Three-Parent IVF and Its Effect on Parental Rights

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I. Introduction

Three-parent in vitro fertilization ("IVF") is a controversial procedure that offers the possibility of preventing the inheritance of genetically caused mitochondrial disease, sparing future generations from a range of incapacitating conditions.1 Due to the use of a controversial form of cloning technology, the procedure is currently

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banned in both the United Kingdom and the United States.\(^2\) British law bans the use of manipulated embryos for reproductive purposes, while United States law has banned gene transfer procedures since 2001 and will continue to ban them until they are proven safe.\(^3\) However, due to the many benefits\(^4\) of the procedure, which could potentially outweigh any ethical concerns,\(^5\) three-parent IVF may become legal in the United Kingdom as early as this year.\(^6\) If the procedure is legalized in the United Kingdom, it might launch a public debate about whether it should be legalized in the United States.

If the procedure was to be made legal in the United States, it is unclear how the states would legally view the donor parent.\(^7\) Part I of this note will review the general history of IVF, and its evolution into an accepted practice. It will specifically focus on the history of surrogacy and state laws regarding the rights afforded to surrogate parents. The rights that donor parents in three-parent IVF procedures receive will most likely parallel the rights afforded to surrogate parents. Part II of this note will explain mitochondrial disease, IVF and three-parent IVF in more detail. Part III will delve into the legal treatment of surrogates by analyzing three cases illustrating the types of surrogates and their treatment under the law. Part IV will look at how states differ in their legal treatment of surrogacy, and the impact three-parent IVF may have on state and federal law, especially in regard to lesbian co-parents and United States citizenship. Part V will propose ways to change existing law or incorporate three-parent IVF into the existing law using current surrogacy law as a model.

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\(^3\) *Id.* at 315.


\(^5\) There are also unknown risks regarding how this will affect future generations. The ethical concern is the slippery slope argument: “[t]here are concerns that if three-parent IVF treatment is legalized, it will pave the way for other more extreme germline therapies and manipulations, namely the creation [of] designer babies.” *Id.*

\(^6\) Collins, *supra* note 1.

\(^7\) State laws regarding surrogacy differ and what courts may choose to do or should do will be a complicated issue to address. *See infra* Part III.
II. Background

The human body contains tissues and organs, all of which are composed of many cells. Each cell, with the exception of red blood cells, contains a cell nucleus, which in turn contains one full copy of a person’s nuclear DNA.\(^8\) The nuclear DNA from both parents is genetically inherited by that couple’s children.\(^9\) Nuclear DNA is also the type of DNA most people think of when they hear the term “DNA.” Each cell also contains many mitochondria, which are inherited solely from the mother and contain their own DNA—mitochondrial DNA.\(^10\) Mitochondria have many functions, but are primarily known for generating our cells’ chemical energy, which is required to keep human bodies functioning properly.\(^11\)

Malfunctioning mitochondrial DNA results approximately one in 6,500 children being born with serious diseases, including “fatal heart problems, liver failure, brain disorders, blindness and muscular weakness.”\(^12\) Mitochondrial diseases result in these physical deficiencies because mitochondria are involved in many of the important internal functions of the body, such as generating most of our cells’ chemical energy, signaling between cells leading to cellular differentiation or cell death, and controlling the cell cycle and cell growth.\(^13\) Without sufficient chemical energy and proper signaling, a human body is not able to function properly, leading to debilitating conditions.\(^14\)

A. Three-Parent IVF

In order to combat mitochondrial diseases, British scientists have mastered a controversial technique. Using cloning technology the researchers have discovered a way to prevent the inheritability of

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9. Id.
11. Id.
these diseases. Since mitochondria, and its individual mitochondrial DNA, follow a pattern of maternal inheritance, they are inherited only from mothers. Scientists utilized this pattern of inheritance when developing the technique to prevent mitochondrial diseases. By swapping DNA between two fertilized eggs, the researchers created a new embryo containing the core nuclear DNA from the mother and father and the healthy mitochondrial DNA from a female egg donor. The implication of this procedure, once it is in effect, is that mitochondrial disease could be completely eradicated for future generations. The controversy that arises out of this procedure is that thirty-seven genes, out of more than twenty thousand genes, are found in the mitochondria. Therefore, the baby inherits about 0.2% of its genetic information from the donor parent, resulting in the baby having three genetic parents.

