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TECHNOLOGY AND MOTHERHOOD: LEGAL AND ETHICAL ISSUES IN HUMAN EGG DONATION

John A. Robertson*

Past advances in medical technology have allowed many infertile couples an opportunity to raise a family through the use of a wide variety of noncoital reproductive techniques beyond the traditional adoption arrangement. More recently, another choice has been added to the list — egg donation. This new procedure brings with it unique ethical and legal issues that have yet to be addressed by society. There is no doubt that egg donation will be welcomed by many couples who have been previously unable or unwilling to take advantage of other reproductive options. In light of this development, now is the time to examine the impact that egg donation may have on families, offspring, donors, and society.

THE WIDE ARRAY of noncoital reproductive techniques now available to treat infertility, such as in vitro fertilization (IVF), embryo freezing, artificial insemination, and surrogacy, has been welcomed by infertile couples seeking to rear biologically related offspring. Use of these techniques, however, has raised significant legal, ethical, and policy issues and has stirred great controversy,

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as the Baby M case has shown.

Controversy arises because noncoital reproduction raises profound questions about the scope of procreative liberty and family privacy, the welfare of offspring, the meaning of family, and the moral tone of society. Providing answers to these questions is complicated by a lack of empirical data about actual effects on couples and offspring, and by the strong emotions and fantasies about life, death, sexuality, and reproductive roles which noncoital reproduction inevitably stimulates.

A striking aspect of the current situation is the continual unfolding of new reproductive variations even before the old ones are fully assimilated into the social fabric. Extensions of external fertilization of human eggs are a case in point. While IVF is available at some 150 programs nationwide, important questions about embryo status, quality control, and financing have not been resolved.1 Despite these questions, many IVF programs have gone a step further and are now offering cryopreservation of embryos, which greatly complicates the issues that arise with basic IVF.2

Nevertheless, technical progress continues apace. In the past year IVF programs in the United States and abroad have begun to offer egg donation to women unable to produce a viable or healthy egg, thus marking a further advance in noncoital or assisted reproduction. Although female gamete donation deepens the ethical and legal quandaries of IVF, once technical problems are overcome, egg donation is likely to be readily accepted into the armamentarium of available infertility treatments. As the female equivalent of the widely accepted practice of artificial insemination with donor sperm (AID),3 egg donation should generate little of the controversy now surrounding surrogacy and other techniques.

Yet, egg donation differs in important respects from IVF and donor sperm, and thus deserves independent consideration. Eggs are less plentiful and more difficult to retrieve than sperm, creating greater risks for the donor. Moreover, the egg donor and recipient will be playing novel reproductive roles. A woman who do-

3. Thirty states have statutes explicitly recognizing artificial insemination with donor sperm. See CONGRESS OF THE UNITED STATES, supra note 1, at 242-44.
nates an egg will have no gestational or rearing role with her genetic offspring, while the gestational mother will not be the genetic parent of the child she births and rears. Technology thus separates female genetic, gestational and social parentage in a unique way.

Are these differences of ethical, legal, or policy significance? Do they require safeguards and protections beyond those that now exist with AID? With egg donation on the verge of acceptance into the mainstream of IVF infertility practice, it is an appropriate time to consider the ethical, legal, and policy issues raised. Examination of these issues will reveal many of the themes and problems raised by new reproductive technologies generally.

I. MEDICAL FACTORS AND SCOPE OF PRACTICE

Egg donation evolves logically from basic IVF—the ability to hyperstimulate the ovaries, remove multiple oocytes (eggs) and fertilize them externally before placement in the uterus. When fertilization occurs externally, the fertilized eggs may be placed in the uterus of a woman who has not provided the egg, thus opening the door to egg donation. A brief discussion of the need for egg donation, the medical procedures involved, and the scope of the practice follows.

A. The Need for Egg Donation

Candidates for egg donation fall into two major categories: those with and those without ovarian function. Women may lack ovarian function due to primary reasons such as gonadal dysgenesis, an insensitive ovary, or autoimmunity. Ovarian function may also be absent due to premature menopause of varying etiology, including surgically absent ovaries, chemotherapy or radio-

4. In egg donation the rearing father will also be the genetic father. If the rearing mother gestates but the rearing father has no genetic connection with the offspring, the couple has received a donation of both egg and sperm (either separately or in the form of an embryo donation), rather than simply an egg donation. If the egg donor rears the offspring, a gestational surrogacy arrangement has occurred.

5. The donor oocyte also may be inserted into the recipient's fallopian tube in a GIFT procedure, or be obtained after in vivo insemination and lavage. See infra notes 16-18 and accompanying text. Note that “egg,” “oocyte,” and “ovum” are used interchangeably in this Article.


7. Id. at 897-98.
therapy-induced ovarian failure. Over 100,000 women may suffer from premature menopause due to these causes. If ovarian function is absent, estrogen and progesterone replacement therapy will be necessary to prepare the endometrium of the uterus and maintain the pregnancy.

Women with normal ovarian function may also benefit from oocyte donation. Women who are unable to conceive coitally may be unable to participate successfully in IVF due to anatomically inaccessible ovaries, repetitive failure with IVF, abnormal oocytes, problems in fertilizing in vitro despite apparently normal gametes, or a specific medical contraindication to surgical ovum harvest. Donor oocytes may enable these women to become pregnant.

Finally, egg donation may be used to avoid the transmission of autosomal dominant or sex-linked genetic disorders to offspring, regardless of whether normal menstrual function is present or absent. For example, oocyte donation will enable a couple to have a child when they are both carriers of autosomal recessive traits and the couple is unwilling to use donor insemination.

B. Donor Egg Procedures and the Problem of Synchronization

Critical to the achievement of pregnancy by egg donation is the creation of a viable embryo that can be transferred into a receptive endometrial or uterine milieu. Successful pregnancy with donor oocytes thus depends on appropriate embryo-endometrial synchronization. Yet much remains unknown about how to synchronize the ovulatory process in the donor with endometrial maturation in the recipient. For example, the size of the window of endometrial receptivity, the optimal stage for transfer of the conceptus, and the hormonal balance necessary to achieve a successful transfer are not precisely known. Current protocols aim to furnish a four to six-cell embryo for transfer on days seventeen to nineteen of the recipient's cycle, thus mimicking nature's syn-

8. Id.
10. Rosenwaks, supra note 6, at 900-06.
11. Id. at 897-98.
12. Having the couple at risk for a genetic defect resort to egg donation rather than donor sperm might seem unduly oppressive to the woman. However, it will preserve a biological (though not genetic) link with each rearing parent. The recipient of an egg donation actually undergoes less physical risk and intrusion than does a woman undergoing IVF, since she does not undergo hyperstimulation and surgical removal of eggs.
13. Rosenwaks, supra note 6, at 905-07.
chrono of conceptus and endometrium. A previously defined endometrial histology for the day of transfer allows maximal synchronization of endometrium and conceptus.

The recipient with ovarian failure will undergo estrogen and progesterone replacement in order to prepare the endometrial bed and maintain the pregnancy. Recipients with normal ovarian function will only need to be monitored so that egg retrieval and fertilization can be synchronized with the recipient’s cycle.

Two ways of donating eggs without in vitro fertilization should be noted. One variation, called surrogate embryo transfer, donates the egg in the form of an embryo that has been fertilized by in vivo artificial insemination of the donor with the recipient’s partner’s sperm. The developing embryo is then removed prior to implantation by uterine lavage and transferred to the recipient’s uterus. After some initial success and wide publicity, donation by lavage has received less attention because of the attendant risk of pregnancy to the donor, and the progress made with other forms of egg donation.

Oocyte donation may also occur without IVF and embryo transfer through gamete intrafallopian transfer (GIFT). In GIFT the donated eggs are inserted during laparoscopy, along with partner sperm, directly into the recipient’s fallopian tubes, the natural locus of fertilization. Since GIFT ordinarily requires the recipient to undergo laparoscopy, it is less preferable than receiving a donor egg fertilized in vitro and transferred nonsurgically to the

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14. Id. at 905.
15. Recipients of donor eggs by means of surrogate embryo transfer will require synchronization and ovarian function replacement if normal menstrual function is absent.
17. This procedure carries the risk of normal or ectopic pregnancy for the donor if the lavage is unsuccessful. For this reason, it has been discouraged and is not as widely used as other egg donation techniques. See Ethics Committee of the American Fertility Society, Ethical Considerations of the New Reproductive Technologies, 46 FERTILITY & STERILITY 47S, 47S-48S (1986) [hereinafter American Fertility Society]. But cf. Formigli, supra note 16 (stating that nonsurgical donor ovum transfer will be a practical and efficient method of treatment for women lacking ovarian function who would otherwise be sterile).
recipient. However, if GIFT offers a higher chance of pregnancy, the recipient is otherwise undergoing laparoscopic surgery, or nonsurgical transfer becomes possible, then GIFT may be the procedure of choice.

C. Present Availability of Egg Donation

While several births from donor oocytes have been reported, the procedure is still considered experimental. Yet, progress is rapidly occurring, and preliminary reports indicate that egg donation will be successful for an important subset of infertility problems. Reports of pregnancy and healthy birth after oocyte donation have included births after in vivo insemination and uterine lavage, births following GIFT use of donor eggs, and births in which ovarian function is both present and absent. While the reported number of births is currently less than fifty, one may expect this number to rise rapidly in the next few years.

