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INDEFINITE FREEZE?: THE OBLIGATIONS A CRYOPRESERVATION BANK HAS TO ABANDONED FROZEN EMBRYOS IN THE WAKE OF THE MARYLAND STEM CELL RESEARCH ACT OF 2006

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Since the 1970s, thousands of human embryos have been cryogenically frozen and stored in the United States.¹ Currently, there are approximately 400,000 cryogenically frozen human embryos in storage the United States.² According to RAND Health, an independent health research group, only 2.8 percent of the cryogenically stored embryos are designated for research purposes.³ Instead the “vast majority of frozen embryos are designated for future attempts at pregnancy.”⁴ With such a large number of cryogenically frozen embryos, often created by emotionally invested progenitors, in storage in the United States, cryopreservation banks face many potential liabilities with regards to the embryos.⁵

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1. RAND INST. FOR CIVIL JUSTICE & RAND HEALTH, RB-9038, HOW MANY FROZEN HUMAN EMBRYOS ARE AVAILABLE FOR RESEARCH? 1 (2003).

2. *Id.*

3. *Id.*

4. *Id.*

5. See Leslie Bender, “*To Err is Human*” *ART Mix-Ups: A Labor-Based, Relational Proposal*, 9 *J. GENDER RACE & JUST.* 443, 460 (2006) (proposing a model act that will force health care providers to address mix-ups in the consent forms signed by intended parents to limit liability); see also Mathew Tomlinson, *Managing Risk Associated with Cryopreservation*, 20 *HUMAN REPROD.* 1751, 1751 (2005) (describing the various risks involved in the storage of cryogenically preserved embryos).

It is estimated that as much as twenty percent of couples experience infertility.⁶ While “a vast number” of couples ultimately use Assisted Reproductive Technologies (ARTs) to achieve a pregnancy,⁷ it is usually a deeply private experience that creates numerous emotional and difficult choices.⁸ After a couple feels that they have completed their family, deciding the fate of any remaining embryos can cause great stress.⁹ With some couples sensing that there are no good solutions, they “simply drop out of contact with the clinic” entirely.¹⁰ In these situations, with the embryos abandoned,¹¹ the clinic faces an ethical quandary: are they obligated to keep the abandoned embryos cryogenically frozen in storage, or is there another solution?¹²

Due to the complex relationships that develop through the use of ARTs,¹³ and the relatively small body of law surrounding these relationships,¹⁴ this comment

6. Steven H. Snyder, *I'm a Divorce Lawyer!, So Why Should I Read About ART?*, FAMILY ADVOCATE, Fall 2011, at 6.

7. *Compare id.* (a “vast number” of infertile women in the United States choose various medical procedures to treat infertility, and “often participat[e] in third-party reproduction”), with Arthur L. Griel et al., *Infertility Treatment and Fertility-Specific Distress: A Longitudinal Analysis of a Population-Based Sample of U.S. Women*, 73 SOC. SCI. & MED. 87, 88 (2011) (asserting that less than 50 percent of infertile U.S. women participate in medical procedures to treat their infertility).

8. *See* Snyder, *supra* note 6, at 7 (describing the deep sense of privacy some couples feel toward using ARTs, with one couple concealing their use of an egg donor from their friends and family).

9. *See* Alison Lobron, *The Maybe-Baby Dilemma*, BOSTON GLOBE, Nov. 22, 2009 (describing a couple’s struggle to decide what to do with remaining frozen embryos after they feel their family is complete).

10. *Id.*

11. “Abandoned embryo” refers to a cryogenically stored human embryo whose progenitors have fallen out of contact with the cryopreservation storage facility without a forwarding address or directive to either dispose or donate the embryos. *See* Paul C. Redman II & Lauren Fielder Redman, *Seeking A Better Solution For The Disposition Of Frozen Embryos: Is Embryo Adoption The Answer?*, 35 TULSA L.J. 583, 583–84 (2000).

12. *See* Carl H. Coleman, *Procreative Liberty and Contemporaneous Choice: An Inalienable Rights Approach To Frozen Embryo Disputes*, 84 MINN. L. REV. 55, 65–66 (1999) (discussing the indefinite storage of cryogenically frozen embryos and some clinics’ hesitation to either continue storing the embryos or discarding them).

13. *See* Charles P. Kindregan, Jr., *Collaborative Reproduction and Rethinking Parentage*, 21 J. AM. ACAD. MATRIMONIAL LAW. 43, 50 (2008) (describing the intricate and complex legal relationships between progenitors of a cryogenically preserved embryos and a separate couple which gestates and raises the child).

14. There is no national policy regarding abandoned embryos. Redman & Redman, *supra* note 11, at 584. The assisted reproductive technology market is largely self-regulated. *See* DEBORA L. SPAR, *THE BABY BUSINESS: HOW MONEY, SCIENCE, AND POLITICS DRIVE THE COMMERCE OF CONCEPTION* 5 (2006): Some states, however, have enacted laws directly governing certain aspects of third-party reproduction. *See* LA. REV. STAT. ANN. § 14:101.2 (2004) (criminalizing the implantation of an IVF embryo without the express written consent of both progenitor and recipient); N.H. REV. STAT. ANN. § 168-B:13 (LexisNexis 2010) (creating statutory guidelines for proper IVF consent procedures). Disposition of cryogenically preserved embryos in the event of divorce, death or abandonment, however, is rarely addressed in the law. *See, e.g.*, FLA. STAT. ANN. § 742.17 (West 2010) (mandating that couples pursuing IVF enter a written agreement regarding the disposition of embryos related by the union).

will only address the fate of abandoned cryogenically preserved embryos in Maryland. While some scholars have advocated for abandoned embryos to be used for research,¹⁵ this particular solution is inapplicable in Maryland.¹⁶ Using embryos for research without the consent of the progenitors is statutorily prohibited in Maryland, preventing abandoned embryos from being used for research.¹⁷ It would be unjust and unethical to either donate abandoned embryos for infertility treatments or allow couples to “adopt” abandoned embryos.¹⁸ Therefore, this article argues that the best solution is to statutorily mandate cryopreservation banks to dispose of the abandoned material after five years without contact from the progenitors, unless the progenitors’ have a written agreement stating otherwise.

Part I illustrates how, despite the best intentions of the progenitors, cryogenically preserved embryos are abandoned.¹⁹ Part II describes the technological advances in assisted reproduction, leading to novel social and legal issues involving third-party reproduction.²⁰ Part III discusses the national legal landscape for resolving disputes over the disposition of cryogenically preserved embryos.²¹ Part IV analyzes the Maryland Stem Cell Research Act of 2006, the only Maryland statute addressing unused reproductive material, which does not address abandoned reproductive material.²² Part V proposes that Maryland create legislation similar to the British Human Fertilization and Embryology Act, which statutorily mandates the disposal of abandoned cryogenically preserved embryos after five years, unless an alternative written agreement exists.²³

I. A ROAD TO INDECISION: THE TALE OF MARK AND ANNA

Mark and Anna (a hypothetical couple) have been attempting to start a family for several years now. They have been unsuccessful in their attempts, however, and have reached out to an infertility specialist, Dr. X. After considering various treatments, Dr. X counsels Mark and Anna about various ARTs to start their family.

15. See Natalie R. Walz, *Abandoned Frozen Embryos and Embryonic Stem Cell Research: Should There Be A Connection?*, 1 U. ST. THOMAS J.L. & PUB. POL’Y 122, 124 (2007) (arguing that abandoned frozen embryos should be made available for embryonic stem cell research).

16. MD. CODE ANN., ECON. DEV. § 10-438(c) (2008) (preventing any unused material from IVF procedures to be donated for research without written consent for donation).

17. *Id.*

18. Within the procreative liberty framework, which advocates for individuals to choose whether, when, and how to procreate, permitting abandoned reproductive material to assist another couple procreate without their consent would be unjust. See generally JOHN A. ROBERTSON, *CHILDREN OF CHOICE* 22–42 (1994) (defining the procreative liberty framework). It would also be unethical for a child to be born without the consent of the genetic progenitors. *Id.*

19. See *infra* Part I.

20. See *infra* Part II.

21. See *infra* Part III.

22. See *infra* Part IV.

23. See *infra* Part V.

Mark and Anna, considering their options, decide to undergo *in vitro* fertilization (IVF) with Dr. X at his clinic in Maryland. Anna has several of her egg cells harvested at the clinic, and they are fertilized with Mark's sperm. At the end of the first IVF cycle, Mark and Anna have five viable embryos. Based on the 2009 American Society of Reproductive Medicine (ASRM) guidelines,²⁴ Dr. X recommends that only two of the embryos be implanted since Anna is 36-years-old. Dr. X also counsels Anna and Mark about their options for the unused embryos: store them, discard them, donate them to either stem cell research or the treatment of infertility, or donate them for "adoption" purposes. Based on the information, Mark and Anna choose to implant two of the embryos and then cryogenically freeze and store the remaining three embryos, in case the first transfer is unsuccessful. They agree to have three of the embryos cryogenically frozen and stored in a Maryland cryopreservation bank that is associated with the clinic.

