

Use of reproductive technology for sex selection for nonmedical reasons: an Ethics Committee opinion

Ethics Committee of the American Society for Reproductive Medicine

Because the practice of preimplantation sex selection is ethically controversial, clinics are encouraged to develop and make available their policies regarding its use. Practitioners offering assisted reproductive services are under no ethical obligation to provide or refuse to provide nonmedically-indicated methods of sex selection. This document replaces the document of the same name, last published in 2015. (*Fertil Steril*® 2022;117:720-6. ©2021 by American Society for Reproductive Medicine.)

El resumen está disponible en Español al final del artículo.

Key words: Ethics, family balancing, gender selection, infanticide, preimplantation genetic testing



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KEY POINTS

- Nonmedical use of in vitro fertilization (IVF) with preimplantation genetic testing for aneuploidy (PGT-A) expressly for sex selection is an ethically controversial practice.
- Sex selection should not be encouraged for nonmedical indications.
- Preimplantation genetic testing for aneuploidy has been used increasingly in IVF cycles, and results in information regarding the sex of the resulting embryos, even when the initial indication for IVF was unrelated to sex selection. This possibility of knowing the sex of the resulting embryo(s) is an option that patients may not have considered previously and for which they may have a variety of opinions. Knowledge of embryo sex at time of transfer and its potential impact or lack thereof on embryo selection for transfer should be discussed at the time of informed consent for PGT-A.
- The primary purpose of this document is to outline arguments for and against sex selection via PGT-A.
- Clinics are encouraged to develop and make available their policies on the provision of nonmedical sex selection.
- Practitioners offering assisted reproductive services are under no ethical obligation to provide or refuse to provide nonmedically-indicated methods of sex selection.

Selecting the sex of an embryo before uterine transfer is a controversial practice, made possible by the development of preimplantation genetic testing for aneuploidy (PGT-A). As the use of PGT-A has increased, so too has the percentage of cycles in which embryo sex is knowable before transfer. There are several scenarios in which this may occur: fertile individuals or couples who undergo in vitro fertilization (IVF) for the sole purpose of determining embryo

sex, patients requiring IVF who undergo PGT-A as part of the treatment and who wish to know the sex of the embryos, patients requiring IVF who undergo PGT-A as part of the treatment who do not wish to know the sex of the resulting embryos, and patients undergoing preimplantation genetic testing for monogenic defect (PGT-M) for the identification of embryos affected by a genetic disorder who add PGT-A to help identify embryos potentially more likely to implant. In some cases,

the disease itself is X-linked and the PGT-A is being performed expressly to determine the embryo sex to avoid transmission of an affected embryo. A subset of patients who elect to screen their embryos with PGT-A may not have anticipated that they would be faced with the possibility of selecting the sex of the embryo that is transferred – a choice that they had not intended on making and that they now must consider whether or not to exercise. The increasing use of PGT has complicated this issue. Over the past decade, the number of IVF cycles using PGT for all indications has increased 10-fold, from <4% in 2008 to >40% in 2018 (1, 2), adding further complexity to this issue. Because the practice of

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Reprint requests: ASRM Ethics Committee, American Society for Reproductive Medicine, 1209 Montgomery Highway, Birmingham, Alabama 35216-2809 (E-mail: asrm@asrm.org).

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preimplantation sex selection is ethically controversial, clinics are encouraged to develop and make available their policies regarding its use. Knowledge of embryo sex at time of transfer and its potential impact or lack thereof on embryo selection for transfer should be discussed at the time of informed consent for PGT-A. Clinics are encouraged to develop a policy regarding whether embryo sex will be incorporated into the decision of which embryo to transfer. Practitioners offering assisted reproductive services are under no ethical obligation to provide or refuse to provide nonmedically-indicated methods of sex selection. This document replaces the document of the same name, last published in 2015.