There are currently two variations of the technique being debated: the spindle transfer method and the pronuclear transfer method. The spindle transfer method involves placing nuclear material from the mother’s egg into a donor egg “shell,” which contains healthy mitochondria but no nuclear DNA. In this method the egg is fertilized with the father’s sperm in vitro, but not until after the transfer occurs. Since an unfertilized egg is more susceptible to damage, researchers believe that the more complex pronuclear transfer method, which involves two in vitro fertilizations, will be the preferred, future technique. The alternative to spindle transfer is pronuclear transfer. Under this method, genetic material in an embryo created from donor sperm and egg is removed and replaced with the genetic material from a second egg created with the parental sperm and egg, a process called enucleation.

15. Hirschler, supra note 12.
16. Id.
17. Id.
18. Id.
21. Id.
23. Id.
24. Id.
25. Id.
26. Id.
B. IVF

To understand the current turmoil caused by three-parent IVF procedures, a look back at the history of IVF procedures is necessary. In vitro fertilization, a currently well-accepted and commonly used medical technique, was created in order to treat infertility issues.\(^\text{27}\) The procedure involves transferring a fertilized egg, cultured in a laboratory dish, into a woman’s uterus.\(^\text{28}\)

Since the purpose of IVF procedures is to treat infertility, there are many forms of IVF.\(^\text{29}\) The most traditional infertility case is when something is preventing the sperm and the egg from fusing, so the IVF procedure is used to overcome that hurdle by uniting the father’s sperm and the mother’s egg outside the body.\(^\text{30}\) A more controversial form of IVF involves the use of a donor egg, donor sperm, or both, to produce an embryo, which is then transferred into the infertile woman’s uterus.\(^\text{31}\)

This note will focus on the most controversial form of IVF, involving a third party such as a surrogate who is either implanted with an embryo created from the infertile couple’s egg and sperm, or who is also the egg donor in addition to the surrogate.\(^\text{32}\) Because IVF participants may combine genetic material in nontraditional ways to produce a baby, an IVF-produced child could potentially have up to five parents: the intended mother and father, the biological mother and father, and the gestational mother or surrogate.\(^\text{33}\) Since the first successful use of IVF leading to a live birth in 1978, the traditional IVF procedure has evolved from being controversial to generally undisputed.\(^\text{34}\)

III. Surrogacy

The emergence of IVF resulted in increased demand for surrogates. There are two types of surrogates: the more common

\(^{28}\) Id. at 274.
\(^{29}\) Id. at 274–75.
\(^{30}\) Id. at 274.
\(^{31}\) Id. at 275.
\(^{32}\) Id.
\(^{33}\) Id. at 276.
\(^{34}\) Id. at 276, 285.
gestational surrogate and a traditional surrogate. A gestational surrogate is a woman who carries a child that is not genetically related to her in any way, while a traditional surrogate acts as both the surrogate and the egg donor. A small number of states have begun regulating gestational surrogacy, which makes up ninety-five percent of surrogate cases. A major topic of regulation is how the parenthood for the resulting child should be determined.

Due to differing state laws, regulation becomes a complex issue. Should the gestational mother, the intended parents, or the genetic parents be the legal parents of the child? Some states have recognized the intended parents, the parents who intended to create the child, as the legal parents, but have limited that recognition to situations where the intended parents are also the genetic parents. Some have gone even further, and limited that recognition to situations where the intended parents are married or are a man and woman, however regulation is still complex.

A. Traditional Surrogacy

*Matter of Baby M* was the first traditional surrogacy case to capture the public's attention. Mary Beth Whitehead had agreed to carry a child for William Stern, whose wife was infertile. As the only child of Holocaust survivors, Stern wanted genetic offspring. The two entered into a contract with the terms that Whitehead would bear the child and relinquish all her rights, and Stern would pay her $10,000 upon delivery of the child to him after its birth. After giving birth, Whitehead realized she could not give up her baby and eventually asked to keep her for a week. She failed to return the baby back to the Sterns until the baby was forcibly removed from her care.