To Anna and Mark's delight, the implantation was successful. Nine months later, they welcome twins into their family. After the birth of their children, Anna and Mark realize that their family is complete and do not wish to undergo another embryo transfer. But, they are unsure of what to do with the remaining embryos. Both have a moral objection to donating the embryos to research, and do not feel comfortable donating the embryos to another couple. They also do not wish to discard the embryos. With the high costs of continuously storing the embryos, though, the couple is finding it financially difficult to continue freezing the remaining embryos. Despite long discussions, and deep introspection, Mark and Anna are unable to reach a decision. When Mark and Anna move to a new home, they do not give their new contact information to the clinic and never make a decision about the fate of their unused embryos. They stop communicating with the clinic entirely, and stop paying the storage fee. After a few months of trying to contact Mark and Anna, to no success, the clinic begins to regard their remaining embryos as abandoned.

II. EXPANDING PROCREATIVE CHOICE: ADVANCES IN ASSISTED REPRODUCTIVE TECHNOLOGY SINCE THE 1960S

The technological ability to procreate has greatly expanded since the first record of attempting *in vitro* fertilization in 1962.²⁵ For a while, processes like IVF were considered to be scientific fantasy.²⁶ In 1978, however, Louise Brown was

24. AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE, GUIDELINES ON NUMBER OF EMBRYOS TRANSFERRED 1518 (2009), available at [http://asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Practice_Guidelines/Guidelines_and_Minimum_Standards/Guidelines_on_number_of_embryos\(1\).pdf](http://asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Practice_Guidelines/Guidelines_and_Minimum_Standards/Guidelines_on_number_of_embryos(1).pdf).

25. See Gerado Vela et al., *Advances and Controversies In Assisted Reproductive Technology*, 76 MOUNT SINAI J. MED. 506, 507 (2009) (discussing the advances in technology and acceptance of IVF); R.G. Edwards, *IVF and The History Of Stem Cells*, 413 NATURE 349, 349 (2001).

26. Moon H. Kim, *Current Trends in Human IVF and Other Assisted Reproductive Technologies*, 31 YONSEI MED. J. 91, 91 (1990).

born in England.²⁷ She was the first successful human birth as a result of IVF.²⁸ A short time later, in 1984, the first IVF birth from a cryogenically frozen embryo occurred.²⁹ Since these first milestones in IVF, the process has become more popular and more successful as an option of treating infertility in the United States.³⁰ In 2005, one percent of births in the United States were the result of IVF.³¹

In addition to IVF's popularity, the method has become much more refined and effective over the years, with success rates increasing in recent years.³² Recently, ASRM, one of the few professional organizations regulating the ethical conduct within reproductive medicine, published a report indicating that success rates with embryo transfers have become so high that in certain circumstances transferring only one embryo would be sufficient.³³ Before this report, it was common practice for multiple embryos to be transferred in an attempt to compensate for the lack of success in implantation attempts.³⁴ With the rise of IVF, and the improved technology of cryogenically freezing and storing embryos, evidence suggests that "cryopreservation [is] a common practice. . . [and] that the surplus of stored embryos is increasing."³⁵

The advancement of reproductive medicine, however, comes with both social and financial costs.³⁶ Individual couples feel the stress to decide the fate of unused material.³⁷ Nationally, the disposition of unused embryos has sparked social

27. Margie Mietling Eget, *The Solomon Decision: A Study of Davis v. Davis*, 42 MERCER L. REV. 1113, 1114 (1991).

28. *Id.*

29. *Id.* at 1115.

30. James P. Toner, *Progress We Can Be Proud Of: U.S. Trends in Assisted Reproduction Over the First 20 Years*, 78 FERTILITY & STERILITY 943, 948-49 (2002).

31. Daniel J. DeNoon, *1% of Newborns Now Test-Tube Babies*, WEBMD (June 18, 2008), <http://www.webmd.com/infertility-and-reproduction/news/20080620/1percent-of-newborns-now-test-tube-babies>.

32. Practice Comm. Of the Soc'y for Assisted Reproductive Tech. & the Practice Comm. Of the Am. Soc'y for Reproductive Med, *Committee Opinion: Elective Single Embryo Transfer*, AM. SOC'Y REPRODUCTIVE MED., http://asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Practice_Guidelines/Committee_Opinions/eSET-nonprintable.pdf. In the past, multiple embryos were transferred in hopes of increasing a chance for implantation and pregnancy. *Id.* Now that the technology has improved, single embryo transfer is being advocated for some patients in order to reduce the chance of a multiple pregnancy, which is a higher risk pregnancy. *Id.*

33. *See id.* at 1, 3 (asserting that with the increased success of IVF transfers that women under the age of 35, with more than one high quality embryo for transfer, a single embryo transfer is appropriate).

34. *Id.* at 1.

35. Brandon J. Bankowski et al., *The Social Implications Of Embryo Cryopreservation*, 84 FERTILITY & STERILITY 823, 823 (2005).

36. Francois Olivennes & René Frydman, *Friendly IVF: The Way of the Future?* 13 HUMAN REPROD. 1121, 1121-22 (1998) (discussing costs to couples undergoing IVF).

37. *See Lobron, supra* note 9.

outries at the rise of IVF and destruction of unused embryos.³⁸ Despite some social discomfort about the IVF industry, business is booming.³⁹ Part of the booming industry is the fact that, as a whole, the infertility market is unregulated by the government.⁴⁰ But, even with a competitive market and some private insurers covering the costs of IVF, it is very expensive to undergo IVF treatment.⁴¹

In 2002, the average cost of one IVF treatment cycle was \$9,547 in the United States.⁴² If the cost of IVF were as little as 10 percent less during that period, however, there is evidence that IVF usage would have increased as much as 30 percent.⁴³ In addition to the costs of each IVF cycle, cryogenically storing embryos is an expensive endeavor.⁴⁴ Despite its common usage, and increased acceptance as a method of reproduction, IVF remains an expensive choice for couples.⁴⁵

38. See Jamie E. Conde, *Embryo Donation: The Government Adopts a Cause*, 13 WM & MARY J. WOMEN & L. 273, 284 (2006) (examining the rhetoric surrounding “snowflake babies,” which views the destruction of any embryos as a destruction of human life and promotes the “adoption” of cryogenically preserved embryos).

39. See SPAR, *supra* note 14, at 3 (“In 2004, more than one million Americans underwent some form of fertility treatment, participating in what had become a nearly \$3 billion industry.”).

40. Cf. Traun Jain et al., *Trends in Embryo-Transfer Practice And in Outcomes of the Use of Assisted Reproductive Technology in the United States*, 350 NEW ENG. J. OF MED. 1639, 1640 (2004) (contributing the unregulation of the U.S. infertility market to the belief that infertility decisions should remain between a physician and their patient).

41. Some states, including Maryland, mandate private insurers cover some IVF treatments. See, e.g., MD. CODE ANN., INS. § 15–810(d) (LexisNexis 2011) (mandating that insurance companies cover up to three IVF attempts per live birth, with a lifetime benefit of \$100,000). See also Katherine E. Abel, Note, *The Pregnancy Discrimination Act and Insurance Coverage for Infertility Treatment: An Inconceivable Union*, 37 CONN. L. REV. 819, 823 (2005). In 2009, the average cost of one IVF cycle was approximately \$12,513. Desiree McCarthy-Keith et al., *Will Decreasing Assisted Reproduction Technology Costs Improve Utilization and Outcomes Among Minority Women?*, 94 FERTILITY & STERILITY 2587, 2587 (2010).

42. John A. Collins, *An International Survey of Health Economics of IVF and ICSI*, 8 HUM. REPROD. UPDATE 265, 268 (2002). The cost of IVF in the United States continues to rise, averaging \$12,513 in 2009. McCarthy-Keith, *supra* note 41. This will continue to make the process prohibitively expensive.