BACKGROUND

Preimplantation genetic testing for aneuploidy is a major contributor to the rising numbers of single embryo transfers and the resultant decrease in the rates of twin and higher order multiple deliveries in the United States. This report focuses on decisions surrounding the performance of PGT-A when used expressly for sex determination, and the implications of knowing the sex of the embryos when the primary motivation for PGT-A is aneuploidy screening potentially to improve IVF outcomes (1).

The emergence of technologies allowing for determination of the sex of the preimplantation embryo prompted the American Society for Reproductive Medicine ethics committee to publish reports addressing some of the ethical, clinical, and legal aspects of sex selection for nonmedical reasons. A 1999 report of the ethics committee approved the use of what then was termed preimplantation genetic diagnosis (PGD) for sex selection to avoid the birth of children carrying sex-linked disorders (3). The sex selection in such cases is linked directly to the medical indication for the use of PGD.

This same opinion determined that the use of PGD for sex selection when patients already are undergoing IVF for medical reasons should “not be encouraged.” The committee further specified that the initiation of IVF with PGD solely for sex selection purposes should be discouraged because of risks of gender bias and social harm. Two years later, in a 2001 report, the ethics committee analyzed preconception methods for sex selection, such as sperm sorting. At that time, the committee regarded these methods as experimental but concluded that “sex selection aimed at increasing gender variety in families may not so greatly increase the risk of harm to children, women, or society that its use should be prohibited or condemned as unethical in all cases” (4). That report also concluded that clinics should be permitted to offer preconception sex selection for nonmedical reasons to couples seeking gender variety in the family – that is, for couples seeking to have a child of the gender opposite of an existing child or children. This conclusion was based on the judgment that concerns about sex selection were less strong when the practice was offered to parents who wished to have a child of the opposite sex to their existing child(ren).

Given the high prevalence of IVF cycles that include PGT-A, many patients will have de facto access to informa-

tion regarding the sex of their embryos and will need to decide if and when to access this information. Knowledge of embryo sex at time of transfer and its potential impact or lack thereof on embryo selection for transfer should be discussed during informed consent for PGT-A. Survey data indicate that most of the assisted reproductive technology (ART) clinics in the United States are offering patients access to sex selection for nonmedical reasons (5). As discussed below, practitioners and commentators have expressed concern about the availability and use of techniques that offer no medical benefit to offspring and may produce harm to ≥ 1 ART stakeholders. Consequently, fertility clinics are continuing to seek guidance in this controversial area (6). In this report, the ethics committee reviews the ethical arguments for and against sex selection for nonmedical reasons. The ongoing debate over nonmedical sex selection occupies a realm in which ethical principles and legal precedents in many jurisdictions neither require nor prevent practitioners from offering these technologies to interested patients (7). The arguments outlined below are offered to assist ART practices and practitioners as they consider or revise their policies on the provision of sex selection for nonmedical reasons.

ARGUMENTS SUPPORTING THE PERMISSIBILITY OF THE USE OF ART FOR SEX SELECTION FOR NONMEDICAL REASONS

The preeminent ethical considerations that support patient choice of sex selection for nonmedical reasons are patient autonomy and reproductive liberty. Parents may have many reasons for wishing to choose the sex of their offspring (7–11). They may wish to have the experience of raising children of both sexes. This desire may be especially strong for couples who already have ≥ 1 children of one sex and who are unwilling to attempt a further pregnancy without assurance that the additional child will be of a specific sex. In such cases, sex selection is a material aspect of that person’s reproductive decision-making. Similarly, for those desiring to have only one child, having input into the sex of the child may hold great significance.

Having access to technologies that enable individuals to shape the course of their pregnancy and child-rearing experience supports reproductive liberty. Although parents may have strongly-held and personal reasons for pursuing sex selection, policing the underlying attitudes among individuals with preferences for the sex of a child may be judged to be beyond the scope of fertility care as a practical matter, and may violate patient autonomy and privacy when applied to evaluating individual circumstances (12).