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36. *Id.*
38. *Id.*
41. *Id.*
42. *Id.* at 412.
43. *Id.* at 414–15.
44. *Id.*
The New Jersey Supreme Court ruled that the surrogacy contract was void due to conflict with public policy and state adoption laws.\textsuperscript{45} Under New Jersey law, Whitehead was the genetic and biological mother, therefore she was the legal parent of the child.\textsuperscript{46} According to the court, “[o]nly adoption, not contract, could sever the parental tie.”\textsuperscript{47} Therefore, any surrogacy contract agreement that included Whitehead’s termination of parental rights was void under New Jersey law.\textsuperscript{48} Whitehead remained the legal parent of the child unless she wished to relinquish her rights to the father, via adoption.\textsuperscript{49} The court issued its ruling in order to discourage further surrogacy agreements at a time when surrogacy was thought of as “the creation of a child for sale.”\textsuperscript{50} Most states have also addressed this issue, but \textit{Matter of Baby M} remains good law in New Jersey.\textsuperscript{51}

\textbf{B. Gestational Surrogacy}

Surrogacy became more accepted once science allowed for the separation of genetics and gestation through gestational surrogacy; however, the issue of who constitutes the legal parents became more complicated.\textsuperscript{52} The case of \textit{Johnson v. Calvert} involved a surrogacy contract between Mark and Crispina Calvert, and Anna Johnson.\textsuperscript{53} The terms of the contract were similar to the terms of the contract in \textit{Matter of Baby M}, except Calvert, not Johnson, would be providing the egg, so therefore Calvert, the intended mother, was the genetic mother of the baby.\textsuperscript{54} During the pregnancy, the relationship between the parties soured and Johnson asserted that she was the child’s mother.\textsuperscript{55}

To make its ruling, the California Supreme Court looked towards the Uniform Parentage Act, under which maternity can be determined in multiple ways.\textsuperscript{56} The court held that like proof of having given birth, presentation of blood test evidence sufficed to

\begin{itemize}
\item[45.] Matter of Baby M, \textit{supra} note 39, at 421–22.
\item[46.] Carbone, \textit{supra} note 37, at 335–36.
\item[47.] \textit{Id.} at 335.
\item[48.] \textit{Id.} at 336.
\item[49.] \textit{Id.}
\item[50.] \textit{Id.} at 335–36.
\item[51.] \textit{Id.}
\item[52.] \textit{Id.}
\item[53.] \textit{Johnson v. Calvert}, 5 Cal. 4th 84, 87 (1993).
\item[54.] \textit{Id.}
\item[55.] \textit{Id.} at 87–88.
\item[56.] \textit{Id.} at 90; CAL. FAM. CODE § 7610 (West 1994).
\end{itemize}
establish maternity. Under the Act, both women had proof of maternity: Calvert through genetics, and Johnson through pregnancy and birth. Since both women constituted the legal mother under the Act, the court looked at the parties’ intent as a tiebreaker to determine maternity. The intent behind the surrogacy agreement was for Johnson to help the Calverts have a child, not for the Calverts to donate a zygote to Johnson:

[A]lthough the Act recognizes both genetic consanguinity and giving birth as means of establishing a mother and child relationship . . . she who intended to procreate the child—that is, she who intended to bring about the birth of a child that she intended to raise as her own—is the natural mother under California law.

Therefore, under California law, Calvert was the natural mother, not Johnson. At a time when gestational surrogacy was quickly replacing traditional surrogacy, Johnson had a deep impact on surrogacy as a practice.

C. Complicated Forms of Surrogacy

Further complicating the legal parentage issue in surrogacy cases were instances where neither of the intended parents nor the gestational surrogate was a genetic parent of the child, such as In re Marriage of Buzzanca. The case involved a couple, Luanne and John Buzzanca, who procured both a sperm and egg donor, in order to create an embryo to implant in a gestational surrogate. After implantation, but prior to the child’s birth, the Buzzancas separated and John disclaimed any responsibility of the child. The issue before the trial court was who had legal parentage of the child. The court allowed a stipulation stating that the gestational surrogate was not the

57. Johnson, 5 Cal. 4th at 90.
58. Id. at 92.
59. Id. at 92–93.
60. Id. at 93.
61. Id.
62. Carbone, supra note 37 at 337.
64. Id. at 1412.
65. Id.
66. Id.
mother. They then ruled that Luanne was not the mother because she had neither contributed genetically by providing the egg nor given birth. John was not the father because he had not contributed the sperm, and therefore had no genetic ties to the child. The court also noted that neither the egg nor the sperm donors were legal parents under the law because they consented to procreate a child for someone else who intended to raise the child. By the trial court’s ruling, it looked as if the child had no legal parents.