43. *Id.*

44. For example, an IVF center in Chicago charges \$700 for embryos to be cryogenically frozen and stored for one year, and \$600 for each subsequent year. *Cost of IVF at the Advanced Fertility Center of Chicago High Quality, Low Cost IVF*, ADVANCED FERTILITY CTR. OF CHI., <http://www.advancedfertility.com/ivfprice.htm> (last visited May 22, 2012).

45. See *supra*, McCarthy-Keith et al., *supra* note 41, at 2587 (describing the financial barriers to accessing IVF in the United States for the low-income and uninsured).

III. LEGAL DISPUTES OVER THE DISPOSITION OF CRYOGENICALLY STORED EMBRYOS: A NATIONAL SNAPSHOT

In most jurisdictions,⁴⁶ with the notable exception of Louisiana,⁴⁷ embryos are not given the legal status of a person.⁴⁸ Most jurisdictions, however, agree that embryos are something more than mere property.⁴⁹ Overall, there is no standard governing the legal status of embryos in the United States⁵⁰ and disputes over the disposition of frozen embryos “are novel in American courts.”⁵¹ Only ten reported U.S. divorce cases, as of 2009, addressed a dispute over cryogenically preserved embryo disposition.⁵² The few cases that have been tried, though, have sparked a multitude of scholarly debates.⁵³

A. Common Disputes: Embryo Disposition in Divorce Actions

A common form of dispute regarding the disposition of frozen embryos arises from divorce actions.⁵⁴ The first case was *Davis v. Davis* in 1992.⁵⁵ In *Davis*, the

46. See Jessica Berg, *Of Elephants and Embryos: A Proposed Framework for Legal Personhood*, 59 HASTINGS L.J. 369, 392 (2007) (“Despite states’ theoretical ability to do so, thus far only Louisiana has chosen to designate embryos ‘juridical persons.’”).

47. LA. REV. STAT. ANN. § 9:125 (2008) (“An in vitro fertilized human ovum as a juridical person is recognized as a separate entity apart from the medical facility or clinic where it is housed or stored.”) (emphasis added).

48. See Molly Miller, Note, *Embryo Adoption: The Solution to an Ambiguous Intent Standard*, 94 MINN. L. REV. 869, 874 (2010) (describing the ambiguous legal status of embryos across jurisdictions in the United States).

49. See *Davis v. Davis*, 842 S.W.2d 588, 597 (Tenn. 1992) (holding that embryos are neither “‘persons’ or ‘property’”, but occupy an interim category that entitles them to special respect because of their potential for human life”).

50. See Redman & Redman, *supra* note 11, at 584..

51. Tracy J. Frazier, Comment, *Of Property and Procreation: Oregon’s Place in the National Debate Over Frozen Embryo Disputes*, 88 OR. L. REV. 931, 932 (2009).

52. *Id.* See, e.g., *In re Marriage of Witten*, 672 N.W.2d 768, 771–72 (Iowa 2003) (holding that the parties’ disposition agreement to discard the cryogenically preserved embryos was unenforceable since a party had changed their mind, and that any storage costs would be borne by the party opposing discarding the embryos); *J.B. v. M.B.*, 783 A.2d 707, 719–20 (N.J. 2001) (declining to enforce a contract between the parties to donate the remaining embryos to another couple in the event of a divorce); *Kass v. Kass*, 696 N.E.2d 174, 175 (N.Y. 1998) (enforcing the agreement between a divorcing couple to donate cryogenically preserved embryos to IVF research); *Davis*, 842 S.W.2d at 604 (holding that each party’s interest in the disposition of a cryogenically preserved embryo must be weighed, and that “[o]rdinarily, the party wishing to avoid procreation should prevail” in a dispute); *Roman v. Roman*, 193 S.W.3d 40, 49–50 (Tex. App. 2006) (enforcing a contract created before the IVF procedure began for cryogenically preserved embryos to be discarded in the event of divorce).

53. See Frazier, *supra* note 51, at 932.

54. Since the first American divorce case that dealt with embryo disposition, *Davis v. Davis*, many clinics have developed consent agreements for disposition in the case of divorce in hopes to avoid similar cases. See Deborah L. Forman, *Embryo Disposition and Divorce: Why Clinic Consent Forms Are Not the Answer*, 24 J. AM. ACAD. MATRIMONIAL LAW. 57, 58–59 (2011) (implying that the high divorce rate in the United States, as well as the increased usage of IVF, could lead to more embryo disposition disputes in divorce settlements. This is why “[i]t has become increasingly common for

husband (Junior Davis) initiated a divorce action from his wife (Mary Sue Davis).⁵⁶ During the course of their marriage, Mary Sue had to undergo a tubal ligation due to multiple tubal pregnancies.⁵⁷ As a result, Mary Sue was unable to achieve a pregnancy through traditional means.⁵⁸ In order to try to create a family of their own, the Davises decided to undergo IVF treatments.⁵⁹ In December 1988, Mary Sue Davis underwent her seventh IVF treatment and several embryos were created, and subsequently cryogenically frozen and stored.⁶⁰ When the clinic froze the embryos, however, there was no conversation between the clinic and the Davises “concerning disposition in the event of a contingency such as divorce.”⁶¹

The first attempt at a transfer was unsuccessful, and before any of the frozen embryos could be transferred for a second attempt, Junior Davis filed for divorce.⁶² A key issue in the divorce was the status of the frozen embryos: Mary Sue wished to donate the unused embryos to another couple for the purposes of infertility treatment and Junior wished to have the embryos destroyed.⁶³

The Supreme Court of Tennessee considered several methods to resolve the dispute, eventually concluding that the interests of the parties should be weighed since there was no prior agreement between the parties.⁶⁴ In its holding, the court describes a system of analysis to determine the disposition of frozen embryos, stating that the:

disposition of pre-embryos produced by *in vitro* fertilization should be resolved, first, by looking to the preferences of the progenitors. If their wishes cannot be ascertained, or if there is dispute, then their prior agreement concerning disposition should be carried out. If no prior agreement exists, then the relative interests of the parties in using or not using the preembryos must be weighed. Ordinarily, the party wishing to avoid procreation should prevail, assuming that the other party has a reasonable possibility of achieving parenthood by means other than use of the preembryos in question. If no other reasonable alternatives exist, then the argument in favor of using the preembryos to achieve pregnancy should be considered. However, if the party

clinics to require couples undergoing IVF to sign a cryopreservation consent or agreement” to address the disposition of embryos in the case of divorce, death, or abandonment. *Id.*

55. *Davis*, 842 S.W.2d at 589.

56. *Id.*

57. *Id.* at 591.

58. *Id.*

59. *Id.* The Davises underwent six IVF treatments with no success before the clinic acquired the ability to cryogenically preserve embryos. *Id.*

60. *Id.* at 591–92.

61. *Id.* at 592.

62. *Id.*

63. *Id.* at 604.

64. *Id.* at 603–04.

seeking control of the preembryos intends merely to donate them to another couple, the objecting party obviously has the greater interest and should prevail.⁶⁵

The *Davis* standard, which strongly supports an individual's right to not become a genetic parent, is used by many jurisdictions.⁶⁶ The more recent decision *In re the Marriage of Witten*, however, has expanded the test from *Davis* into more dangerous ground.⁶⁷

Similar to the *Davis* case, the Wittens had several unsuccessful attempts at IVF and at the time of their divorce had seventeen frozen embryos in storage.⁶⁸ When they divorced in 2002, one of the key issues was the disposition of their embryos.⁶⁹ By the agreement they had signed with the cryopreservation bank at the time they stored the embryos, there was a requirement that both parties needed to consent to any disposition of the embryos, either for implantation or destruction, with the exception of death of one party.⁷⁰ At the time of the divorce, neither party wanted the embryos to be destroyed.⁷¹ Mrs. Witten wished to use the embryos for her own fertilization purposes, but Mr. Witten did not want her to use the embryos.⁷² The court, unwilling to choose, forced the Wittens to reach an agreement by holding that "the party or parties who oppose destruction [of the embryos] shall be responsible for any storage fees."⁷³ By shifting the costs of the storage to the party opposing destruction, the court created a means-based choice for Mrs. Witten. She is free to keep the embryos preserved as long as she has the financial ability to pay the storage fees.⁷⁴ If the embryos were to ever be used, Mrs. Witten must convince her ex-husband to agree to the release of the embryos for that purpose.⁷⁵

While *Witten* did not enforce the agreement for embryo disposition between the couple, other jurisdictions have enforced such agreements.⁷⁶ In *Kass v. Kass*,

65. *Id.* at 604.