As oocyte donation techniques become successful, many IVF programs will make this service available to the subset of patients who could benefit from it. The Jones Institute in Norfolk, Virginia, the largest and most successful IVF group in the United States, already has an active egg donation program using eggs obtained in the course of the IVF process. Programs in New York City and New York's Westchester County pay women undergoing tubal ligation for hyperstimulation and egg retrieval. Still others, such as the Cleveland Clinic in Cleveland, Ohio, recruit donors who are not undergoing IVF or sterilization, and pay them up to $1,200 for serving as egg donors. A program at the University of Texas Health Science Center in Houston follows a common practice, requiring the recipient to bring her own donor to the clinic. Internationally, egg donation is available in Australia, Great Brit-


20. Rosenwaks, supra note 6, at 898. Since this program will not transfer more than five embryos to the uterus of the woman undergoing IVF, women are asked to consent to donation of eggs in excess of five prior to fertilization.


23. Interview with Dr. Craig Winkel, Department of Obstetrics and Gynecology, University of Texas Health Science Center in Houston (Jan. 22, 1987).
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ain, Europe, and Israel, among other places.

II. ETHICAL STATUS

At a time of controversy and debate about new reproductive technologies, egg donation has received relatively little attention.24 The many official or quasi-official advisory bodies and commissions that have reported on new reproductive techniques in the last several years mention egg donation briefly, if they mention it at all, then proceed to treat it under the same general conditions that apply to donor sperm.25 When compared to surrogacy and embryo

24. Legally, there is almost no positive law on this topic. No American legislation or case law exists. Indeed, Victoria, Australia is the only jurisdiction with legislation in force that explicitly applies to egg donation (Victoria includes it in AID legislation). Thus, egg donation is clearly legal to perform throughout the world, but there is no imprimatur of acceptability and no definitive set of legal rules or mandated pattern to follow in forming families with donor eggs.

25. In the United States, the 1979 Ethics Advisory Board Report did not address the topic (egg donation was not yet an available option, since IVF itself was still in ethical and medical doubt). HEW Support of Research Involving Human In Vitro Fertilization and Embryo Transfer, 44 Fed. Reg. 35,033 passim (1979). The American Fertility Society's 1986 report approved its use in certain circumstances. American Fertility Society, supra note 17, at 1:1S, 42S-44S.

The British Warnock Committee, the Ontario Law Reform Commission and several Australian reports have given egg donation more extended attention. They have even spelled out a recommended set of rules or guidelines for its use. WARNOCK COMMITTEE REPORT IN GREAT BRITAIN, UNITED KINGDOM, DEPT. OF HEALTH & SOCIAL SECURITY, REPORT OF THE COMMITTEE OF INQUIRY INTO HUMAN FERTILISATION AND EMBRYOLOGY, 1984, CMND. NO. 9314 [hereinafter WARNOCK COMMITTEE REPORT];ONTARIO LAW REFORM COMMISSION, REPORT ON HUMAN ARTIFICIAL REPRODUCTION AND RELATED MATTERS (1985); VICTORIA COMMITTEE TO CONSIDER THE SOCIAL, ETHICAL & LEGAL ISSUES ARISING FROM IN VITRO FERTILISATION AND EMBRYOLOGY (1984) [hereinafter WALLER COMMITTEE]. In general, these reports would permit egg donation under the same conditions applied for permitting sperm donation. This would require written consent before the donation, a recipient who is married or in a stable relationship, counseling, a ban on payments, and provisions giving the offspring access to information about their parentage. All of these reports recognize that intrafamilial donation might occur in some circumstances, and would limit the number of children from one donor. Victoria, Australia also bans the use of donor eggs or embryos from more than one source. None of the above mentioned reports address the risk that might arise in donor recruitment.

Few continental countries have given egg donation attention. A French Ethics Committee Report implicitly approves it on the model of donor sperm. NATIONAL ETHICS CONSULTATIVE COMMITTEE FOR LIFE AND HEALTH SCIENCES, REPORT RELATIVE TO RESEARCH WORK ON HUMAN EMBRYOS IN VITRO AND USE THEREOF FOR MEDICAL AND SCIENTIFIC PURPOSES 13 (1987).

The Council of Europe's Ad Hoc Committee of Experts on Progress in the Biomedical Sciences (CAHBI) would permit egg donation but ban payments to donors, limit the number of donations, and ban surrogate embryo transfer. COUNCIL OF EUROPE, AD HOC COMMITTEE OF EXPERTS ON PROGRESS IN THE BIOMEDICAL SCIENCES 6-10 (1986). Interestingly, the CAHBI would allow a donor to set certain nondiscriminatory conditions on who
freezing, egg donation appears to present fewer ethical problems. The use of donor oocytes, however, does pose ethical issues that deserve independent consideration. While some of these issues also arise with donor sperm and other forms of collaborative reproduction, egg donation presents a novel twist because of its separation of female genetic and gestational parentage, and the relative scarcity and inaccessibility of oocytes. Thus, one set of issues concerns the impact on offspring, on participants, and on the family of rearing arrangements that separate female genetic and gestational parentage. A second set of issues involves questions of consent, risk and commodification in the procurement of eggs for donation, and questions of ownership and manipulation of oocytes and resulting embryos.

Overarching these issues is the larger question of procreative liberty and the allocation of decisional authority between the public and private sectors over use of a novel reproductive technique such as egg donation. Are infertile couples, donors, and physicians free to enter into egg donation arrangements without close state scrutiny? Is public regulation desirable or permissible? The next section addresses these issues.

III. PROCREATIVE LIBERTY AND THE STATE'S LIMITED POWER TO REGULATE EGG DONATION

While many applaud the development of noncoital reproductive techniques, personal moral views lead others to condemn them. Some persons believe that sex and reproduction are inextricably linked, and object to the use of technologies that separate the two. They may also hold a view of the nuclear family that

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rejects the use of gamete donors or surrogates. Indeed, the Roman Catholic Church has taken a deontological view condemning all forms of noncoital reproduction, and thus has urged that civil laws be passed to ban them.\textsuperscript{26} While some liberal Catholic thinkers do not object to IVF, GIFT, or artificial insemination with a married couple’s gametes, even they oppose gamete donation and surrogacy because of its interposition of a "third party" into the marital relation, and therefore would object to egg donation.\textsuperscript{27}

Could or should such considerations play a role in developing public policy or regulating noncoital reproductive techniques such as egg donation? At bottom, the question raised is a constitutional one: What should be the scope of private discretion over noncoital means of forming families? As with many constitutional questions, this one may be rephrased in terms of the burden of proof which the state must meet to limit private discretion over use of these techniques. If the state need only meet a low threshold of potential harm to regulate these techniques, then a great deal of regulation, including restrictions based on moralistic concerns, will be possible. On the other hand, if the state has the burden of showing that substantial harm will occur, then considerably more private discretion over use of these techniques will remain, with empirical uncertainties resolved in favor of individual choice.

How is the state’s burden of proof concerning noncoital reproductive technologies to be determined? Of central importance to the issue is the connection between these techniques and the procreative and family privacy of infertile couples. Noncoital reproduction involving embryos or collaborating donors and surrogates enables infertile married couples to form families that are biologically related to one, if not both, rearing partners. As such, they would appear to deserve the same protection against state restriction that coital reproduction by married couples would receive.\textsuperscript{28} Thus, the state should have the burden of proving that


\textsuperscript{27} American Fertility Society, supra note 17, at 825 (dissenting statement of Father Richard McCormick). McCormick thus agrees with the Vatican position that any third party collaborative arrangement "violates the sanctity of marriage by bringing a third party into the marital relation." See Congregation for the Doctrine of the Faith, supra note 26, at 25. He distinguishes adoption, where a child already exists and rearing must be provided, from deliberately creating a child by means of gamete donation, thus risking harm to the child from the absent genetic mother or father.

\textsuperscript{28} The key point underlying the claim for a negative right against state interference
particular noncoital techniques threaten substantial harm to offspring and participants if it is to limit their use in forming families.\textsuperscript{29}

If coitally infertile married couples (and others accorded a right of coital reproduction)\textsuperscript{30} have the same liberty to choose noncoital means of reproduction that fertile couples have to reproduce coitally, then moral condemnation of the separation of sex and reproduction and of new forms of families, or speculative fears of a slippery slope, would not suffice to restrict such techniques, since such views would not suffice to restrict coital reproduction, to ban abortion, or to suppress books. Only serious harm

with private sector reproductive decisions (it is not a claim for a positive right to state financing or provision of the procedures in question) is that the needs and interests of infertile couples in bearing, begetting, or parenting offspring are no less than those of coitally fertile couples. Reproduction matters, not because of the coitus (though that has its own independent importance) but because of what the coitus makes possible. Furthermore, coital infertility does not render a couple inadequate as child reasers.

It follows that restrictions on noncoital reproduction by an infertile married couple should be subject to the rigorous scrutiny that would apply to restrictions on coital reproduction, not a looser standard. The use of noncoital techniques, including the assistance of willing collaborators, should thus be constitutionally protected. In other words, only serious harm to the interests of others, which is not avoidable by less restrictive means, justifies restriction, with the state having the burden of establishing the requisite degree of harm.

Since claiming a right to achieve what one cannot achieve physically might seem odd, consider the analogous effect of blindness on the first amendment right to read books. Surely a blind person has the same right to acquire information from books that a sighted person has. The inability to read visually would not bar the person from using technological means, such as braille or recordings, to acquire the information contained in the book. Because receipt of the information in the book is what the first amendment protects, the means by which the information is received whether by sight, braille, or auditory means, does not itself determine the presence or absence of first amendment rights. Restrictions on the use of braille, for example, should then be subject to the same scrutiny as restrictions on publication of printed books if the restrictions prevented blind persons from reading books. Technological aids to overcome physical disability may implicate different state interests, but they do not diminish the importance of the end being sought. See generally, Robertson, \textit{Embryos, Families, and Procreative Liberty: The Legal Structure of the New Reproduction}, 59 S. CAL. L. REV. 939, 957-62 (1987).