The California Court of Appeal disagreed with the trial court’s view that Uniform Parentage Act sets out only three ways in which a woman can establish legal maternity—giving birth, contributing genetically through her egg, or legally adopting. The appellate court pointed to the statute, which states that “[t]he parent and child relationship may be established as follows: (a) [b]etween a child and the natural mother, it may be established by proof of her having given birth to the child, or under this part.” The statute does not say “shall” be established, showing that there may be other, unlisted methods of establishing parentage. Also, the statute does not directly refer to genetics as being one of the factors for establishing maternity, but rather the court in Johnson construed it to include genetic testing.

The trial court failed to look at how paternity can be determined by multiple non-biological ties. Under the Act, paternity can be determined if a man and “the child’s natural mother are or have been married to each other and the child is born during the marriage, or within 300 days after the marriage is terminated . . . .” Paternity can also be determined in many other ways, including if a man consents to being named the father on the birth certificate or he willingly opens his home to the child and proceeds as if the child is naturally his. When a woman conceives a child through artificial insemination with semen donated by a man other than her husband, the husband is

68. Id.
69. Id.
70. Id. at 1418.
71. Id. at 1412.
72. Id. at 1412, 1415.
73. FAM. § 7610 (emphasis added).
75. Id. 1416–17.
76. CAL. FAM. CODE § 7611 (West 2005).
77. Id.
treated as the child’s natural father so long as he consented to the conception. The Court of Appeal ruled that this law was also applicable to IVF using a donor egg and sperm; therefore, John Buzzanca was determined by the court to be the legal father of the child.

Turning to determination of legal maternity, the court noted that this can be determined in multiple ways. First, under the facts in Buzzanca, Luanne can be viewed as similar to a husband in an artificial insemination case, and therefore permitted to voluntarily consent to being the mother of a child not biologically related to her. Luanne consented to being the mother of the child, but even if she had not, the court found that maternity can be determined by intent according to Johnson. In Buzzanca, the child would never have been born if the Buzzancas had not initiated and agreed to the procedure. Luanne intended to be the mother of the child, and John intended to be the father of the child. Therefore, the court ruled that the Buzzancas were the legal parents of the child.

Viewing the case’s history, there are multiple ways for a court to determine legal parentage. First, legal parentage can be determined by genetics or pregnancy and birth. Second, if the two parties are at odds, intent can be determinative of legal parentage. Third, in cases where multiple parties are involved due to IVF and donors, consent and intent seem to be the determinative factors.

IV. Current Law

A. State Regulation of Surrogacy

The United States differs from the United Kingdom in the legal rights afforded to surrogate mothers. While the U.K. has a uniform national position that recognizes the surrogate mother as the legal

78. CAL. FAM. CODE § 7613 (West 2012).
80. Id.
81. Id.
82. Id.
83. Id.
84. Id. at 1412.
85. Id. at 1428.
86. See Radhika Rao, Surrogacy Law in the United States: The Outcome of Ambivalence, in SURROGATE MOTHERHOOD: INTERNATIONAL PERSPECTIVES 23, 23 (Rachel Cook & Shelley Day Sclater eds., Hart Publ’g 2003).
mother of the child, the U.S. has no uniform policy and the law varies from state to state:87

The law of surrogate motherhood in the United States is in a state of flux and confusion. States have widely differing laws, some enforcing surrogacy contracts, some banning them entirely, and some allowing them under certain circumstances. Many states have no laws regarding surrogacy contracts at all. No single statutory regime has won widespread acceptance. As a result, courts are often left to decide parenthood disputes arising from these contracts, and have a range of theories by which to do so.88

State laws fall into four general categories: (1) prohibition; (2) inaction; (3) status regulation; and (4) contractual ordering.89 States seeking to prohibit surrogacy do so either by banning it or imposing civil or criminal penalties on those who create or help create surrogacy contracts.90 Examples of states that prohibit surrogacy are Michigan91 and Arizona.92 States that would be included under the inaction category seek to maintain the status quo by refusing to enforce surrogacy contracts and refusing to specify rules governing surrogacy.93 States that follow this approach do not ban surrogacy contracts but allow courts to nullify them as against public policy.94 States that follow status regulation allow citizens to enter into surrogacy contracts, but include certain mandatory terms and specific status relationships in those contracts.95 An example might be