Moreover, preference for the sex of a given offspring need not necessarily reflect discriminatory attitudes or intent. Parents may believe reasonably that there are differences between the experience of rearing male and female offspring; such beliefs cannot be seen inherently to promulgate discrimination. Parents may have many different reasons to wish to parent a child of a particular sex, reasons that do not necessarily reflect gender bias (10, 11, 13). It also has been argued

that these preferences are not inconsistent with unconditional parental love (11).

ARGUMENTS AGAINST THE USE OF ART FOR SEX SELECTION FOR NONMEDICAL REASONS

The primary arguments against the use of PGT-A in otherwise fertile couples for nonmedical sex selection, or for using information gained from PGT-A performed for aneuploidy screening to determine which embryo to transfer, include harm to offspring, harm to women and also to men, misuse of medical resources for nonmedical purposes, and risks of discrimination and perpetuation of social injustice (12). It also can be argued that framing sex selection as a neutral patient option may increase the acceptability of its use in countries where there is a clear preference for a particular sex.

One possible objection to the use of ART for sex selection for nonmedical reasons is that the long-term medical risks of some procedures to offspring are unknown and that, therefore, it is unjustifiable to take any such risks for nonmedical reasons. However, when PGT-A and IVF are used to avoid the conception of a child with a sex-linked genetic disease the potential risks of the procedure are balanced against the benefits of avoiding disease. Similarly, when PGT-M is used to avoid the transfer of an embryo affected by an inherited disorder, the use of PGT-A adds no additional risk to either the patient or the embryo. Furthermore, in cases where PGT-A is being used to improve outcome, the additional information regarding the sex of the embryo is gained without any additional increased risk to the embryo. Although the long-term risks of PGT-A and IVF to the offspring are unknown, at present, no serious risks have been identified (14–19). It is important to caution that the technology is imperfect and, although rare, diagnostic errors can occur.

Where IVF is undertaken solely for the purpose of sex selection, however, the pregnant woman bears the real risk of IVF and the theoretical risks of PGT-A without obtaining medical benefit. This concern alone is insufficient to conclude that the procedure is unethical, as it is ethically permissible for oocyte donors to undertake comparable risks without medical benefit to themselves. The risks of IVF, however, are sufficient to require that, in cases in which a prospective patient contemplates the procedure for nonmedical reasons, she must be counseled fully about the risks of the procedure. Counseling also must address the concern that the woman might be pressured into taking the risks of IVF for sex selection because of her partner's, family's, or society's strong preferences or social pressures for a child of one sex or the other.

Some commentators raise the concern that PGT-A for purposes of sex selection fails to show appropriate respect for embryos (20, 21). A survey of public attitudes found that 68% of Americans disapprove of the use of PGT for sex selection only (22). A review article cites a German study finding that only 8% approved of the use of PGT for nonmedical reasons (23). In the United Kingdom, public opposition to sex selection also has been cited to override claims to reproductive autonomy (24). Others have argued that to override concerns about respect for embryos, reasons for the use of PGT-A must be very strong, and sex selection may not rise to this level (25).

Critics also have argued that sex selection fails to evidence unconditional parental acceptance of their children in appropriate respects (26–28). A related argument is that unconditional parental love requires love for offspring's characteristics in a manner that is independent of the parent's wants or preferences (29). Commentators also are concerned that this use of medical resources for nonmedical reproductive purposes represents a “slippery slope” toward selection of many other traits in offspring in a manner that would be ethically problematic (30, 31).