29. Unfortunately, advocates of regulation have often ignored or misunderstood the implications that procreative liberty has on public policy regarding noncoital reproduction, as is evidenced by the New Jersey Supreme Court's handling of procreative liberty arguments in the Baby M case. \textit{In re Baby M}, 109 N.J. 396, 447, 537 A.2d 1227, 1253 (1988)(stating that the constitutionally protected right of procreation does not encompass a right to custody of the resulting offspring). For a critique of their reasoning, see Robertson, \textit{Procreative Liberty and the State's Burden of Proof in Regulating Noncoital Reproduction}, 16 L. MED. & HEALTH CARE 18, 23-24 (1988).

30. The right to reproduce coitally or noncoitally is strongest when a married couple seeks to form a family. However, if unmarried persons also have a right to reproduce coitally, then they would have an equivalent right to use noncoital means as well, at least if coital means were ineffective. See Robertson, \textit{supra} note 28, at 962-64.
to the interests of others, not avoidable by less restrictive means, should justify interference with a couple's reproductive decisions. In general, the state will be limited in imposing restrictions based on moralistic or symbolic concerns aside from actual harm.

With regard to egg donation, it should be clear that a total ban on all forms of the technique would interfere with the procreative liberty of infertile couples, just as a ban on donor sperm or IVF would. Moralistic condemnation of the practice alone would not constitute a compelling state interest, for actual harm to persons—other than harm to their moral views—could not be shown. Nor would speculative fears of an adverse impact on offspring or family justify substantial restrictions on access to egg donation.

A similar burden of proof should apply if the state regulates, rather than prohibits, egg donation by restricting multiple donations, intrafamilial donations, donations by lavage, payments to egg donors, or the rearing arrangements that willing donors and couples may enter. To the extent that such restrictions significantly restrict access to donor eggs, they should be tested by the "compelling state interest" standard that would be applied to restrictions on coital reproduction.

Assuming these constitutional boundaries for state regulation, the remaining sections discuss the main concerns that have arisen with regard to egg donation: the welfare of offspring, the effect on family and rearing arrangements, and donor recruitment.

IV. EGG DONATION AND THE WELFARE OF OFFSPRING

A major concern with noncoital reproduction, especially with third party assistance in the formation of families, is the resulting impact on offspring. If birth through noncoital techniques harmed offspring, then the argument for banning their use and relegating infertile couples to the adoption market might have greater weight. Gamete donation and surrogacy are thought to be problematic for offspring because of the risk that children will be confused or bewildered by the separation of genetic, gestational, and rearing parentage, and the resulting rearing conflicts that might

31. A state interested in regulating egg donation might restrict all or some of the listed practices.
32. It is not clear that the risk of harm to offspring would be a compelling argument against use of the technique, since the offspring in question would not exist but for the allegedly harmful technique. See infra note 38.
ensue.\textsuperscript{33}

Yet some forms of collaborative reproduction are now widely accepted. For example, the risks to children from adoption and artificial insemination with donor sperm (AID) appear to be acceptable. The standard adoption situation differs from AID, because the separation of parentage occurs after a child is born and in need of rearing parents. The use of AID has also gained acceptance since the deliberate separation of male genetic and social parentage through sperm donation has not been shown to produce greater pathology for offspring or their families.\textsuperscript{34} There is little reason to think that egg donation would pose any greater problems than those posed by adoption and AID, and many grounds for thinking that it would pose less.

A. Is Separation of Female Genetic and Gestational Parentage Unethical Because It Is Harmful to Offspring?

There is no reason to expect problems to arise for offspring from egg donation that would challenge its ethical acceptability and justify prohibition of the practice. The child will have a biological genetic link with the rearing father and a biological gestational link with the rearing mother, as occurs in coital conception and in IVF or GIFT with husband and wife gametes. Only the lack of a genetic tie between the gestational, rearing mother and the offspring (and lack of rearing by the genetic mother) distinguishes noncoital reproduction with donor eggs from children who are coitally conceived.\textsuperscript{35}

In fact, egg donation creates a more stable rearing and family situation than exists in any other collaborative reproductive arrangement, since the gestating and rearing mother are the same. Unlike sperm donation, where the partner lacking gametes has no biological relation with the offspring, the recipient of an egg donation gestates and gives birth, thus having a biological as well as a

\textsuperscript{33} The risk of physical injury to offspring from donor oocytes is comparable to the risks of IVF, and is considered minimal. Thus, if donor oocytes result in a pregnancy, physical harm to offspring is unlikely. Therefore, egg donation could not be banned on that basis. See infra note 38.

\textsuperscript{34} R. Snowden, G. Mitchell & E. Snowden, Artificial Reproduction: A Social Investigation 50-54, 71-82, 97-104 (1983). The data is not yet in on surrogacy, but preliminary indications are that it should have advantages over adoption, since the rearing father will also be the genetic father.

\textsuperscript{35} If the egg source is a family member, then the gestational mother will have a familial genetic tie with the offspring.
rearing relationship with the offspring. The danger that the recipient will view the child as “not hers,” which could occur with husbands in sperm donation, does not exist with egg donation.

Egg donation is also preferable to adoption or embryo donation, because each rearing parent will have either a genetic or gestational connection to the offspring. In embryo donation, neither parent is genetically connected with the offspring, even though the rearing female will have gestated. With adoption, neither rearing parent has a biological connection with the offspring.

Egg donation also appears preferable to full or partial surrogacy. Unless the genetic tie is deemed all-important, egg donation is more attractive for offspring than full gestational surrogacy, since the rearing mother will also have gestated, though she will lack the genetic tie.\[^{36}\] In contrast, offspring of a full gestational surrogate will be raised by a mother to whom they are genetically related but who did not bear them. With partial surrogacy (in which the surrogate provides the egg and gestation), the rearing mother will not even have a genetic tie with the offspring.

Is it reasonable to assume that the gestational connection to the rearing mother will count for more than genetic similarity and the missing genetic mother? One cannot easily ignore the importance which genetic or bloodline connections have traditionally held, especially in patriarchal societies. Still, female reproduction is traditionally so closely associated with gestation that the gestational mother who rears is likely to be more important for the offspring and society than the woman who provides the egg. Thus, it is neither unreasonable nor necessarily sexist to think that genetic or bloodline connections will be of lesser importance for women and offspring than gestational connections, even if men would still place a premium on having genetic heirs.\[^{37}\] Of course, the genetic tie may still have meaning for donors and offspring, though a meaning less than that of gestational and rearing parentage.

In sum, the deliberate separation of female genetic and gestational parentage that occurs in egg donation appears to pose the

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36. Unless the egg donor is a family member, in which case, the offspring will also have a familial genetic tie.

37. Some feminists have argued that bloodline connections or genetic ties should have no special importance for men or women. However, one may wonder whether attitudes toward the genetic bond would vary depending on the sex of the gamete donor and the resulting offspring.
least risk of family conflict or psychosocial confusion for offspring. Offspring are not harmed merely by being born to, and reared by, a woman who is not the genetic mother. Indeed, the procedure makes their very birth possible, since they would not have existed aside from the donation.\textsuperscript{38}

Given the advantages of egg donation over other forms of collaborative reproduction, it should be obvious that the ethical or legal case for banning all egg donation to protect offspring is very weak. A legal ban on egg donation would interfere with the procreative liberty of infertile couples to form a family biologically related to both partners.\textsuperscript{39} Moralistic condemnation unrelated to actual harm to offspring would not provide the compelling state interest necessary to justify interference with the couple's fundamental right to form families.\textsuperscript{40} Thus, egg donation could not constitutionally be banned to protect offspring from the speculative harm of confused lineage.

B. Anonymity and Relations Between Offspring and Donor

Following the model of donor sperm, most egg donations will probably be made anonymously, and donor records may not even be kept. Yet offspring born of donor eggs might wish to gain information about their genetic mother. Must they be told of the egg donation? Do they have a right to know or meet their genetic mother? To find an answer to these questions, we must consider the importance of the female genetic tie \textit{tout court} for offspring and donors.

The central inquiry concerns the importance of a relationship with, or knowledge of, genetic parents who have not gestated or reared. Some adopted children have strong desires to learn about

\textsuperscript{38} Even if psychosocial complications were more frequent than in offspring conceived coitally by a married couple, it would still be difficult to show that the offspring, who cannot exist aside from the collaborative arrangement at issue, would be so harmed by existence that their lives would be "wrongful." Therefore, the technique could not be banned to protect offspring. \textit{See} Robertson, \textit{supra} note 28, at 988 n.169. This point holds true even if persons find that collaborative reproduction involving donor gametes, donor embryos, and surrogacy "harms" the child, since the harm will still be less than the degree of harm necessary to make the life "wrongful."

\textsuperscript{39} \textit{See} supra notes 28-30 and accompanying text. \textit{See also} Robertson, \textit{supra} note 28, at 958-62.

\textsuperscript{40} Robertson, \textit{supra} note 28, at 966 (stating that symbolic concerns without direct harm to others are usually insufficient to justify infringing the fundamental rights of persons with different views).
or meet their biological parents. Children of sperm donation occasionally share this desire as well. It is likely that children born of surrogacy will also want to meet their gestational (and genetic) mother. However, it is not clear that egg donation will inspire the same drive for knowing the genetic parent, since offspring may not experience the sense of abandonment that is often felt with adoption and possibly with surrogacy.

For many persons the gestational and rearing role of the recipient of donor eggs will dwarf the importance of the female genetic tie **tout court**. Its importance may vary with the individuals involved and their own reproductive, life, and family experiences. It may be of little or no importance to many offspring, donors, and recipients, even if it matters greatly to others. Further experience will be necessary to fully assess this issue.

In any event, one might argue that there is an ethical obligation to inform the child that he or she was born of a donor egg, and to provide relevant genetic or other information, at least if the offspring desires it. This information is basic to self-identity, and is as much a part of the self as is one's name. It may be important for health reasons as well. Advisory commissions have generally supported such a right, yet it is still a hotly contested issue.