87. See Rao, supra note 86.
89. Rao, supra note 86.
90. Id.
91. See M ICH. COMP. LAWS ANN. § 722.855 (West 2012) (“A surrogate parentage contract is void and unenforceable as contrary to public policy.”); see also M ICH. COMP. LAWS ANN. § 722.859(1) (West 2012) (“A person shall not enter into, induce, arrange, procure, or otherwise assist in the formation of a surrogate parentage contract for compensation.”). Michigan also makes it a felony to enter into such an agreement and a violator can be punished by a fine of up to $50,000 and up to five years in prison. M ICH. COMP. LAWS ANN. § 722.859(2)-(3) (West 2012).
92. See ARIZ. REV. STAT. ANN. § 25-218 (1989) (“A surrogate is the legal mother of a child born as the result of a surrogate parental contract and is entitled to the custody of that child.”). Although this statute has been ruled unconstitutional, it has never been repealed. Spivack, supra note 88, at 101.
93. Rao, supra note 86.
94. Spivack, supra note 88, at 101.
95. Id.
mandatory terms allowing for compensation of legal and medical fees but not service fees.\footnote{Spivack, supra note 88, at 101. (“Six states refuse to enforce surrogacy contracts when the surrogate is compensated for her services. Five states have explicitly made only uncompensated surrogacy contracts legal.”).} States that enforce whatever agreement the parties negotiate fall under the contractual ordering category.\footnote{Id.}

With differing state laws it is often unclear whether a surrogacy contract will be enforced. Courts have followed several different theories in determining whether to enforce a surrogacy contract.\footnote{Id. See also supra Part III.} The three-parent IVF procedure creates three genetic parents, further complicating the issue of genetic parentage and the state laws that purport to define it.

\section*{B. Impact of the Three-Parent IVF on State Law}

\subsection*{1. Lesbian Co-Parents}

Three-parent IVF creates the novel concept of two genetic mothers, requiring the courts to determine which mother has legal rights to the child. The procedure raises a lot of questions such as, what if both genetic mothers want to be considered as the legal mother under the law? If the two women agree upon that, will the state comply with their wishes?

Lesbian co-parents who participate in the “planned conception, birth, and/or rearing of [their] partner’s biological child” would like to be recognized as the legal mother alongside their partner’s biological or adopted child.\footnote{Joanna L. Grossman, Do Lesbian Co-Parents Have Rights?, VERDICT (Aug. 23, 2011), http://verdict.justia.com/2011/08/23/do-lesbian-co-parents-have-rights.} Due to differing state law regarding both surrogacy and the parental rights of lesbian co-parents, these women will be highly affected by the possible legalization of three-parent IVF in the United States.

agreements that include lesbian, gay, bisexual and transgender (“LGBT”) individuals.\textsuperscript{101}

In 2005, the California Supreme Court decided cases regarding lesbian couples who had reproduced via surrogacy.\textsuperscript{102} The court, interpreting the Uniform Parentage Act, ruled that two women can be the legal parents of a child produced via surrogacy.\textsuperscript{103} The court’s reasoning recalls the reasoning used to determine paternity in \textit{Buzzanca}.\textsuperscript{104} The Uniform Parentage Act provides for determination of paternity in several ways, including genetic testing, consent by being named on the birth certificate, and treatment of the child as one’s own.\textsuperscript{105} The court again pointed to the Act’s recognition of paternity in cases of artificial insemination with prior consent.\textsuperscript{106} According to the court, this same reasoning should apply to all who intend to create a child and act in as a family, and that “a person who uses reproductive technology is accountable as a de facto legal parent for the support of that child” because “[l]egal parentage is not determined exclusively by biology.”\textsuperscript{107} The holding in these cases most likely applies to all members of the LGBT community.\textsuperscript{108}

