmentally individual, and it may never realize its biologic potential.⁷⁸

The Committee noted that, “Equating an embryo with an existing child and applying the procedural requirements of adoption designed to protect existing children to embryos is not ethically justifiable and has the potential for harm.”⁷⁹ According to the Committee, one of the problems is that the ethical directive to protect an existing child is not applicable to human embryos, which are not persons. Also, the procedures would place unwarranted burdens on the recipient patient (i.e. home visits, legal fees, and judicial review).⁸⁰

2) *Disposition of embryos*

In another report, the Ethics Committee discussed the disposition of abandoned embryos. The Committee stated that programs should create and enforce written policies on the designation, retention, and disposal of abandoned embryos. In the absence of program-specific policies, it is ethically acceptable for a program or facility to consider embryos to have been abandoned if at least 5 years have passed since contact with an individual or couple, diligent efforts have been made to contact the individual or couple, and no written instructions from the couple exist concerning disposition. The Ethics Committee concluded that if a program determines that an embryo has been deemed abandoned, the program may dispose of the embryos by removal from storage and thawing without transfer, and “In no case should embryos deemed

78. *Id.*

79. *Id.*

80. *Id.*

abandoned be donated to other couples or be used in research.”⁸¹

3) *Consideration in favor, and against disclosing donor conception to offspring*

The Ethics Committee issued an opinion in 2013 discussing consideration in favor, and against disclosing donor conception to offspring. Among the arguments in favor of disclosing donor conception, the Committee considered the following: the fundamental interest of the offspring in knowing their biological origins; avoidance of secrets in the family that can strain family relationships; avoidance of an accidental disclosure that may rise with the growing frequency of genetic testing; protection against later inadvertent consanguinity; knowledge about genetic heritage and accurate information about potential health problems. The Committee also noted that some proponents of disclosure argued that the United Nations Convention on the Rights of the Child provision regarding identity should be interpreted to encompass disclosure of donation.⁸²

Among the arguments against disclosing donor conception to offspring, the Committee listed the following: telling the child of his or her conception by donation will subject the child to social and psychological turmoil, which will be especially disruptive if the child wants to learn more about the donor but cannot; nondisclosure allows parents to keep the matter of infertility private; nondisclosure also may be important to protect the privacy of donors (rates of donation have declined significantly in jurisdictions such as the United Kingdom that require that identifying information be available on request). Thus, the Committee determined that, “Because of each person's fundamental interest in knowing their genetic heritage and the importance of their

81. *Disposition of Abandoned Embryos: a Committee Opinion*, ETHIC COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE, available at http://www.sart.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_Statements/abandonedembryos.pdf.

82. *Informing Offspring of their Conception by Gamete or Embryo Donation: a Committee Opinion*, ETHIC COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE, available at http://www.sart.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_Statements/informing_offspring_donation.pdf.

ability to make informed health care decisions in the future, the Ethics Committee supports disclosure about the fact of donation to children.” The Committee, however, recognized that decisions about disclosure are highly personal.⁸³

4) *Sex selection and preimplantation genetic diagnosis*

In a 2004 opinion, the Ethics Committee decided that preimplantation sex selection was appropriate to avoid the birth of children with genetic disorders, but it was not acceptable when used solely for nonmedical reasons.⁸⁴ Arguments for preimplantation genetic diagnosis (PGD) and sex selection make two primary appeals. The first is to the right to reproductive choice on the part of the person or persons who seek to bear a child: sex selection is a logical extension of this right. The second is an appeal to the important goods to be achieved through this technique and the choices it allows: the medical good of preventing the transmission of sex-linked genetic disorders such as hemophilia A and B, Lesch-Nyhan syndrome, Duchenne-Becker muscular dystrophy, and Hunter syndrome.⁸⁵ Arguments against PGD and sex selection include; the potential for inherent gender discrimination, inappropriate control over nonessential characteristics of children, unnecessary medical burdens and costs for parents, and inappropriate and potentially unfair use of limited medical resources for sex selection rather than for more genuine and urgent medical needs. In weighing those arguments, the Committee recommended the following: a.) preimplantation genetic diagnosis used for sex selection to prevent the transmission of serious genetic disease is ethically acceptable, b.) In patients undergoing IVF, PGD used for sex selection for nonmedical reasons holds some risk of gender bias, harm to individuals and society, and inappropriateness in the use and allocation of limited medical resources; thus, such use of PGD