A variation on this problem arises with the rule recommended by some commissions, and adopted in Victoria, Australia, that eggs or embryos from different donors may not be transferred to the uterus of the recipient at the same time. Presumably, this rule seeks to avoid confusion about the identity of the genetic parent. However, if this procedure were more efficient in producing offspring, and other means of establishing genetic parentage existed, the practice should be acceptable.

At present, in most jurisdictions, offspring of egg donation would not have a legal right to learn information about, much less.

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42. See sources cited supra note 25. Sweden now requires that all sperm donors be identified so that the identity of the donor as well as other information can be provided to offspring. Several commissions have recommended that offspring of donor sperm and eggs should be given information concerning the genetic parent. See paper prepared by Tor Sverne, Ministry of Justice, Sweden (June 1987)(prepared for Cambridge Conference on New Reproductive Technologies).
43. See Waller Committee, supra note 25. See also Infertility (Medical Procedures) Act, Act No. 10,163, § 13(3) (Vict. [Aus.] 1984)(stating that “[a] procedure . . . shall not be carried out unless . . . (e) where more than one embryo is used in the procedure, the gametes from which each embryo was derived were produced by the same two persons.”).
the identity of, the genetic mother, even if records of such information existed. In the United States, adopted children and children born of sperm donation generally do not have a legal right to override pledges of confidentiality to learn their biological origins. Great Britain and Australia have become more liberal on this score, however, and are likely to extend this protection to children born of donor eggs.

A strong ethical argument in favor of such laws might be made, although counterarguments do exist. Legislation requiring that information about the donor be made available to offspring might interfere with the wishes of the infertile couple and donor regarding privacy, and may deter persons from volunteering as donors or seeking egg donations. Yet one might reasonably conclude that the offspring's interest in personal and genetic identity outweighs the privacy interests of donors and recipients. Whether restrictions on donor anonymity would dry up the donor pool or merely alter its characteristics must await further experience. The needs of offspring to know about their origin may justly take priority over donor and recipient wishes for privacy, even if it alters the pool of egg donors and prevents the birth of some children who would otherwise have been born.

Until such laws are passed, however, egg donor programs should keep records so that access at a later time could be provided if offspring became entitled to such information. Of course, donors and recipient couples must be informed that such confidential records are being kept. Even if disclosure were not legally required, the parties could consent to release of information to those offspring interested in acquiring it.

44. Robertson, supra note 28, at 1016-17.
45. See supra note 25. Sweden also requires that the name of the sperm donor be registered and information provided to those offspring above eighteen years of age who desire it.
46. Robertson, supra note 28, at 1017-18. The offspring's interest in obtaining information about his genetic identity would be deemed a compelling state interest that would justify the intrusion imposed on the donor and recipient's wishes and privacy.
47. Scotland and other jurisdictions which make this information available to adopted children report that only a small minority of children ever seek it.
48. Unborn persons have no right to be born, and thus no person whose rights this policy could violate will ever exist. See Kavka, The Paradox of Future Individuals, 11 Phil. & Pub. Aff. 93 (1982).
V. ASSIGNMENT OF REARING RIGHTS AND DUTIES IN OFFSPRING OF EGG DONATION

An important set of ethical, legal, and policy issues concerns the respective rearing rights and duties of the donor and recipient couple in offspring born of egg donation. Since all three contribute to the birth of the child, all three could have an interest in rearing the offspring. For example, the egg donor may have a strong interest in knowing or participating in the rearing of the child (as may the child in knowing and relating to the genetic mother). At the same time, the recipient couple (and/or child) may have an interest in the donor being excluded altogether, or in contributing support or other services to the rearing of the offspring.

In this situation, disputes about custody, support, visitation, and inheritance are likely to be painful for the parties and damaging to the offspring. Uncertainty about legal consequences may also deter infertile couples and donors from using this procreative option. As a result, rules that clearly define the social parentage and status of children born of egg donation (and other collaborative arrangements) are needed.

A far-sighted jurisdiction would reduce uncertainty and facilitate such arrangements with legislation that specifies rearing rights and duties in offspring born of egg donations. A basic question for legislators is whether the child's status will be determined by a contractual agreement among the parties or controlled by a legislative prescription of rearing rights and duties. Given the experience with donor sperm, it is likely that legislation would recognize the donor's relinquishment of rearing rights and duties.

49. Some sperm donors have attempted to contact their offspring. It is logical to assume that egg donors might want information about their genetic offspring.

50. For an example of a model act accomplishing much of this goal (but not recognizing agreements to have the donor participate in rearing) See CHILDREN OF THE NEW BIOLOGY ACT (Nat'l Conference of Commissioners on Uniform State Laws 1988). Legislating might present a dilemma, due to the symbolic legitimation and encouragement which legislation appears to give to practices that some persons view as morally and socially questionable. On the other hand, failure to legislate may prevent access to infertility treatments and lead to disruptive disputes or uncertainty about legal results.

51. The most desirable legislative solution would be to recognize those results that the parties reach contractually, such as an agreement to exclude the donor from any rearing responsibility. Indeed, a failure to recognize such contracts might interfere with the procreative liberty of the parties, unless a compelling governmental interest would justify the interference. Interfering to assure that the rearing party is a good child rearer, or that support is otherwise provided, might be adequate, but only if a similar interference could occur with offspring of coital reproduction.
and their assumption by the recipient couple. Even without legislation it is reasonable to conclude that courts will uphold agreements for assigning all rearing rights and duties to the gestational rather than the genetic mother, a result that parallels family relations with sperm donation. Depending upon their impact on offspring, agreements to share rearing among donor, gestational mother, and biological father may also be recognized.

A. Agreements to Exclude the Donor

In the United States and other Anglo-American jurisdictions, courts and legislatures are likely to recognize an agreement that totally excludes the egg donor and transfers all rearing rights and duties in the offspring to the recipient who gestates, in the event of disputes over custody, support, visitation, and inheritance. The rearing or legal mother has traditionally been the gestational mother. If the gestational mother (and the partner providing the sperm) had originally bargained to rear the offspring, there is no reason why they should not be held to their bargain.\(^1\) The donor's right to participate in rearing, after providing the egg under the condition that she be excluded, seems of lesser merit, even if surrogate mothers are permitted to change their minds and rear the child intended for the hiring couple after birth.\(^2\)

Such a result would parallel the assignment of rearing rights and duties in offspring born of donor insemination consented to by the recipient's husband. The donor's relinquishment, and the husband's assumption, of rearing rights and duties in the offspring is recognized by statute in thirty states and in many countries.\(^3\)

\(^1\) For inheritance purposes, the child would take from the gestational mother in the following ways: as her heir under intestacy statutes, or as a devisee when bequests are left to her "issue" or to her "heirs," or to "issue or heirs" of the gestational mother and her husband. The child should have no right then to take from the genetic mother, unless the genetic mother expressly provides that the offspring should take from her.

\(^2\) Even if surrogates are permitted the right to change their minds and rear offspring that they were hired to produce for an infertile couple, the gamete donor—who has only a genetic and not gestational tie with the offspring—would not have as strong a claim as the surrogate to override the preconception agreement to relinquish rearing rights and duties. Society may choose to value the gestational bond more highly than the genetic bond.

\(^3\) See Congress of the United States, supra note 1, at 242-44. While all thirty existing statutes specify that the consenting husband is the legal father for all legal purposes, only sixteen states say that the donor is not the father. A reasonable interpretation in the other fourteen states, which do not specifically exclude the donor from any paternal role, is that the specification of the husband as the father effectively excludes the donor.
This rule has even been followed in states without statutes addressing the subject. There is no apparent reason why the same result should not be reached with donor eggs when the parties have specifically agreed to that arrangement.

It should be noted that the recipient's partner (the source of the sperm) is the legal father, with all attendant rearing rights and duties, as long as he has knowingly provided sperm with the intention of fathering a child that he will rear. Under the rules that usually apply to sperm donated to a married couple in which the husband consents to the donation, the man donating sperm so that others may rear would have no rearing rights or duties in resulting offspring.

Similarly, the spouse of the egg donor would have no rights or duties in offspring born of his wife's donated egg. The rule making the husband the presumptive father of children born of his wife assumes that she has gestated and will rear the child. Such a rule should not make him responsible for his wife's genetic offspring that have been gestated and reared by another woman and fathered by another man. Nor would a husband have the power to prevent his wife from donating eggs anymore than he could prevent her from aborting or going to term, or than his wife could prevent him from donating sperm to infertile couples. To prevent

55. People v. Sorenson, 68 Cal. 2d 280, 437 P.2d 495, 66 Cal. Rptr. 7 (1968)(defendant, although sterile, was the lawful father and was therefore obliged to support a child born to his wife by a process of heterologous artificial insemination); In re Adoption of Anonymous, 74 Misc. 2d 99, 345 N.Y.S.2d 430 (N.Y. Surr. Ct. 1973) (adoption of a child born after artificial insemination of wife by semen of third-party donor requires husband's consent, since he is considered "a parent").

56. Victoria, Australia, which has the only existing statute on egg donation, subjects the egg donor to the same rights and duties that the sperm donor has. See Infertility (Medical Procedures) Act, Act No. 10,163, § 13 (Vict. [Aus] 1984). By implication this statute does not permit the parties to bargain for some legally enforceable later contact between donor and offspring.

57. In most states, if a married woman receives a donor embryo without her husband's consent and gives birth to a child during the period of their marriage, the child would be presumed (often irrebuttablly) to be the legitimate child of the father. Artificial insemination laws requiring husband consent for him to be the legitimate and legal father might not apply, since in vitro insemination of a donor egg with donor sperm might not be held to be "artificial insemination" as used in those statutes, since the conception occurs in vitro rather than in vivo.