Currently, some states refuse to recognize that a lesbian co-parent has parental rights.\textsuperscript{109} Under Ohio law, for example, a nonparent, same-sex partner does not qualify as a “parent” under state statute, and as a result the state does not recognize statutory shared parenting arrangements between a parent and his or her nonparent, same-sex partner.\textsuperscript{110} However, a parent can voluntary

\begin{footnotes}
\item[101.] \textit{California Surrogacy Law, supra} note 100.
\item[102.] \textit{Id.} \textit{See also} \textit{Eliza B. v. Superior Court, 37 Cal. 4th 108 (2005); K.M. v. E.G., 37 Cal. 4th 130 (2005)}.
\item[103.] \textit{California Surrogacy Law, supra} note 100; \textit{see also} \textit{Eliza B., 37 Cal. 4th at 113; K.M., 37 Cal. 4th at 134}.
\item[104.] \textit{Buzzanca}, 61 Cal. App. 4th at 1420–21.
\item[105.] \textit{FAM}, \textsection 7611.
\item[106.] \textit{FAM}, \textsection 7613 (“[W]ith the consent of her husband, [if] a wife is inseminated artificially with semen donated by a man not her husband, the husband is treated in law as if he were the natural father of a child thereby conceived.”)
\item[107.] \textit{Eliza B., 37 Cal. 4th at 115}.
\item[108.] \textit{California Surrogacy Law, supra} note 100.
\item[110.] \textit{Mullen}, 129 Ohio St. 3d at 420.
\end{footnotes}
share the care, custody and control of his or her child with a non-parent through a shared-custody agreement.\textsuperscript{111}

In the case of \textit{In re Mullen} (\textit{Mullen}), the two women in a couple never expressly created a formal shared custody agreement, so when parentage was disputed the court looked at whether their actions implied that formal agreement was created.\textsuperscript{112} Even though the co-parent, Hobbs, planned for the pregnancy with the birth mother, Mullen, was present at the child’s birth, appeared on the birth certificate, cared for the child jointly with Mullen, acted like a family, was named as the child’s guardian, and was given power of attorney to make decisions for the child, the court ruled that Mullen’s conduct did not create an implied shared-custody agreement.\textsuperscript{113} Mullen had never agreed to permanently give over partial legal custody of the child and therefore, all of the custodial responsibilities that Mullen gave to Hobbs were revocable.\textsuperscript{114} The ruling by the court has the long term effect of leaving many parent-child relationships in doubt and potentially unprotected.

If three-parent IVF became legal in the United States, cases such as \textit{Mullen} could be decided very differently. This is due to the fact that some of the states that do not recognize the rights of lesbian co-parents determine parentage by genetics.\textsuperscript{115} Under three-parent IVF, both women in the lesbian couple could have genetic ties to the child, giving them legal rights to the child under the theory of parentage by genetics.\textsuperscript{116} Three-parent IVF would make it difficult for such states to deny two women legal parentage of a child to whom they both have genetic connections.\textsuperscript{117}

Custody and parentage determinations are not the only complicated legal areas impacted by IVF techniques. Due to the genetic tie that children will have to the donor parent, three-parent IVF could have an impact on how United States citizenship is determined and who constitutes a citizen.

2. \textit{United States Citizenship}

The Fourteenth Amendment to the Constitution provides that “[a]ll persons born or naturalized in the United States . . . are citizens

\begin{itemize}
  \item \textsuperscript{111} \textit{Mullen}, 129 Ohio St. 3d at 420.
  \item \textsuperscript{112} \textit{Id.} at 422.
  \item \textsuperscript{113} \textit{Id.}
  \item \textsuperscript{114} \textit{Id.}
  \item \textsuperscript{115} \textit{See supra} Part III.
  \item \textsuperscript{116} \textit{Id.}
  \item \textsuperscript{117} Carbone, \textit{supra} note 37, at 342.
\end{itemize}
of the United States and the State wherein they reside. 118 A child born in the U.S. or one of its territories acquires birthright citizenship. Children born abroad to a U.S. citizen can also be deemed a citizen of the U.S. if the following conditions are met: the child's parents were married at the time of the birth, one of the parents was a U.S. citizen when the child was born, the citizen parent lived in the U.S. for at least five years before the child's birth, and at least two of those five years were after the citizen parent's fourteenth birthday. 119

The rules differ for babies born through IVF. Even if the mother, father or both are United States citizens, but both the egg and sperm donors are not, then the child is not considered a United States citizen—what matters is “the biological material, not the actual parent.” 120 As a result, if it can be proven that the donor egg or sperm used by non-American citizens to conceive a child came from an American citizen, the resulting child would presumably be eligible for American citizenship. 121