83. *Id.*

84. *Sex Selection and Preimplantation Genetic Diagnosis*, ETHIC COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE, available at http://www.sart.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_Statements/Sex_Selection.pdf.

85. *Id.*

therefore should not be encouraged, and c.) the initiation of IVF with PGD solely for sex selection holds even greater risk of unwarranted gender bias, social harm, and the diversion of medical resources from genuine medical need. It therefore should be discouraged.⁸⁶

In Italy, The National Committee on Bioethics issued an opinion in 2005 on “adoption for birth” of abandoned embryos. The Committee recommended that new legislation should be drafted regarding the legality and method of “adoption by birth” for abandoned cryopreserved embryos; that such abandonment be ascertained by strict procedures; that new legislation formulate appropriate criteria to identify couples or women willing to “adopt”; that adoption be protected from commercialization or financial gain; and that the child born from such adoption be given the same legal rights as a child born using assisted reproductive technology.⁸⁷

In 2007, the National Committee on Bioethics issued an opinion on the destiny of embryos created using assisted reproductive technology that are no longer suitable for implantation due to anomalies. The Committee examined the possibility that criteria be developed to ascertain the death of the embryo to make possible the donation of the embryonic cells for research similarly to a donation of organs *ex mortuo*. If withdrawal of live embryonic cells from a deceased embryo can be analogized with the withdrawal of organs and tissues from a deceased individual, then the donation is ethical.⁸⁸

XII. CONCLUSION

Unfortunately, the number of cases in which surrogacy agreements are not honored or parties cannot agree on the parentage on a

86. *Id.*

87. *L'Adozione per la Nascita (APN) degli Embrioni Crioconservati e Residuali Derivanti da Procreazione Medicalmente Assistita (PMA) [Adoption for the Birth of Cryopreserved Embryos and Residual Arising out of Assisted Reproduction]*, COMITATO NAZIONALE PER LA BIOETICA (Nov. 25, 2005), available at http://www.palazzochigi.it/bioetica/pareri_abstract/abstract_adoz_per_nascita3.pdf.

88. *Parere del Comitato Nazionale per la Bioetica sul Destino degli Embrioni Derivanti da PMA e non più Impiantabili*, [Opinion of the Committee on the National Bioethics of Embryos Resulting from PMA], COMITATO NAZIONALE PER LA BIOETICA (Oct. 26, 2007), available at http://www.palazzochigi.it/bioetica/pareri_abstract/Abstract_embrioni_non_impiantabili.pdf.

child conceived through the use of assisted reproductive technology is increasing each year. The use of assisted reproductive technology and the advancement of research in the medical field are making enormous progress; the law, however, still needs to catch up to these new developments. This boom created legal and ethical dilemmas that need to be addressed. The determination of parentage of ART children, and subsequent child custody, parenting time, and child support issues are among the most common legal issues that arise in disputes regarding children conceived through the use of assisted reproductive technology. Oftentimes, issues relating to the custody of embryos created during a marriage may arise in divorce proceedings. Sometimes, issues on the parentage of a child and time of conception arise in disputes regarding wills and estates as seen in the case of the *Estate of Jotham*. Aside from the legal issues that might arise, ethical considerations, such as ethical questions on adoption relating to embryos, disposition of embryos, consideration in favor, and against disclosing donor conception to offspring, and sex selection and preimplantation genetic diagnosis, are also a growing concern to modern society.