66. See Theresa M. Erickson & Megan T. Erickson, *What Happens to Embryos When a Marriage Dissolves? Embryo Disposition and Divorce*, 35 WM. MITCHELL L. REV. 469, 476 (2009) (citing opinions, such as *Davis*, as support for courts deciding "in favor of the party attempting to avoid procreation").

67. See Angela K. Upchurch, *The Deep Freeze: A Critical Examination of the Resolution of Frozen Embryo Disputes Through the Adversarial Process*, 33 FLA. ST. U. L. REV. 395, 409 (2005) (describing the *In re Witten* holding as concluding that an individual choice to procreate is open and subject to change until the embryo is implanted in the uterus).

68. *In re Marriage of Witten III*, 672 N.W.2d 768, 772 (Iowa 2003).

69. *Id.*

70. *Id.* at 773.

71. *Id.*

72. *Id.*

73. *Id.* at 783.

74. *Id.*

75. *Id.*

76. *Kass v. Kass*, 696 N.E.2d 174, 182 (N.Y. 1998).

for example, the Court of Appeals of New York enforced such an agreement between a couple who had chosen to have their cryogenically preserved embryos used for research.⁷⁷ Unlike *Witten*, where there was no clause in the agreement relating to disposition in the event of a divorce,⁷⁸ the agreement between Mr. and Mrs. Kass specifically indicated that in the event of the divorce the embryos should be used in IVF research.⁷⁹ Relying on the validity of the agreement between the Kassses, the court enforced the contract and the cryogenically preserved embryos in question were used for IVF research purposes.⁸⁰

Similar to *Kass*, the Court of Appeals of Texas also enforced a contract between a couple for disposition of cryogenically preserved embryos in the event of a divorce in *Roman v. Roman*.⁸¹ The *Roman* court determined that the contract between the parties, created before the IVF procedure began, was enforceable since the parties had agreed at the signing.⁸² Even though Mrs. Roman contested the agreement during the divorce proceedings, the court found that the contract was created in good faith, and was thus enforceable to carry out the disposition listed and to discard the frozen embryos.⁸³

Although *Kass* and *Roman* both enforced contracts between the parties to govern the disposition of embryos in the event of divorce, other jurisdictions have not enforced such agreements.⁸⁴ The New Jersey case *J.B. v. M.B.* found a contract between a former husband and wife, permitting one party to use the cryogenically preserved embryos for procreation after divorce, unenforceable.⁸⁵ The crux of the reasoning to not enforce the contract, which would have donated the remaining embryos to another couple for the purposes of infertility treatment, was that a party should not be forced to procreate against their consent.⁸⁶ While this determination fits comfortably within the procreative liberty framework,⁸⁷ it highlights the uncertainty fertility clinics face regarding the contracts they enter with their clients about the disposition of cryogenically preserved embryos in foreseeable instances such as divorce.⁸⁸

77. *Id.*

78. *See In re Witten*, 672 N.W.2d at 772.

79. *See Kass*, 696 N.E.2d. at 182.

80. *Id.*

81. 193 S.W.3d 40, 49–50 (Tex. App. 2006).

82. *Id.*

83. *Id.* at 53–54.

84. *See J.B. v. M.B.*, 783 A.2d 707, 719–20 (N.J. 2001) (declining to enforce a contract between the parties to donate the remaining embryos to another couple in the event of a divorce).

85. *Id.*

86. *Id.*

87. *See ROBERTSON*, *supra* note 18, at 27 (discussing the liberty interests individuals have against being a genetic parent when there is unused reproductive material remaining from IVF treatment).

88. *See id.* at 113.

B. Moral Outcries Against Cryogenically Stored Embryos: the Embryonic Stem Cell Research Debate

Another trend of cases regarding cryogenically preserved embryos are attempts to judicially stop federal funding for stem cell research.⁸⁹ In one recent case, *Doe v. Obama*,⁹⁰ the plaintiffs were cryogenically preserved embryos and parents of children who were conceived through embryo “adoption.”⁹¹ This case, as well as the multiple cases before it that are nearly identical, was dismissed due to a lack of standing.⁹²

Despite the dismissal in this case, the stem cell research cases highlight an important facet in the litigation regarding the disposition of cryogenically preserved embryos: that the use of unused embryos for stem cell research is a hotly contested issue.⁹³ The crux of the controversy about using cryogenically preserved embryos for stem cell research is the differing moral statuses individuals give embryos.⁹⁴ This disparity between the intentions of individual couples in the disposition of unused embryos, a choice preserved by the *Davis* court,⁹⁵ and the social pressures some groups have for the protection of all human embryos to be free from being used in research or destroyed,⁹⁶ makes it difficult for a clear standard to emerge.

IV. EMBRYO DISPOSITION IN MARYLAND: A LEGAL MYSTERY

In Maryland, the only law directly addressing the disposition of unused reproductive material is in the Maryland Stem Cell Research Act of 2006 (MSCRA).⁹⁷ In 2006, Maryland enacted the MSCRA to permit and fund ethical

89. See Lisa Shaw Roy, *Roe and the New Frontier*, 27 HARV. J. L. & PUB. POL’Y 339, 368 (2003) (discussing the link between embryo disputes and embryonic stem cell research, including the controversy over federally funded stem cell research); see also *Doe v. Obama*, 631 F.3d 157, 164 (4th Cir. 2011) (denying standing to cryogenically preserved embryos held in storage for either research or adoption purposes).

90. 631 F.3d 157, 164 (4th Cir. 2011).

91. *Id.* at 159. Notably, there is not a legal mechanism for embryo “adoption.” The transfer to a new couple is governed by property law, although the term “embryo adoption” is set out by the plaintiffs in the case and used by the court.

92. *Id.* at 164.

93. See Matthew C. Nisbet, *The Polls—Trends: Public Opinion About Stem Cell Research and Human Cloning*, 68 PUB. OPINION Q. 131, 131 (2004) (describing the stem cell research debate as one of the most hotly contested science and technology-related public policy issues).

94. See James J. McCartney, *Embryonic Stem Cell Research and Respect for Human Life: Philosophical and Legal Reflections*, 65 ALA. L. REV. 597, 612–13 (2002) (describing the competing ethical frameworks surrounding the use of frozen embryos for stem cell research).

95. See *Davis v. Davis*, 842 S.W.2d 588, 604–05 (Tenn. 1992).

96. See *Doe v. Obama*, 631 F.3d 157, 159–60 (4th Cir. 2011); McCartney, *supra* note 94, at 612–614.

97. Maryland Stem Cell Research Act of 2006, MD. CODE ANN., ECON. DEV. § 10-429 to §10-444 (LexisNexis 2008). After an exhaustive search, I found no other current Maryland law addressing unused reproductive material. The 2012 Session of the Maryland General Assembly, however, passed a bill providing parentage, in specific circumstances, to children conceived via assisted reproductive

stem cell research within Maryland.⁹⁸ Part of the MSCRA specifically addresses what happens to unused material from infertility treatments.⁹⁹ In the statute, a licensed IVF practitioner must make their patients aware of various options.¹⁰⁰ The IVF physician must present options of storing, donating, or discarding material.¹⁰¹ In addition, the IVF practitioner must provide information of donating the unused embryos to stem cell research, or giving the embryos for “adoption.”¹⁰² There is no duty, however, for the patient to make a choice after the IVF practitioner gives the options.¹⁰³

For the donation of unused material to stem cell research, the MSCRA mandates that the individual donating the material must “provide the health care practitioner with written consent for the donation.”¹⁰⁴ The Maryland General Assembly, before passing the MSCRA, carefully considered using embryos remaining from IVF, with the consent of the progenitors, for stem cell research.¹⁰⁵ Similar to the complaints raised in *Doe v. Obama*, the some of the legislators’ constituents morally opposed using embryos for stem cell research.¹⁰⁶ A letter and flier sent to Senator Ulysses Currie advocated for embryo “adoption,” commonly referred to as adopting a “snowflake baby,” as a better use for cryogenically preserved embryos than the stem cell research methods permitted in, then, Senate Bill 144.¹⁰⁷ Several religious leaders also opposed using embryos remaining from IVF for research purposes.¹⁰⁸ Some religious leaders, however, supported using

technology after one of the progenitors has died. *See* H.D. 101, 2012 Leg., 430th Sess. (Md. 2012). The bill, signed by Governor Martin O’Malley on May 22, 2012, provides an avenue for a named individual to use stored reproductive material to conceive a legally legitimate child after the progenitor has died. *Id.* The law will go into effect on Oct. 1, 2012.