58. However, this is not so where the child is the result of artificial insemination by donor sperm, and the husband has not consented to the procedure. See Freed, As Surrogate Parenting Increases States Must Resolve Legal Issues, Nat'l L.J., Dec. 22, 1986, at 10, col. 1.

59. If the husband has no legal responsibility for the genetic offspring of his wife who are gestated and reared by another woman, he would have no interest in the avoidance
disputes, however, written consent of the donor's spouse may be requested, though it should not be obligatory.

B. Agreements to Include the Donor in Rearing

The typical case of egg donation envisions the donor relinquishing, and the recipient acquiring, all rearing rights and duties in the offspring. However, depending on demographic and social change and the supply of egg donors, some women may volunteer as donors only on the condition that they participate in rearing. This arrangement might occur among friends, in intrafamilial donations, or even in cases of strangers who donate without being paid. Should such collaborative rearing arrangements be permitted? Should they be legally enforced, if either the recipient or the donor later violates them?

The position most protective of procreative liberty and family privacy would not prohibit parties from entering into such collaborative rearing arrangements if they saw fit. Many types of blended and extended family rearing relations exist even in western cultures. They are not necessarily harmful, and may have positive benefits for all parties.

A more serious legal question arises when either the donor or recipient wishes to violate the agreement for the egg donor to participate in rearing. Respect for procreative liberty and family privacy would recognize the right to enter into such collaborative reproductive arrangements and have them enforced against both donors or recipients if either violates them. Recipients would then be obligated to permit the donor to have some contact with the child, unless such contact were harmful. The donor's claim to

of such offspring that would deserve legal protection. Cf. Planned Parenthood of Missouri v. Danforth, 428 U.S. 52 (1976)(holding that a state cannot grant a husband the right to prevent or veto an abortion). On the other hand, Victoria, Australia requires the husband's consent to ovum donation. See Infertility (Medical Procedures) Act, Act No. 10,163, § 13(3)(b) (Vic. [Aus.] 1984).

60. If the agreement is that the egg donor is to be the primary or sole rearer, then the situation is that of gestational surrogacy, and the rules for enforcing surrogate contracts would apply. In re Baby M, 109 N.J. 396, 537 A.2d 1227 (1988)(suggesting that the agreement to exclude the gestational mother or surrogate would not be enforced).

61. A claim that legal enforcement of such agreements is constitutionally required would have to rest on the argument that a person's procreative liberty includes the right to provide genetic material and participate in rearing the resulting offspring, unless harm to the offspring would result. This claim is broader than the procreative liberty claimed for married couples, and may not be as easily recognized by the courts. See supra notes 28-30 and accompanying text. The claim might be stronger if viewed as derivative of the infertile
rear would be strongest if some rearing relation with the offspring had been permitted to occur. It would be weakest if she sought to participate in rearing long after the child was born.

Similarly, an egg donor who had explicitly agreed to assume rearing obligations might be obligated to pay support or assume custody to protect the best interests of the child or to bear a fair share of rearing burdens. In situations not covered by statute, there is the danger that courts might impose rearing obligations on egg donors who did not wish them, just as it has done with biological fathers, including those who have never reared or even intended to conceive offspring. In the paternity cases, however, no other biological father is available. With egg donation, a gestational rearing mother exists, so that the need to hold the genetic mother accountable, despite her wishes to the contrary, is less compelling.

While disputes between egg donor and recipient may be too infrequent to pose major problems, they are discussed here to show the kinds of disputes that might arise when gametes are exchanged through egg donation. Further legal and ethical consideration of such agreements must await future experience.

married couple's right to obtain egg donations. By permitting a particular couple to renge on their agreement to allow the donor to participate in rearing would arguably interfere with the ability of other infertile couples to obtain eggs, because it would deter donors from giving eggs on that basis.

If the right to enter into such agreements were recognized, a question would still remain as to whether state interests justify overriding that right. Thus the question would be whether having two female rearing parents would be harmful in infancy and childhood. If a child's best interests would be served by having only one female parent, then the agreement might be overridden, presumably in favor of the gestational mother, since it was planned that she would rear anyway.


63. Biological parents who avoid any rearing role can have parental rights flowing from the genetic relationship terminated. See, e.g., Lehr v. Robertson, 463 U.S. 248 (1983).

64. Jhordan C. v. Mary K., 179 Cal. App. 3d 386, 224 Cal. Rptr. 530 (Cal. Ct. App. 1986) (holding that semen donor's status as legal father is preserved where semen is not obtained by recipient through a licensed physician, leading to a valid support order against the donor). For an example of a court imposing child support payment on a man who had been assured by the woman that pregnancy could not result from the act of intercourse, see In re Pamela P., 110 Misc. 2d 978, 443 N.Y.S.2d 343 (N.Y. Fam. Ct. 1981).

65. Even if one is persuaded that the interests of the offspring are best served by not recognizing the donor's claims (the child does have a gestational mother here, unlike the sperm donor situation where there may be no male parent), this conclusion would apply only to a case where the donor and recipient sought a variation on the standard egg donation arrangement, since the right to relinquish all rearing rights and duties to the recipient...
VI. INTRAFAMILIAL DONATIONS

Intrafamilial donations may be sought for the purpose of having a genetic tie with offspring, for cultural reasons, to reduce costs, or because of a preference for a known donor.

Indeed, intrafamilial donations may be more desirable for offspring and families. The relationship between a familial egg donor and offspring may lead to a special aunt or godmother-type rearing relationship that all find mutually satisfying. On the other hand, family conflict could arise and project itself into the relations among donor, recipient, and offspring.

Equally complicated blended family arrangements exist in many cultures. The levirate custom of a brother marrying a brother’s widow and fathering more children, who are then half-siblings and cousins, is widely recognized. In the west, marriages of persons with children from previous marriages with step and biological children reared in the same family unit are now frequent. Viewed in this larger context, intrafamilial egg donation should not be alarming.

It is surprising that some official or quasi-official bodies have recommended that family or friends not be used as gamete donors. The Voluntary Licensing Authority in the United Kingdom will not license an IVF clinic that accepts the recipient’s sister as an oocyte donor, out of fear that close familial ties might have harmful psychological consequences on offspring.66 Victoria, Australia, and New South Wales also ban such donations.67

Given that the recipient and donor will share a genetic connection with the child, the benefits of intrafamilial donation may clearly outweigh any harm. It may be that there are distinct advantages in such a relationship, akin psychosocially to the immunological advantages of intrafamilial organ and tissue donation. Since the fear of harm to offspring is currently speculative, a ban on intrafamilial egg donations is premature, and should await evidence of actual harm.68 In the United States a governmental ban

would still exist.


67. Compare these statutes with the recommendation of South Australia’s Working Party on In Vitro Fertilization and Artificial Insemination by Donor, Report at 28 (1984) that relatives, friends, or known persons not be used as gamete donors in AID or IVF.

68. A somewhat similar problem arises when the donor is known to the recipient, or has been recruited by her. This knowledge, however, may turn out to be beneficial for all parties, or may lead to later complications.
on intrafamilial gamete donations would raise serious constitutional problems.\(^6^9\)

**VII. EGG SUPPLY AND DONOR RECRUITMENT ISSUES**

Egg donation requires that women willing to provide healthy eggs be identified, and the eggs retrieved, so that an embryo, formed from the donor oocyte and the recipient’s partner’s sperm, implants in the recipient’s uterus. Since retrievable eggs are fewer than donor sperm and relatively inaccessible, egg retrieval poses issues of risk and ownership that do not arise so clearly in sperm donation. Although parallels exist in other bioethical contexts, these issues arise with a unique spin in egg donation.

In broad terms, the issues raised by donor recruitment implicate concerns about paternalism and commodification of the body and its products. Paternalism concerns arise out of the bodily and physical risks which egg donors undertake for the sake of others, an issue common to many bioethical questions, including refusal of necessary treatment, serving as a surrogate mother, and live donation of organs or tissue for transplant. Commodification concerns arise when a woman donates eggs for money, thus turning her body and its products into a commodity for sale, an issue also arising with paid surrogacy and the buying and selling of organs. Paternalism and commodification take on added meaning in a reproductive context, due to the dangers of exploiting women and the symbolic significance of reproductive factors.\(^7^0\)

Three donor situations need to be distinguished: 1) women undergoing IVF treatment; 2) women undergoing other surgery; and 3) women recruited specifically for egg donation. Donors in each group might be anonymous strangers or friends or relatives recruited by the recipient.\(^7^1\) In each instance, the donors will have

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69. Such a ban would arguably interfere with the couple's procreative liberty or family privacy by denying them the means necessary to reproduce. However, if alternative egg sources were available to the couple a court may be less likely to find a violation of procreative liberty, unless the selection of the genetic source were also considered part of that right. See *supra* notes 28-30 and accompanying text.

70. Some feminists have been concerned that women will come to be viewed as "egg producers" without regard to their interests or welfare. Corea, *Egg Snatchers*, in *Test-Tube Women: What Future for Motherhood?* 37-52 (1984); Murphy, *Egg Farming and Women's Future*, in *Test-Tube Women: What Future for Motherhood?* 76-92 (1984). To minimize the danger to donors, it is essential that the free, informed choice of potential donors is respected.

71. The following discussion assumes, unless otherwise indicated, that the donor is a stranger.
to be screened medically and genetically, and their free, informed consent to the donation assured.