Three-parent IVF could have an impact on the regulation of United States citizenship. Although mitochondrial DNA accounts for only a fraction of our total DNA, it still creates a genetic tie to the woman who passes along those genes. If a woman with U.S. citizenship donates her mitochondrial DNA to a couple from a different country, the child has a genetic tie to a U.S. citizen. The law does not specify the amount of shared genes the child needs to have in order to be deemed genetically related to a U.S. citizen; therefore three-parent IVF has the potential of creating children who would otherwise not have U.S. citizenship.

V. Proposals for Incorporating Three-Parent IVF into Law

If three-parent IVF becomes legal in the United States, it is unclear what parental rights would be afforded to the donor parent. 122 Due to differing state laws, there seems to be only two options on how to deal with this issue—create a uniform national policy or

118. U.S. CONST. amend. XIV.
121. Id.
122. See supra Part IV.
continue to allow states to create their own individual laws, whether it is by keeping their current law or updating it based on advances in medical technology. Other countries, such as the United Kingdom\textsuperscript{123} and France,\textsuperscript{124} have a uniform national policy regarding surrogates and their parental rights.\textsuperscript{125} In the U.K. the surrogate mother retains all the legal rights to the child, even if she is not genetically related to it, unless there is a parental or adoption order.\textsuperscript{126} France, on the other hand, makes all surrogacy agreements illegal.\textsuperscript{127} Although the U.S. could create a national uniform policy regarding surrogacy agreements, it would be hard to do so. Unlike the U.K. and France, the U.S. is composed of many states, all of which have certain rights under the United States Constitution to govern activities within the state.\textsuperscript{128} Creating a uniform policy throughout the U.S. would be the equivalent of creating a uniform policy throughout the European Union, which currently is not the case.\textsuperscript{129} The alternative method would be to avoid infringing on states’ rights by allowing each state to incorporate three-parent IVF into their existing law. Depending on how states deal with parental rights of surrogates, either by establishing parentage through genetics, birth or consent, the same method can be followed for three-parent IVF. In the case of lesbian co-parents, this would mean that if the co-parent is genetically related to the child, then she also has parental rights. Therefore, states that refuse to recognize the rights of lesbian co-parents would either be forced to allow them parental rights, or change their state law to ban such agreements.

In regard to United States citizenship, Congress has the power to establish a uniform rule of naturalization, which it has through the

\textsuperscript{123} The Human Fertilisation and Embryology Act, 1990, c. 37, § 27 (Eng.).

\textsuperscript{124} See CODE CIVIL.[C.CIV.] art. 16-7 (Fr.).

\textsuperscript{125} See Rao, supra note 86.

\textsuperscript{126} Id. See also The Human Fertilisation and Embryology Act, 1990, c. 37, § 27 (Eng.) (“(1) The woman who is carrying or has carried a child as a result of the placing in her of an embryo or of sperm and eggs, and no other woman, is to be treated as the mother of the child. (2) Subsection (1) above does not apply to any child to the extent that the child is treated by virtue of adoption as not being the [woman’s] child . . . .”).

\textsuperscript{127} C. CIV. art. 16-7 (Fr.) (“All agreements relating to procreation or gestation on account of a third party are void.”).

\textsuperscript{128} U.S. CONST. amend. X (“The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”).

\textsuperscript{129} See C. CIV. art. 16-7 (Fr.); see also The Human Fertilisation and Embryology Act, 1990, c. 37, § 27 (Eng.).
Immigration and Nationality Act. The way the law stands right now, any child born outside the U.S. to a U.S. citizen donor parent is a U.S. citizen, regardless of the fact that the child will only receive less than one percent of his or her DNA from the citizen donor parent. Since the Constitution reserves the right to establish a uniform rule of naturalization to Congress, an act of Congress through an amendment to the current law is the only way to change the current law to reflect the medical advancement of three-parent IVF in regard to citizenship determination.

In sum, the potential chaos that the legalization of three-parent IVF could cause can be alleviated by the creation of a uniform national policy on parental rights, or by federal and state governments incorporating the medical advance in their existing law.

130. U.S. Const. art. I, § 8, cl. 4.