98. *See* MD. CODE ANN., ECON. DEV. § 10-434(b) (LexisNexis 2008).

99. *See id.* § 10-438 (2008) (creating a duty for IVF practitioners to counsel patients about disposition options for unused reproductive material).

100. *Id.*

101. *Id.*

102. *Id.*

103. *See id.* § 10-438(a). The statute only requires that a health care practitioner inform patients about four numerated options to either preserve, discard, or donate unused reproductive material. *Id.* The statute places no obligation on the patient to make a choice after having those options presented. *Id.*

104. *Id.* § 10-438 (c).

105. Audio tape: Hearing on Senate Bill 144, held by Maryland Senate Education, Health and Environmental Affairs & Budget and Taxation Committees (2006) at 28:00 (opening statements describing the purpose of the bill was to fund stem cell research in Maryland since President Bush’s policies severely limited funding for stem cell research) (on file with the Journal of Health Care Law & Policy).

106. *See, e.g.*, Md. Gen. Assembly, SB. 144 bill file (2006) (testimony of David Whitney, Pastor of Cornerstone Evangelical Free Church of Pasadena, Md.) (asserting that his daughter, who was conceived through IVF, was a person through all stages of development).

107. Md. Gen. Assembly, SB. 144 bill file (2006) (Jan. 19, 2006 Letter from Leigh Heller, Legislative Dir. of Md. Right to Life).

108. *See* Md. Gen. Assembly, SB. 144 bill file (2006) (Feb. 27, 2006 Letter from Nancy E. Fortier, Maryland Catholic Conference) (objecting to SB. 144 on moral grounds that it does not prevent the

excess embryos from IVF for research purposes as long as the progenitors consented to the research.¹⁰⁹

In Maryland, the only governing law on the disposition of cryogenically preserved embryos is in the MSCRA.¹¹⁰ The act, however, does not protect infertility clinics from the dangers of a patient abandoning their unused embryos.¹¹¹ Instead, it merely gives clinics the duty to inform their patients of the options available.¹¹² It is up to each clinic to then draft an agreement indicating what would happen if the parties divorce or become unavailable, through either death or abandonment.¹¹³ A couples' agreement will, likely, be upheld by a reviewing court, provided the agreement does not result in procreation of a child.¹¹⁴

No Maryland court, however, has addressed the disposition of cryogenically preserved embryos.¹¹⁵ With a lack of guidance and no legal standard governing disputes of embryo disposition, it is unclear what liabilities a Maryland cryopreservation bank faces when embryos are abandoned. If Maryland decides to adopt the standards set out by *Kass* and *Roman*, each cryopreservation bank would

implantation of a cloned embryo); *see also* Md. Gen. Assembly, SB. 144 bill file (2006) (testimony of David Whitney, Pastor of Cornerstone Evangelical Free Church of Pasadena, Md.) (asserting that his daughter had personhood status when she was a four cell embryo and advocating that spare frozen embryos be used for "adoption").

109. *See* Md. Gen. Assembly, SB. 144 bill file (2006) (Jan. 25, 2006 Testimony of Bishop John R. Schol, United Methodist Church) (supporting the unused embryos for research as long as they would otherwise be discarded, the progenitors have given their informed consent, the embryos were not purchased or deliberately created for research.); Md. Gen. Assembly, SB. 144 bill file (2006) (Jan. 25, 2006 Letter from Don Schroeder, Bishop's Deputy for Pub. Policy, Episcopal Diocese of Md.) (supporting SB. 144 since it creates sufficient ethical grounds for genetic research, while prohibiting human cloning); Md. Gen. Assembly, SB. 144 bill file (2006) (Jan. 25, 2006 testimony of Md. Jewish Alliance) (supporting stem cell research as a way to alleviate human suffering, while recognizing that a blastocyst is not a person).

110. *See supra* note 97 and accompanying text; *see also* Melissa Boatman, Comment, *Bringing Up Baby: Maryland Must Adopt an Equitable Framework for Resolving Frozen Embryo Disputes After Divorce*, 37 U. BALT. L. REV. 285, 286 (2008) (asserting that there is no Maryland law specifically governing the disposition of embryos in divorce proceedings).

111. *See* MD. CODE ANN., ECON. DEV. § 10-438 (LexisNexis 2008).

112. *Id.*

113. Since there is currently no state statutory or case law regarding the disposition of abandoned unused reproductive material, it is up to a clinic to draft an agreement that protects both the clinic and the parties' intentions. *See* Frazier, *supra* note 51, at 940 (describing the use of disposition contracts to protect an IVF clinic from liability); Boatman, *supra* note 110, at 290; *see also* *Kass v. Kass*, 696 N.E.2d 174, 182 (N.Y. 1998) (enforcing a cryopreservation agreement between a divorcing couple, that in the instance of death or divorce, the embryos would be donated to the IVF program for research); *Roman v. Roman*, 193 S.W.3d 40, 54–55 (Tex. App. 2006) (enforcing a cryopreservation agreement between a divorcing couple that had previously agreed in contract that if something were to happen to both parents that the embryos would be discarded).

114. *See* Susan L. Crockin, *The "Embryo" Wars: At the Epicenter of Science, Law, Religion, and Politics*, 39 FAM. L.Q. 599, 607 (2006) ("[C]ourts have tended to enforce couples' prior agreements . . .").

115. Numerous searches through case law produced no Maryland cases addressing the disposition of frozen embryos.

be able to protect itself from liability by forcing individuals to choose a method of disposition in a written contract.¹¹⁶ These cases enforced cryopreservation agreements entered before the creation of the embryos, with both progenitors agreeing to a specific method of disposition such as disposing of the embryos or donating them to research.¹¹⁷ Recognizing the enforceability of cryopreservation agreements that clearly state the progenitors' wishes of what to do with unused embryos in the event of death, divorce, and abandonment, will allow a cryopreservation bank to protect itself from liability.

If Maryland follows standards from *Witten*, however, such cryopreservation agreements may not be enforced.¹¹⁸ *Witten* allowed a progenitor to change their mind, invalidating the contract.¹¹⁹ Failing to enforce cryopreservation agreements will make it difficult for a cryopreservation bank to fully understand its legal liabilities.¹²⁰ This issue could be solved legislatively, with the Maryland General Assembly adopting a statutory provision explicitly enforcing cryopreservation agreements, and providing a solution for abandoned cryogenically preserved embryos when such an agreement does not exist.¹²¹

V. MARYLAND SHOULD ADOPT THE BRITISH SOLUTION: ALLOWING CRYOPRESERVATION BANKS TO THAW ABANDONED EMBRYOS AFTER A STATUTORILY DEFINED PERIOD

A state has several potential solutions available to address the issue of abandoned cryogenically preserved embryos.¹²² First, a state can permit clinics to donate the embryos for embryonic stem cell research.¹²³ Second, a state can permit clinics to make the abandoned embryos available for donation to, or "adoption" by, another couple seeking infertility treatment.¹²⁴ Third, a state can create a publically

116. See *supra* Part III.A.

117. See *Kass v. Kass*, 696 N.E.2d 174, 182 (N.Y. 1998) (enforcing a cryopreservation agreement between a divorcing couple, that in the instance of death or divorce that the embryos would be donated to the IVF program for research); *Roman v. Roman*, 193 S.W.3d 40, 54–55 (Tex. App. 2006) (enforcing a cryopreservation agreement between a divorcing couple that had previously agreed in contract that if something were to happen to both parents that the embryos would be discarded).

118. See *In re Marriage of Witten III*, 672 N.W.2d 768, 772 (Iowa 2003) (holding that the parties' disposition agreement to discard the cryogenically preserved embryos was unenforceable since a party had changed their mind, and that any storage costs would be borne by the party opposing discardment).

119. *Id.*

120. See Mo Zhang, *Contractual Choice of Law in Contracts of Adhesion and Party Autonomy*, 41 AKRON L. REV. 123, 131 (2008) (describing the benefits of knowing that a contract will or will not be enforced).