A. Donors Undergoing IVF Treatment

Some donor egg programs will obtain eggs from women who are undergoing hyperstimulation and oocyte retrieval as part of their own IVF treatment. Hyperstimulation regimens often produce ten or more eggs—more than can be safely transferred after insemination to the egg source. Eggs that could not be inseminated and safely transferred to the uterus can be retrieved and donated to women unable to produce healthy eggs. The donated eggs could be transferred soon after insemination or frozen after insemination for transfer at a later time. The largest IVF program in the United States, the Jones Institute, in Norfolk, Virginia, uses this method of obtaining donor eggs.\footnote{72}

While this source is the least risky for the donor, it may not provide sufficient donor eggs to meet the demand. Many couples undergoing IVF might prefer to inseminate and freeze extra eggs rather than donate them, thus limiting the supply of donor ova. Also, unless randomly selected, excess oocytes obtained from IVF patients may be morphologically less desirable than those oocytes chosen for insemination and transfer to the donor. On the other hand, random selection of donor ova risks lowering the donor's own chances of pregnancy while increasing those of the recipient. Finally, this pool of donors may be too small to permit close matching of donor and recipient characteristics.

Despite these disadvantages, donors who are themselves undergoing stimulation and retrieval of eggs for IVF present minimal ethical concerns. The primary risk encountered in such a program is that the eggs they donate might lead to pregnancy while the ones they retain for their own use do not. Surely this is the sort of risk that consenting adults are permitted to run in our society, even if eggs are selected randomly rather than reserving the best ones for the donor's own attempts at pregnancy. As long as full disclosure and consent occurs, the risk to the donor of not achieving pregnancy is not a serious ethical objection to donation.\footnote{73}

\footnote{72. See supra note 20 and accompanying text.}  
\footnote{73. Indeed, the greatest ethical concern may be that the recipient is not being given access to the best eggs available, and thus may be undergoing the costs and burdens of a procedure that has a very small chance of achieving pregnancy. Informed consent of the}
B. Donors Undergoing Other Medical Procedures

A second source of donors includes women who are undergoing tubal ligation or other abdominal surgery which gives easy access to the ovaries. While this source has the advantage of imposing little surgical risk on the donor beyond some slight lengthening of the surgical procedure, it would entail scheduling inconvenience and the risks of ovarian hyperstimulation. The stimulation and surgery could be timed to coincide with transfer to the recipient, but freezing of inseminated eggs is probably the best way to synchronize the procedure with the recipient's cycle.

Consenting donors who are undergoing other abdominal procedures also present little ethical concern. The risk of hyperstimulation and some slight lengthening of their surgery would seem to be well within the discretion of individuals who knowingly consent to such a procedure.

However, it is unclear whether enough eggs to meet future demand can be obtained from this source, and whether sufficient flexibility for matching recipients will exist. There also may be logistic or other problems that limit the eggs that will be available from women undergoing abdominal surgery.

C. Donors Not Undergoing Medical Procedures

Donors experiencing the greatest risks, and hence posing the greatest ethical problems, are women recruited specifically for egg donation. They are asked to submit to hyperstimulation and removal or retrieval by lavage after in vivo insemination solely to donate eggs. The advantage of utilizing this source is the possibility of a more reliable and predictable pool of donors, and thus a larger and more certain supply of eggs for donation. Given the limitations of other egg sources and the logistic and selection advantages which it offers, this group is likely to be the largest source of donor eggs.

The disadvantage is that women will be undergoing more than a minimal risk in order to benefit others, and may require recipient mitigates, but does not eliminate, this ethical problem.

74. The risks posed by the hormones employed in hyperstimulation, mainly Pergonal and Clomid, are generally considered minimal. However, complications can occur. The ovaries might enlarge excessively and ovarian cysts may rupture causing an acute emergency requiring hospitalization. Rupture resulting in hospitalization may occur in one-half to one percent of hyperstimulated women. See Formigli; supra note 16, at 1442; Rosenwaks, supra note 6, at 898-99.
payment for their efforts.\textsuperscript{75} Most donors will undergo laparoscopy under general anesthesia after ovarian stimulation to donate eggs. While ultrasound-guided transvaginal aspiration of eggs will reduce some of these risks, general anesthesia may still be employed, and complications from the retrieval process are possible. Donors of in vivo inseminated eggs removed by lavage run the risk of normal or ectopic pregnancy, and the ensuing medical treatment, abortion, or childbirth to which they may lead.\textsuperscript{76}

Although the risks involved are greater than those faced by the sperm donor or other egg sources, they seem to be within the realm of personal choice, assuming informed and free consent by the donor. While not insignificant, the risks of stimulation and surgical or lavage retrieval appear to be moderate. Their choice would seem rational and within the scope of ordinary adult discretion, or so reasonable persons might think, who find value to donor, recipient, and offspring in egg donation.

Bone marrow or kidney donation provides a useful comparison for assessing the acceptability of the level of risk involved. Both kidney and bone marrow donations involve risks greater than egg donation. Yet society approves of, and even encourages kidney and bone marrow donations by living donors, including marrow donations from unrelated donors, even though they will be required to undergo surgery and general anesthesia.\textsuperscript{77}

While marrow and kidney donors experience comparable or greater risks than egg donors, the benefits to the recipients differ. Marrow and organ transplants from living donors are usually performed to save life or remove dependency on dialysis. Egg donation, however, is not life-saving. Its purpose is to relieve infertility, allow genetic selection to occur, or provide eggs for diagnostic and research uses. Still, reasonable persons might find these goals to be sufficiently important to justify voluntary assumption of the

\textsuperscript{75} See infra notes 86-106 and accompanying text. In addition, a program dependent on this source will face the need to advertise and solve other logistic problems in recruiting donors from the community at large.

\textsuperscript{76} Egg donation by lavage also raises issues of embryo status and control, since a preimplantation embryo is the vehicle by which the egg donation occurs. See supra notes 16-17 and accompanying text.

\textsuperscript{77} The National Organ Transplant Act of 1984 granted authority to the Secretary of Health and Human Services to conduct a study to determine the feasibility of a national bone marrow registry and to establish the registry within six months of the completion of the study. The registry would be created to match unknown and related persons for marrow donations. 42 U.S.C. § 273 (1986).
risks of egg donation. Donors are not frivolously risking such great injury to themselves that interference with their choice and the reproductive needs of infertile couples could be justified merely to protect their welfare. Indeed, such paternalistic interference with reproductive choice would probably be held unconstitutional.

D. Repeat Egg Donations

Repeat donors may be attractive to IVF programs interested in building up a reliable pool of fertile donors, even though they complicate the ethical analysis because of the increased risks to donors. At some point multiple donations by women recruited for that purpose might become ethically unacceptable due to the accumulated risks involved.

As a practical matter, it may be that few programs or donors will even consider repeat donations from women not undergoing IVF or surgery. Programs should consider limiting the number of times a donor may be used because of uncertainty over accepta-

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78. Some egg donors may be partially or wholly motivated by money payments which, under federal law, are not available to organ and tissue donors. On the other hand, like organ and tissue donors, many oocyte donors will be acting altruistically. To illustrate, women undergoing IVF who donate excess eggs, women undergoing abdominal surgery who agree to be stimulated in order to provide donor eggs, and related or unrelated women who undergo stimulation and surgery solely to donate may all be motivated largely by the desire to help relieve the infertility of those unable to produce their own healthy oocytes. Even women who are paid for procedures that they would not otherwise undergo may be strongly motivated by the desire to help infertile couples. In addition, egg donors may also have procreative goals that do not exist with marrow and kidney donors. Some women may donate eggs as a way of reproducing without the burdens of gestation or rearing (perhaps a similar motivation exists with sperm donors). They may also be motivated by egoism, or the simple desire to leave a legacy of children to the world. For example, an egg donor testified before Congress, "I have good genes and want to pass them on." See Hearings Before the Subcomm. on Investigations and Oversight of the House Comm. on Science and Technology, 98th Cong., 2d Sess. 103 (1984).

79. Since infertile couples would have a right to use donor eggs to form a family, a limit on supply that would interfere significantly with access to donor eggs would have to be justified by a compelling state interest. The risk to the donor may not be a sufficiently compelling state interest, given that similar risks are permitted to people in many circumstances. Arguably, fears of commodification or exploitation of donors would also not justify interference with procreative liberty. See Robertson, supra note 28, at 966, 1018-23.

80. Repeat donations would most likely occur when egg donation occurs by lavage, rather than by surgical removal. Dr. John Buster's program of oocyte donation by lavage had envisioned women going through the donor cycle many times. See Bustillo, supra note 16. Although the donor risks ectopic or normal pregnancy, retrieval is nonsurgical and may be more easily accepted by donors and sought by programs offering this form of egg donation. See supra notes 16-17 and accompanying text.
bility of the risks involved. A limit of three to five cycles would appear to strike a reasonable balance. Such a limit is unlikely to increase the scarcity of donor oocytes, and can always be reconsidered after more experience develops. 81

Another possibility occurring with repeat donations is the chance that one donor will provide the eggs that lead to the birth of many children resulting in unwitting consanguineous marriages. However, this risk is not nearly as great as it is with sperm donors, because of the greater difficulty of achieving pregnancy through IVF. 82 A limit of ten offspring from one donor, as has been recommended for sperm donors, provides an acceptable outer limit to prevent unwitting consanguinity. 83 Alternatively, limiting a woman to three to five donative cycles would achieve this goal as well as protect women from undergoing too much risk without greatly reducing the supply of donor eggs. Such a policy should be a workable guideline until more experience shows that the risks and benefits require a different balance.

Surprisingly, the need to limit the number of offspring from single sperm donors to prevent unwitting incest and other untoward effects has not always been recognized. While the American Fertility Society and other groups have recommended that the same donor not be used for more than ten offspring, doctors and sperm banks are under no legal obligation to limit the number of donors. 84 An attractive, fertile, and reliable donor will be in demand by banks and recipients, with the result that he could end

81. However, a law limiting the number of cycles or offspring is probably unnecessary. In the United States, such a limit on donations could be unconstitutional if alternative sources of eggs for infertile couples did not exist. See supra note 69.