121. See Ann Marie Noonan, *The Uncertainty of Embryo Disposition Law: How Alterations to Roe Could Change Everything*, 40 SUFFOLK U. L. REV. 485, 511 (2007) (discussing positive implications of courts regularly enforcing cryopreservation agreements); see also *infra* Part V.

122. See *infra* Part V.A–D.

123. See *infra* Part V.A.

124. See *infra* Part V.B.

funded cryopreservation bank to keep the abandoned embryos indefinitely frozen.¹²⁵ Finally, a state can allow clinics to destroy the embryos after a statutorily defined period of time, relieving the infertility clinic from liability associated with the disposition of the embryos after that time.¹²⁶

The problem of abandoned cryogenically preserved embryos is not unique to the United States.¹²⁷ In Britain, unclaimed embryos must be discarded within five years of their creation unless the parties indicated another method of disposition.¹²⁸ Although there have been critiques of the British model,¹²⁹ having a statutorily defined time frame for the destruction of embryos, the model could benefit states, such as Maryland, in addressing the problem of abandoned cryogenically preserved embryos.¹³⁰ While a model similar to the British Human Fertilization and Embryology Act of 1990 may not be the best solution for all jurisdictions, in light of the restrictions placed on couples by the MSCRA, adopting a similar solution is the best option for Maryland.

A. Donating Abandoned Cryogenically Preserved Embryos to Stem Cell Research is Strictly Prohibited by the MSCRA

Although few jurisdictions have addressed the issue of abandoned cryogenically preserved embryos, a few scholars have proposed solutions to the issue.¹³¹ One proposal is for IVF clinics to donate abandoned cryogenically preserved embryos to stem cell research, since it would supply research facilities the embryos they need to conduct stem cell research without the burden of either creating embryos solely for the purpose of research¹³² or encouraging more couples to affirmatively choose to have their unused embryos donated to stem cell research.¹³³

The MSCRA, however, expressly prohibits the donation of unused material from IVF procedures, namely embryos, for stem cell research without the expressed written consent of the parties.¹³⁴ Under this statute, the only way an

125. See *infra* Part V.C

126. See *infra* Part V.D.

127. See Heidi Forster, *The Legal and Ethical Debate Surrounding the Storage and Destruction of Frozen Human Embryos: A Reaction to the Mass Disposal in Britain and the Lack of Law in the United States*, 76 WASH. U. L.Q. 759, 761 (1998).

128. Human Fertilisation and Embryology Act, 1990, 14(1) (Eng.) (creating a statutory period of five years for cryogenically embryos to be stored).

129. See Forster, *supra* note 127, at 764–65 (noting the outcry by Catholic groups, which believe that embryos have a personhood status, to the British model when embryos were thawed after a five-year statutory period).

130. See *infra* Part V.D.

131. See, e.g., Walz, *supra* note 15, at 124 (asserting that abandoned cryogenically preserved embryos should be made available to researchers).

132. *Id.* at 151–52.

133. *Id.*

134. See MD. CODE ANN., ECON. DEV. § 10-438 (LexisNexis 2008).

embryo created for IVF can be used in stem cell research is by the affirmative action of the progenitors.¹³⁵ This is one of several options couples are faced with when deciding the fate of their remaining embryos, which the MSCRA requires a practitioner to review with each couple.¹³⁶ Referring back to the hypothetical couple Mark and Anna, it is often difficult for couples to make such a drastic decision.¹³⁷ Choosing to donate unused embryos to stem cell research is not a popular option,¹³⁸ and with only recent changes to federal policy to permit more stem cell research than had previously been supported,¹³⁹ there are not many laboratories equipped to deal with mass donations of cryogenically preserved embryos.¹⁴⁰

It is highly unlikely that the MSCRA would permit abandoned embryos to be donated for stem cell research purposes, since the MSCRA requires the progenitors to affirmatively act.¹⁴¹ The MSCRA demands that both progenitors consent to donate embryonic material for stem cell research.¹⁴² By definition, abandoned embryos are those in which the progenitors cannot be contacted and have left no advanced directives in regards to the disposition of their cryogenically preserved embryos.¹⁴³ Therefore, it is unlikely, under current Maryland law, for a cryopreservation bank to legally donate abandoned embryos for research purposes.

If the cryopreservation bank incorporated donation of abandoned reproductive materials to stem cell research in a signed cryopreservation agreement, it is possible that abandoned embryos could be donated to research.¹⁴⁴ Given the legislative intent of the MSCRA, though, and the political tension surrounding research using embryonic tissue,¹⁴⁵ it is highly unlikely that this option would be enforced under law, or even initiated by a cryopreservation bank.

135. *See id.* (requiring written consent).

136. *Id.*

137. *See supra* Part I.

138. *See* RAND INST. FOR CIVIL JUSTICE & RAND HEALTH, *supra* note 1, at 1 (noting that only 2.8 percent of couples designate remaining embryos from IVF for research purposes).

139. *See* Exec. Order No. 13,505, 74 Fed. Reg. 10,667–68 (Mar. 11, 2009) (removing an eight-year ban on federal funding for embryonic stem cell research); Benjamin B. Williams, Note, *Screening for Children: Choice and Chance in the "Wild West" of Reproductive Medicine*, 79 GEO. WASH. L. REV. 1305, 1307 (2011) (discussing how Executive Order 13505 will "hasten the scientific progress" in embryonic stem cell research).

140. *See* Lobron, *supra* note 9 (discussing the change in federal legislation under the Obama administration and the general lack of resources research facilities have to deal with a large number of cryogenically preserved embryos for research).

141. *See* MD. CODE ANN., ECON. DEV. § 10-438(c) (LexisNexis 2008).

142. *Id.*

143. *See* Redman & Redman, *supra* note 11, at 583 (defining abandoned embryos).

144. *See supra* Part III.

145. *See* Md. Gen Assembly, SB. 144 bill file (2006) (January 25, 2006 testimony of Andrew W. Siegel) (endorsing SB. 144 because it limits embryonic stem cell research to unused reproductive material from IVF, which would otherwise be discarded); *see also* MD. CODE ANN., ECON. DEV. § 10-

B. Permitting the Donation or "Adoption" of Cryogenically Persevered Embryos for the Purposes of Infertility Treatment Would Violate the Right Not to be a Parent

Another possible solution would be to allow clinics to donate abandoned cryogenically preserved embryos to another couple seeking IVF services. This solution, however, is also problematic.¹⁴⁶ As discussed in *Davis*, there is a right to "avoiding genetic parenthood [which] can be significant enough to trigger the protections afforded to all other aspects of parenthood."¹⁴⁷ In addition to the *Davis* determination, the recent Maryland Court of Appeals opinion *In re Roberto* placed great emphasis on the genetic relationship a parent has to a child, and the parental responsibilities inherent to that relationship.¹⁴⁸

While the direct parental responsibilities of a genetically related parent can be curtailed through adoption, there is no statute or provision actually governing embryo "adoption."¹⁴⁹ The transfer, or donation, may be sufficient to sever parental ties in other states, but it is unclear whether that would be sufficient in Maryland.¹⁵⁰ There are also larger philosophical concerns with forcing someone to become a genetic parent without their expressed consent.¹⁵¹

A key aspect of procreative liberty is the ability to choose to not be a parent.¹⁵² This philosophical model, which emphasizes individual choice in procreation, is in direct conflict with a statute that would permit the donation of abandoned embryos for another couple's infertility treatment.¹⁵³ It is unlikely that such a solution would be congruent with the MSCRA, which seeks express consent for embryos being donated to stem cell research under the assumption that deciding that it was a moral decision to be left to the progenitors.¹⁵⁴ In addition, the recent passage of Maryland House Bill 101 supports a need for express written consent

438(c) (requiring written consent from the progenitors for unused material to be used for stem cell research).

146. See ROBERTSON, *supra* note 18, at 26 (discussing the ethical right to not reproduce or be a parent); see also, e.g., *Davis v. Davis*, 842 S.W.2d 588, 589 (Tenn. 1992) (holding that Junior Davis had a right to not be a parent against his will).

147. *Davis*, 842 S.W.2d at 603.

148. See *In re Roberto*, 923 A.2d 115, 123–26 (Md. 2007) (allowing a gestational surrogate to have her name removed from the birth certificate of the twins she gave birth to, leaving them with no listed legal mother, on the proposition that she is not genetically related to the children and under the Equal Rights Act cannot be held to parenthood status if genetic testing allows men to avoid parenthood).

149. See Polina M. Dostalik, *Embryo "Adoption"? The Rhetoric, the Law, and the Legal Consequences*, 55 N.Y.L. SCH. L. REV. 867, 869–71 (2011) (discussing the lack of legal status of embryo "adoption").

150. Compare ABA MODEL ACT GOVERNING ASSISTED REPRODUCTIVE TECHNOLOGY (MAGART) § 701, 707 (2008) (establishing the legal mother of a child from ART is the intended social mother, not necessarily the genetic mother), with *In re Roberto*, 923 A.2d 115 at 123–26 (applying the Equal Rights Amendment to state parentage statutes based on genetic relation).

151. See ROBERTSON, *supra* note 18, at 26–27.

152. *Id.* at 22.

153. *Id.*

154. See *supra* Part V.A.

from a progenitor for their genetic reproductive material to be used for procreation.¹⁵⁵ Like donating embryos to stem cell research, deciding whether or not to donate reproductive material to an unknown couple for the purposes of reproduction is a deeply personal and moral choice. Allowing a third party to give your genetic material, with reproductive potential, to another couple for the purposes of bearing a child without expressed consent is ethically problematic.¹⁵⁶ Due to the ethical and moral concerns, it is highly unlikely that a solution to abandoned frozen embryos will be reached by permitting a cryopreservation bank to donate the abandoned embryos to other couples for the purposes of reproduction without their expressed consent.¹⁵⁷

C. Indefinitely Freezing Abandoned Embryos is Impracticable and Immoral

While many couples have avoided deciding the fate of their unused embryos,¹⁵⁸ indefinitely freezing embryos is not a solution. Cryopreservation is a scarce good, and is incredibly costly.¹⁵⁹ For instance, one California cryopreservation bank charged clients \$375 a year, prepaid, to store embryos.¹⁶⁰ After many years, this can become incredibly burdensome on the progenitors.¹⁶¹ When the fees become too burdensome, there is a higher chance for couples to stop paying their fees, and eventually fall out of contact with the clinic.¹⁶² As embryos

155. See H.D. 101, 2012 Leg., 430th Sess. (Md. 2012). The bill, signed by Governor Martin O'Malley on May 22, 2012, provides an avenue for a named individual to use stored reproductive material to conceive a legally legitimate child after the progenitor has died. See Md. Dep't of Legislative Servs., Issue 12-14, THE LEGISLATIVE WRAP-UP, April 2012, at 14. Violation of the new law, effective on October 1, 2012, would result in a misdemeanor offense and a fine not to exceed \$1,000. H.D. 101, 2012 Leg., 430th Sess. (Md. 2012).

156. See Am. Soc'y for Reprod. Med. Ethics Comm., *Disposition of Abandoned Embryos*, 82 FERTILITY & STERILITY S253, S253 (Supp. I 2004) ("In no case without prior consent, should embryos deemed abandoned be donated to other couples . . .").

157. *In re Roberto* reinforced the notion that genetic relation can validate parentage in Maryland. See *In re Roberto*, 923 A.2d 115, 120 (Md. 2007). Parentage of a genetically unrelated child can be achieved through adoption, or under the veil of marriage in the state. See MD. CODE ANN., FAM. LAW § 5-341 (LexisNexis 2006) (stating that an adopted child will be the legal child of the adults who execute the adoption proceedings); see also MD. CODE ANN., EST. & TRUSTS § 1-206 (LexisNexis 2011) ("A child conceived by artificial insemination of a married woman with the consent of her husband is the legitimate child of both of them for all purposes. Consent of the husband is presumed."). Since Maryland has focused parentage on genetic relations, it is unlikely that the Legislature would force parentage on a couple by allowing their abandoned embryos to be donated to another couple for reproductive purposes without their consent.

158. See Lobron, *supra* note 9.

159. See Collins, *supra* note 42, at 268.

160. *Embryo Storage & Egg Banking*, SPERM BANK, INC., <http://www.spermbankcalifornia.com/embryo-egg-banking.html> (last visited Feb. 3, 2012).

161. See Lobron, *supra* note 9 (describing financial reasons for couples to drop out of contact with a cryopreservation facility); see also MD. CODE ANN., INS. § 15-810(d) (LexisNexis 2011) (capping IVF insurance coverage at \$100,000).

162. See Robert D. Nachtigall et al., *What do Patients Want? Expectations and Perceptions of IVF Clinic Information and Support Regarding Frozen Embryo Disposition*, 94 FERTILITY & STERILITY

are abandoned, and storage fees are not paid, cryopreservation banks will likely need to raise the costs of the fees to other customers in order to compensate.¹⁶³

Along with the financial disadvantage of indefinitely freezing abandoned embryos, a statute mandating indefinite freezing of abandoned embryos would raise other strong moral and practical issues.¹⁶⁴ In several religions, indefinitely freezing human embryos is considered as immoral, if not more so, than destroying embryos.¹⁶⁵ This mindset influenced several groups to initiate litigation against embryonic cryopreservation banks, similar to *Doe v. Obama*.¹⁶⁶ Additionally, indefinitely freezing embryos will lead to a practical problem: lack of space.¹⁶⁷ As more and more embryos are frozen indefinitely, there will be less and less space.¹⁶⁸

One scholar has addressed the rights of individuals to have their embryos cryogenically preserved indefinitely.¹⁶⁹ Carl H. Coleman argues that disposition decisions can only be reached by mutual consent of the progenitors by analogizing the legal right to an abortion in the United States to the disposition of embryos.¹⁷⁰ Both concepts respect an individual's right to be free from governmental interference.¹⁷¹ For both abortion and indefinite cryopreservation of embryos, however, the right to be free from government interference is not unlimited.¹⁷² Clinics are sometimes placed in the uncomfortable position of dealing with embryos without guidance from the progenitors.¹⁷³ At some point, it will be clear

2069, 2072 (2010) (describing ways clinics try to encourage couples to either discard or use their frozen embryos instead of freezing them indefinitely); see also Lobron, *supra* note 9 (describing several reasons why progenitors fall out of contact with the cryopreservation bank, resulting in abandoned embryos).

163. See Bankowski et al., *supra* note 35, at 823 (discussing the increased surplus of cryogenically preserved embryos, which, due to better transfer rates, will likely be stored for longer periods of time).

164. See I. Glenn Cohen, *The Right Not to Be a Genetic Parent?*, 81 S. CAL. L. REV. 1115, 1186 (2008) (discussing the catholic belief that it is "a sin to destroy or indefinitely freeze preembryos").

165. See June Carbone & Naomi Cahn, *Embryo Fundamentalism*, 18 WM. & MARY BILL RTS. J. 1015, 1024 (2010) (discussing the Catholic belief that the indefinite freezing of an embryo is "anathema," or damned); Cohen, *supra* note 163, at 1186.

166. 631 F.3d at 164.

167. See LORI P. KNOWLES, STEM CELL NETWORK OF CANADA, THE USE OF HUMAN EMBRYOS IN STEM CELL RESEARCH 2, available at <http://www.stemcellnetwork.ca/uploads/File/whitepapers/The-use-of-Human-Embryos.pdf> (last visited May 20, 2012) (discussing the clinical practice of discarding embryos due to limited storage space).

168. See Nachtigall et al., *supra* 162, at 2072 (describing ways clinics try to encourage couples to either discard or use their frozen embryos instead of freezing them indefinitely).

169. See Coleman, *supra* note 12, at 112 (analogizing the indefinite freezing of embryos to the right to have an abortion free from state interference).

170. *Id.*

171. *Id.*

172. See Laurie A. Watson, *Planned Parenthood v. Farmer: Equal Protection—A New Safeguard for Minors' Abortion Rights*, 33 U. TOL. L. REV. 481, 491 (2002) (discussing the "undue burden" standard reached in *Planned Parenthood v. Casey*, establishing the ability of the state to limit abortion rights).