82. To illustrate, in an extreme case one woman could provide twenty eggs in a single cycle, and could donate for ten cycles. All 200 eggs could fertilize and divide. In theory all 200 could be transferred (fresh or frozen) to receptive endometria, and brought to term. However, the chance of a woman providing twenty viable eggs in one cycle, fertilizing all twenty, and having all twenty cleave, implant, and successfully brought to term is extremely low. The natural wastage rate is high, and IVF technology has not yet been able to improve it. The probability that the same woman would repeat the performance five much less ten times is also extremely low. Thus, the danger that a few egg donors will produce a great number of progeny, thereby increasing the probability of unwitting incest among persons genetically related to each other, is very low, and clearly lower than could occur with sperm donors.

83. This natural limit also undercuts the feminist concern that women will be viewed as professional egg producers, with the demeaning implications which that carries. See supra note 70.

84. American Fertility Society, supra note 25, at 37S.
up fathering many children. The possibility that one donor will produce many offspring and contribute to unwitting incest is much greater with sperm than egg donors.

E. Paying for Human Oocytes

American and many foreign egg donor programs have taken two different approaches to the question of paying donors. Programs or recipients using eggs obtained as a by-product of the donor's own attempt at IVF have generally not paid the donor for the donated eggs or for her expenses in procuring them. Programs using donors who are not otherwise undergoing egg retrieval usually make a graduated series of payments for each service rendered (e.g., for each hormonal injection, blood drawing, sonogram, laparoscopy or other procedure). The Cleveland Clinic, for example, will pay donors $800 to $1,200 for one retrieval cycle (which the recipient ultimately pays). It is also a common practice to pay women who undergo hyperstimulation and donation secondary to other surgery. The extent to which donors recruited by the recipient from family or friends are paid is unknown.

Paying women to donate eggs does not violate existing law in the United States. Federal law and some states ban the payment of money for organ donations, but these laws do not cover replenishable tissue such as gametes. Indeed, sperm donors are commonly and legally paid ($25 to $50 per donation is the usual range). Laws in Florida, Louisiana, and Massachusetts banning the sale of embryos might apply to embryo donation by lavage, but their terms would not cover the sale of unfertilized eggs. A

85. The greatest danger of unwitting consanguineous marriages would arise in a geographic area where one donor may be responsible for most offspring born of donor gametes.
86. See supra note 20 and accompanying text.
87. See supra note 22 and accompanying text.
88. See supra note 21 and accompanying text.
89. An exception is Louisiana, which explicitly outlaws the sale of ovum. LA. CIV. CODE ANN. art. 9:122 (West Supp. 1988). While some states, such as Virginia, outlaw the sale of nonrenewable tissue, eggs are arguably renewable, since a supply lasts until menopause, even though new eggs, unlike sperm and blood cells, are not manufactured in the body. See VA. CODE ANN. § 32.1-289.1 (1985).
91. FLA. STAT. ANN. § 873.05(2) (West Supp. 1988); LA. CIV. CODE ANN. art. 9:122 (West Supp. 1988); MASS. GEN. LAWS ANN. ch. 112, § 12J(a)IV (West 1983). However, even under these statutes one could argue that the egg rather than the embryo is the object of sale, with the embryo created by the donor egg and recipient's partner's sperm merely being the vehicle for delivering the purchased egg.
ban on paying donors would face constitutional difficulties in the United States if it impaired the access of infertile couples to donor eggs.\textsuperscript{92}

Payment for human gametes has been outlawed in some countries,\textsuperscript{93} and is likely to become more controversial as knowledge of payment practices spread. The ethical objections to paying egg donors thus require further consideration.

1. Paying Women Who Are Not Undergoing IVF

Perhaps the most serious concerns about payment arise with women who are not undergoing IVF, who would therefore be receiving payment not only for transfer of their eggs, but for undergoing the physical burdens of stimulation and surgical removal, for hyperstimulation alone (when eggs are donated secondary to other surgery), or for insemination and retrieval by lavage. Paying for such bodily intrusion is thought to treat the donor and her body as an object to be bought and sold.\textsuperscript{94} It also treats gametic material, from which a new person might spring, as an object or commodity to be sold on the market.\textsuperscript{95} Finally, some persons may fear that poor women will be disproportionately drawn by financial need to undergo the physical burdens that service as an egg donor entails.\textsuperscript{96}

Objections to paying egg donors stem from a religious or moral view of human dignity that is not universally shared. For example, the claim that human dignity is diminished by buying and selling reproductive factors, in the same way that prostitution demeanes or degrades sex, is open to dispute. Many persons would

\textsuperscript{92} If a ban on payment greatly reduced the number of women willing to donate eggs and thus the availability of donor eggs, the ban would interfere with the infertile couple's right to form families noncoitally, and thus may require a compelling governmental interest justification. Unless actual harm stemming from payment could be shown, the only justification for the ban would be symbolic or moralistic, which would arguably be an insufficient justification for interfering with a fundamental right. However, the state could pursue its moralistic goal if no significant interference with access to donor eggs occurred. See Robertson, \textit{supra} note 28, at 1021-23.

\textsuperscript{93} Australia outlaws the paying of gamete donors. See \textit{Infertility (Medical Procedures) Act}, Act No. 10,163, § 13(7), (Vic. [Aus.] 1984); \textit{Wallner Committee, supra} note 25, at 44.


\textsuperscript{95} \textit{Id.}; Radin, \textit{Market-Inalienability}, 100 Harv. L. Rev. 1849, 1921-25 (1987).

\textsuperscript{96} Titmuss argues that financially needy donors also lower the quality of the donated product and reduce the supply of altruism generally in society. R. Titmus, \textit{The Gift Relationship: From Human Blood to Social Policy} (1971).
find payment for the egg donor’s time and effort morally unobjectionable and appropriate, if not also obligatory.97 Indeed, refusing to pay donors for their efforts seems unfair and exploitative.98 The donor is contributing a significant effort that is not morally required of strangers or even family members. Payment recognizes the donor’s contribution to the enterprise, thus satisfying the reciprocal obligations created by gifts.99 Indeed, paying sperm donors, but not egg donors would unfairly discriminate against women, who undergo greater risk in order to donate eggs.

Fears about class bias and exploitation of the poor also seem insufficient to exclude this important source of donor eggs. First, the recipient’s desire to receive good genes will place a premium on women who are healthy and appear to be of good stock.100 Donors—even repeat donors—are as likely to be middle as well as lower class women. Second, neither the risks nor the payments are so great that an unacceptable exploitation of poorer persons would occur. Although donors may require payment, altruistic and reproductive purposes may also be important.101 Also, many paid jobs carry higher levels of physical risk (though without the attendant symbolism of reproduction), which people choose out of their need for money. Limits on the number of donative cycles would help reduce the risk of unacceptable exploitation.102

The ethical objections to payment must be balanced against the need to pay women to assure an egg supply for needy recipients and to treat donors fairly. Most unrelated women who are not undergoing IVF would probably need a financial incentive to com-

98. After all, the donor will be undergoing sonograms and blood drawings, as well as experiencing travel and scheduling inconvenience. Margaret Radin, a strong opponent of commodification, supports recognition of the claim to payment in some cases as a matter of justice. See Radin, supra note 95, at 1915-18.
100. Eugenic considerations are unavoidable, and not inappropriate when one is seeking gametes from an unknown third party.
101. Such a conclusion is speculative or at least premature. Women will be motivated to donate for differing and complex reasons, including an altruistic desire to help an infertile couple, a narcissistic desire to perpetuate their genes, a meaningful way to reproduce without undertaking the burdens of gestation or rearing, and the desire for money. Therefore, the decision may be based upon more complex factors than greed alone, even when money is paid.
102. Robertson, supra note 28, at 1021-23; see supra notes 80-85 and accompanying text.
mit the significant time and effort necessary to serve as an egg donor, even though other motivations may play a role in their decision to donate eggs. Banning payments would likely result in egg donation by only those women undergoing IVF or by family members or friends—sources insufficient to meet demand. Thus, couples without a healthy and willing female relative would be prevented from using donor eggs, even though their medical and social condition is identical to those with available family donors. Moral objections to payment unrelated to actual, tangible harm would not constitute the compelling need necessary to justify interference with the reproductive freedom of infertile couples.

On the other hand, a ban on payment would be legally acceptable if it did not significantly interfere with an infertile couple's access to donor oocytes.

2. Paying Women Undergoing IVF

While American programs are not currently paying women who donate eggs retrieved in the course of their own attempts at pregnancy through IVF, the need to pay them might arise in the future. Since no extra physical risk is involved, ethical concern focuses on commodifying the gametic material from which offspring might be born, which appears to place a price on the embryos, fetuses, and children that purchased eggs might engender.

Such a concern is symbolic, because paying women undergoing IVF for extra eggs cannot easily be shown to lead to tangible harm to offspring or society. If paying donors were essential to induce them to donate, a symbolic-moral concern alone would not justify limiting access to donor eggs. However, if other sources of eggs are available, or women undergoing IVF would be likely to donate without payment, a payment ban for symbolic reasons would not significantly interfere with procreative liberty.

Even if laws or IVF program policies prohibited selling eggs by donors undergoing IVF, recipients could still be asked to pay

103. Robertson, supra note 28, at 1021-23.
104. Annas and Radin seem implicitly to fear such consequences. See supra notes 94-95. It should be noted, however, that permitting payment for oocytes does not imply that embryos, fetuses, and children could be sold as well, nor that paid surrogacy must also be allowed. While many of the arguments on each side are similar, the symbolic benefits and costs of achieving them vary with the factor, activity, or service at issue. However, if sperm is bought and sold and paid surrogacy is permitted, it would be inconsistent to ban payment for oocyte donations.
some portion of the donor's costs of egg retrieval, short of a fee or profit for the egg itself. Although primarily for her own benefit, the donor undergoing IVF is investing a significant sum from which the recipient will also benefit. Asking the recipient to pay some of her retrieval costs (based on the percentage of eggs donated) is not unreasonable. Otherwise, the recipient could achieve an IVF-produced pregnancy at less expense than the oocyte donor who makes her pregnancy possible.\(^{105}\)

The cost-sharing parallel that occurs in organ donation is instructive. Federal law prohibits the buying and selling of organs for transplant. Yet the recipient of an organ transplant, rather than the donor or donor family, pays the cost of maintaining brain dead cadavers and of surgically removing donated organs. Such payments are consistent with a policy against the buying and selling of organs.\(^{106}\) A similar policy with donor oocytes might permit the recipient to share the cost of egg retrieval, without directly buying and selling oocytes.