173. See *supra* note 54 (discussing the trend for clinics to use embryo disposition agreements to avoid litigation).

that the progenitors of the embryos are likely not coming back for the embryos.¹⁷⁴ When this occurs, the clinic must be able to decide how to handle the embryos.¹⁷⁵ Indefinite storage of cryogenically preserved embryos is not a viable option if the clinic wishes to conserve its resources and limit expenditures.¹⁷⁶

D. A Statutorily Defined Period, Like the British Model, Will Force Patients to Make a Choice in the Disposition of their Unused Embryos and will Protect Cryopreservation Banks from Liability

The most practical solution to this issue would be to follow the British model. Creating a default rule will force parties to make some form of resolution, or else be subject to a predetermined outcome.¹⁷⁷ Although any statutory choice in these situations will likely encourage parties to make an affirmative decision instead of deciding not to decide,¹⁷⁸ the British model will not infringe on the procreative liberty of the progenitors, nor would it violate an existing state statute.¹⁷⁹ Unlike other solutions, statutorily mandating that abandoned embryos be discarded will simultaneously resolve the issue of abandoned embryos without infringing on the progenitors' procreative liberty rights while also minimizing the costs of the cryopreservation bank.¹⁸⁰

Under the current system, there is no legal uniformity regarding the enforcement of embryo cryopreservation agreements.¹⁸¹ As cryopreservation banks continue to operate, most use disposition agreements with the hopes that they will be enforced in the future.¹⁸² If the agreements are not enforced, however, the cryopreservation bank could be liable for the abandoned embryos.¹⁸³ Since there is no case law in Maryland regarding the enforcement of such contracts, Maryland

174. *Id.* After a long enough period, a clinic could reasonably assume that the progenitors have died and will not be returning. *Id.*

175. See Lynne M. Thomas, *Abandoned Frozen Embryos and Texas Law of Abandoned Personal Property: Should There Be A Connection?*, 29 ST. MARY'S L.J. 255, 264 (1997) (discussing the lack of legal guidance for dealing with abandoned embryos).

176. See Nachtigall et al., *supra* note 162, at 2072.

177. See Charla M. Burill, Note, *Obtaining Procreational Autonomy Through the Utilization of Default Rules in Embryo Cryopreservation Agreements: Indefinite Freezing Equals and Indefinite Solution*, 54 WAYNE L. REV. 1365, 1387 (2008).

178. See Lobron, *supra* note 9.

179. See AHRC RESEARCH CTR. FOR LAW, GEND. & SEXUALITY, RESPONSE TO THE PUBLIC CONSULTATION ON THE HUMAN FERTILISATION AND EMBRYOLOGY ACT 2 (2005) (stating that the "fundamental ethical principle which should underpin [the British model]. . . is procreative autonomy or procreative liberty").

180. Compare Nachtigall et al., *supra* note 162, at 2072 (discussing the costs to a clinic for indefinite storage), with ROBERTSON, *supra* note 18, at 27–28 (discussing procreative liberty rights to not be a genetic parent against your own wishes).

181. See *supra* Part III.

182. See *supra* Part III.

183. See Frazier, *supra* note 51, at 940.

cryopreservation banks risk the contracts being unenforceable.¹⁸⁴ In addition, if for some reason parties do not sign such an agreement, the cryopreservation bank has no guidance for disposition of embryos in the case of the progenitor's death, divorce, or abandonment.¹⁸⁵ Adopting a uniform statute, which reinforces the power of a private contract between the parties, would help minimize the liabilities of a clinic.¹⁸⁶

A statute similar to the British Human Fertilization and Embryology Act of 1990¹⁸⁷ is particularly appealing because it avoids *Davis*' concern of becoming a parent against your will and does not violate the MSCRA.¹⁸⁸ In fact, when legislators debated the MSCRA, some assumed that unused reproductive material would be disposed if it was not voluntarily donated.¹⁸⁹ In addition, the recent passage of House Bill 101 suggests that a statute similar to the British model would be consistent with Maryland public policy to require consent to become a genetic parent.¹⁹⁰

Additionally, ASRM supports such a solution.¹⁹¹ According to ASRM, discarding abandoned cryogenically frozen embryos is the only appropriate solution to the issue.¹⁹² ASRM is particularly resistant to the idea of donating abandoned embryos to other couples or using the abandoned material for research purposes, stating that: "[i]n no case without prior consent, should embryos deemed abandoned be donated to other couples or be used in research."¹⁹³

Maryland should adopt a statute like the British model that mandates cryopreservation banks discard cryogenically preserved embryos if they have been abandoned for five years, provided the clinic has not entered into an alternative agreement with the progenitors.¹⁹⁴ First, this model would provide a solution for cryopreservation banks to deal with abandoned cryogenically preserved embryos

184. *See supra* Part III.

185. *See supra* Part III.

186. *See supra* Part III.

187. Human Fertilisation and Embryology Act, 1990, 14(1) (Eng.) (creating a statutory period of five years for cryogenically embryos to be stored).

188. *See supra* notes 64–65 and accompanying text; *Kass v. Kass*, 696 N.E.2d 174, 182 (N.Y. 1998); *Roman v. Roman*, 193 S.W.3d, 40, 54–55 (Tex. App. 2006).

189. A senator's personal notes reflected an assumption that egg cells would be discarded if the progenitor did not volunteer her eggs for research. *See* Md. Gen. Assembly, SB. 144 bill file (2006) (Amendment to Senate Bill No. 144 by Senator Jacobs, First Reading File Bill). Although this is not completely analogous to the disposition of embryos, it does show that legislators considered the disposal of some reproductive material. *Id.*

190. *See* H.D. 101, 2012 Leg., 430th Sess. (Md. 2012).

191. *See* *Waltz, supra* note 15, at 151 (discussing ASRM's policy regarding abandoned frozen embryos).

192. *Id.*

193. Am. Soc'y for Reprod. Med. Ethics Comm, *supra* note 156, at S253.

194. *See* Human Fertilisation and Embryology Act, 1990, 14(1)(Eng.) (creating a statutory period of five years for cryogenically embryos to be stored).

without fear of litigation.¹⁹⁵ Second, a well-known statute will encourage couples to make affirmative decisions about the disposition of their unused embryos.¹⁹⁶ Third, this solution is consistent with Maryland law, which mandates a clinician to counsel IVF patients of their options of dealing with unused reproductive material without forcing them to make a choice, all while preventing some options such as stem cell research unless both progenitors have affirmatively consented to the procedure.¹⁹⁷ This solution is likely to face some backlash¹⁹⁸ but, similar to the British model, it is a more acceptable and pragmatic solution than the alternatives.¹⁹⁹

VI. CONCLUSION

The surplus of cryogenically stored embryos in the United States, including Maryland, creates a number of emerging legal issues.²⁰⁰ The disposition of abandoned cryogenically frozen embryos is of growing concern.²⁰¹ These embryos, for which the cryopreservation banks have no contact information for the progenitors, cause the banks to extend many resources without payment.²⁰² As a result, the indefinite freezing of abandoned embryos is impractical.²⁰³

In light of the Maryland Stem Cell Research Act, it is not possible for Maryland to demand that abandoned embryos be donated to research.²⁰⁴ Donating abandoned embryos to another couple for the purposes of achieving a family would be unethical, and unlikely to be legislatively adopted by the Maryland General Assembly.²⁰⁵ The final and most practicable solution is for Maryland to adopt a model similar to Great Britain's, and statutorily mandate the cryopreservation banks to discard abandoned embryos after five years, unless there is an alternative written agreement by the parties from the time the embryos were stored.²⁰⁶

195. See Kathryn D. Katz, *Snowflake Adoptions and Orphan Embryos: The Legal Implications of Embryo Donation*, 18 WIS. WOMEN'S L.J. 179, 187–88 (2003) (discussing how, despite ASRM guidelines supporting disposal after five years of abandonment, clinicians are hesitant to discard cryogenically preserved embryos for fear of legal action).

196. See Alma Cohen & Liran Einav, *The Effects of Mandatory Seat Belt Lawson Driving Behavior and Traffic Fatalities*, 85 REV. OF ECON. & STAT. 828, 828 (2003) (describing the success mandatory seat belt laws have had on behavior change).

197. See *supra* Part IV.

198. See Forster, *supra* note 127, at 759 (discussing the global controversy around the mass disposal of frozen embryos in Britain).

199. See *In re Roberto*, 923 A.2d, 115, 135 n.5 (Md. 2007) (Cathell, J., dissenting) (stressing the need for the Legislature to address assisted reproductive technology issues, like Britain did by passing the Human Fertilization and Embryology Act).

200. See *supra* Part I.

201. See *supra* Part I.

202. See *supra* Part I.

203. See *supra* Part V.

204. See *supra* Part V.A.

205. See *supra* Part V.

206. See *supra* Part V.