F. Ownership of Human Oocytes and Its Responsibilities

Egg donation transfers decisional authority or ownership of eggs from the donor to another party—to the recipient, the broker, or the physician coordinating the transfer. Whether or not commercial transactions occur (i.e., whether money beyond expenses is paid to the donor), ownership or dispositional authority over the tissue in question still exists. A recipient or physician who receives control of the egg from the donor becomes the "owner" for later dispositional decisions.\(^{107}\) She or he has the legal right to decide how the egg will then be used.\(^{108}\)

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105. Surely public policy should not require that if a person altruistically donates X (in this case gametes or organs), he or she must also agree to donate Y (the cost of retrieving those gametes or organs). Encouraging altruistic deeds may be more desirable than hindering them, but it is unclear why one should have a moral or legal obligation to give Y merely because she has chosen to give X.


107. If oocytes can be stored for long periods, then they could be transferred at death by devise or statute to persons who would then have dispositional authority. Questions of whether control over egg donations survive the death of the donor would depend on estate law, and are beyond the scope of this article.

108. It should be obvious that the person with dispositional control of the egg and even the embryo resulting from the egg does not "own" the child born as a result. While rearing or custodial parents may be free to relinquish them for adoption, together with
It is unclear what the ultimate structure and organization of the egg procurement industry will be. Unlike sperm banking, where independent firms unconnected with the physicians performing the insemination often provide the sperm, IVF programs will, because of the technical skills required, likely be the primary brokers, or buyers and sellers of ova. Future developments in freezing eggs might lead to independent egg banks which provide eggs to infertile couples or infertility programs for treatment or research. Efficiency and efficacy, rather than symbolism, should be the driving force in determining the shape and organization of egg procurement.

Donors, physicians, brokers, banks, and others involved in the procurement and transfer of human oocytes will have legal obligations to use due care in their handling and disposition of donor eggs. A donor could be legally liable for intentionally hiding information about an infectious disease or adverse genetic history that may pose risks to the recipient or offspring. Physicians and brokers coordinating egg donations would also have a legal duty to screen potential donors so that risks to recipients and offspring are reduced. If eggs are sold, questions of the warranties of Article 2 of the Uniform Commercial Code might also arise. Intentional or negligent mishandling of eggs could lead to tort liability for destruction of reproductive possibilities, just as negligent destruction of stored embryos could.

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rights to control their education, religious training, and health care, there is much more limited dispositional authority over children than over gametes and even embryos.

109. This is not invariably the case. Some programs, in order to avoid recruitment problems, ask the couple to come to the clinic with an egg donor that they have recruited themselves. See supra note 23 and accompanying text. Since the couple and donor will then be known, this method has the possibility of future complications, or alternatively, of benefits for all involved.

110. A court might find that services rather than goods are being provided by the donor. Even if eggs are deemed to be sold, the strictures of the Uniform Commercial Code may be too severe for the gametic transactions in question. The donor should not be responsible for warranting the fitness of the egg for its intended purpose. Warranties of fitness and merchantability under the Uniform Commercial Code should not apply to donors, as long as they are open and honest in their representations about their condition. Perhaps oocyte brokers should have to give greater warranties or protection. Surely the donor should not be held to guarantee pregnancy from the donated ova, or warrant against all genetic or infectious defects. See also Annas, supra note 94, at 51-52; Chapman, Retailing Human Organs Under the Uniform Commercial Code, 16 J. Marshall L. Rev. 393 (1983).

VIII. RESEARCH WITH DONOR EGGS

While most eggs will be donated to treat an infertile couple, some women may be asked to donate eggs for use in research, with no intent to initiate pregnancy. Indeed, the availability of donor oocytes opens the door to many kinds of research with ova and embryos that was not previously possible. For example, research into the conditions and window for optimal transfer and implantation of embryos in the human can now occur. Embryos created with donor oocytes can be transferred on different days of the recipient’s cycle and the results compared in order to determine the best synchrony of conceptus, endometrium, and steroidal interactions.112

Another area of research will be the ability to test gametic function. If apparently normal spermatozoa and oocytes do not fertilize, donated oocytes can be used to test the fertilizing power of each, thus giving the ability to diagnose infertility at the microscopic level.113 It will also facilitate research into the freezing of eggs for later thawing. While much of this research is directed at gametes, at some point it will require fertilization of the egg to test gametic function, thus producing embryos solely for research purposes and implicating the concerns that have made embryo research controversial.114

There are no serious ethical barriers to research uses of donor eggs if the woman providing the ovum consents, and the research does not involve fertilization of the donor oocyte.115 When fertilization of the oocyte occurs as part of the research, however, the ethical issues and special rules concerning research with embryos will come into play.

Although these rules have not been completely settled, a wide consensus supports embryo research in many circumstances.116 A

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112. Rosenwaks, supra note 6, at 905-07.
113. Id. at 906-07.
114. See infra notes 116-21 and accompanying text. Egg donation may also lead to research on the psychosocial effects of collaborative reproduction involving gamete and embryo donors and surrogates. An important issue for study will be the importance of the female genetic bond for donors and offspring in the absence of rearing and gestation. Programs providing egg donation can facilitate such research by keeping adequate records and cooperating with later inquiries.
115. The most serious ethical questions would arise when women not otherwise undergoing IVF or surgery provide eggs for research purposes only. Even in this situation the benefits of research may be deemed sufficient to justify the risk to which the donors knowingly consent.
major distinction concerns whether the resulting embryo will be transferred to a uterus or not. If embryo transfer after research will not harm the resulting child, it is permitted.\footnote{117} On the other hand, fertilizing donor eggs for research purposes with no intention or chance of transfer is a controversial topic, even though such a practice is necessary for many kinds of research, such as testing gametic function.\footnote{118} Both Victoria, Australia, and New South Wales have made the practice criminal, and national ethics commissions in France and West Germany have recommended against the practice.\footnote{119} However, the Warnock Committee and Ontario Law Reform Commission found it acceptable for many purposes.\footnote{120} Although controversy remains, donating oocytes to create embryos for research purposes with no possibility of transfer is a legal option in Great Britain, Canada, the United States and many other countries.\footnote{121}

IX. Freezing Eggs

Development of the ability to cryopreserve and thaw oocytes will not have a major impact on the ethical, legal, and policy issues discussed here, though it would have an impact on the freezing of embryos. (Freezing and discarding eggs will be more readily done than freezing and discarding embryos). Ethical concerns about offspring status, donor risk, and commercialization are the same whether donor eggs are inseminated fresh or after a cryopreserved donor egg has been thawed.

If donor eggs are cryostored for later thawing and insemination, the storing party should specify dispositional instructions in the event of such contingencies as death, divorce, and unavailability. Concerns about the length of storage and the posthumous use of stored gametes may also arise, as they have with frozen sperm

\footnote{117} Indeed, it is unlikely that a successful pregnancy would result from preimplantation research, which is harmful to the embryo and resulting child.\footnote{118} For example, eggs must be fertilized to determine the effects of freezing and thawing, thus creating an embryo solely as a result of the research. Objections to this practice seem to be symbolic or moralistic, since many of those opposed to the practice would accept research on embryos of similar age that resulted from an attempt to achieve pregnancy by IVF. See Robertson supra note 116, at 30.\footnote{119} Id. at 35-36. Victoria, Australia, which had banned research with embryos created solely for that purpose, now permits research with fertilized eggs not discarded in the IVF process until the point of syngamy.\footnote{120} See id.\footnote{121} Robertson, supra note 111, at 374-75.
and embryos. However, the issues unique to egg donation arise only when a cryopreserved egg is donated to a party who has not produced the egg.

CONCLUSION

Donor eggs appear to be a medically viable option for the thousands of women who are unable to provide genetically suitable oocytes for fertilization. Although not likely to be as widely used as donor sperm, many IVF programs will offer the technique.

The ethical, legal, and policy issues presented by egg donation arise from the separation of the female genetic and gestational bond, and from the relative scarcity and inaccessability of ova, as compared to sperm. Neither of these differences, however, make egg donation as a means of overcoming infertility, or for use in research, ethically or legally unacceptable.

Indeed, egg donation may be the least problematic of noncoital collaborative reproductive techniques, because each rearing parent has a biological connection with the offspring. Although the gestating and rearing mother will not be the genetic mother, and the genetic mother neither gestates nor rears, the resulting family situation should not pose major problems for offspring, families, or donors. The law is likely to recognize agreements to exclude the egg donor from rearing rights and duties, and may enforce some agreements for the donor to participate in rearing.

Egg donation does involve the possibility of greater risk for donors than occurs with sperm donation, at least when donors are not also undergoing IVF. Yet the risks are not so much greater than those of other accepted activities that donation should be discouraged. Nor would payments to donors be illegal or unethical, though some persons would disagree and ban payments to egg donors as morally offensive.

A final lesson from this survey of issues in egg donation is the speed with which reproductive developments based on ovarian stimulation and in vitro fertilization are occurring. Perfecting the technology of egg donation will lead in turn to further control over the reproductive process, and eventually enhance the ability to influence the genetic makeup of offspring. Clear thinking and rea-
sonable practices with donor eggs will facilitate future development of noncoital techniques for forming families.