Relatedly, the use of ART for purposes of sex selection may deny the resulting child a right to an open future, and raises concerns that parents engaging in sex selection may impose inappropriate gender norms on their children and reinforce ideas of gender essentialism, such as that there are certain characteristics inherent to being female and others inherent to being male (21, 30, 31). Critics have argued, “If social pressure to conform to cultural dictates is used as a justification for allowing parents to use sex selection, policy makers and professional bodies would be capitulating to sexism and entrenching the culture that causes people to feel compelled to choose sex selection in the first place. Such a policy affects not only those who would choose sex selection, but all parents who feel pressured to conform to gender norms in their parenting” (32). The imposition of such gender norms may be psychologically harmful to children and disruptive of the parent-child relationship. It also may result in prejudice against children of one sex or the other. This argument, however, does not apply to the use of sex selection in the absence of such bias (33). In 2001, the American Society for Reproductive Medicine judged that such bias may be less evident when sex selection is used for family balancing (4). Other commentators also have noted that sex selection used for family balancing may raise less concerns about the child's right to an open future (34). However, the connection between the absence of bias and family balancing may be questioned. Sex selection need not be performed for “balancing,” per se, to be free of discriminatory basis. Rather, sex preference may seek an unbalanced sex number among offspring in response to parental preference without necessarily reflecting discrimination. On the other hand, parents who are sufficiently concerned to seek IVF and PGT-A to have a child of a sex opposite to the one(s) they have may be motivated by discriminatory attitudes toward a particular gender (8).

SOCIAL JUSTICE CONCERNS

Sex selection for nonmedical reasons also may be thought to implicate the ethical principle of justice because it may result in significant gender imbalances in society, with resulting concerns about social stability. Other justice concerns are that medical practices enabling sex selection may use resources otherwise available for the treatment of infertility or that the practice may be available only to those with the resources to pay for it.

While no state in the United States legally prohibits the practice of sex selection at present, it is worth noting that nonmedical sex selection is prohibited in Canada and in a

number of European countries. Such regulations vary widely in Europe, and free movement within the European Union is a complicating factor (33, 35, 36). It is permitted in Israel by approval in rare cases (37). A 2008 report of the (now defunct) New Zealand Bioethics Council, *Who Gets Born?* argued that the practice should be permitted (38).

Concerns about risks of gender bias and social injustice are significant, at least within certain populations. The recognition that many girls are “missing” in countries, such as China and India, as a result of infanticide or abortion, efforts to achieve preconception sex selection is longstanding (39, 40). Social context is relevant to the relationship between sex selection and gender discrimination. In contexts in which there is not a preference for males, prenatal diagnosis for sex selection may not be sexist or harmful to women (41, 42).

While gender discrimination may not be as deeply intertwined with economic structures in the United States as elsewhere, it still is evident. In surveys conducted in 1997, 2000, 2003, 2007, 2011 and 2018, Gallup polling asked respondents in all 50 states and the District of Columbia, “Suppose you could only have one child. Would you prefer that it be a boy or a girl?” The responses revealed a consistent preference in favor of a male child with an average 11-point differential (43). Further, a United States web-based survey of the United States general population conducted in 2004 asked respondents, “If given a choice would you like your firstborn child to be a boy, a girl, do not care, or not sure.” Thirty-nine percent of respondents indicated a preference for a boy and 19% indicated a preference for a girl. When asked about preferred sex of children in the context of a plan to have >1 child, there was not a dominant preference for males over females (50% wished to have a family with an equal number of boys and girls, 7% with more boys than girls, 6% with more girls than boys, 5% with only boys, 4% with only girls, and 27% had no preference).

This survey also indicated that a very small percentage (8%) was interested in using sex selection and that this interest related predominantly to family balancing (44). The above data are survey responses of nonfertility patients and may not accurately reflect the preferences of patients who actually are selecting the preferred sex embryo for transfer. Further, the survey data focuses primarily on preferences for the sex of the firstborn child and may not characterize sex preferences more globally. However, the trends toward having only one child, fewer total children, and starting family building later in life may increasingly impact patient attitudes and preferences regarding sex selection and may underscore the applicability of these findings.

Ongoing concerns with the status of women in the United States make it necessary to understand the potential impact of sex selection on goals of gender equality. Moreover, there may be subgroups within the United States or other advanced industrialized countries in which gender oppression contributes to requests for sex selection (45–50). A related concern is that prospective parents who are not residents of the United States, but who are residents of countries where there is significant gender injustice, may come to the United States seeking sex selection for nonmedical reasons. For all patients who seek PGT-A for sex selection, providers should

ensure that consent is informed and that patients are not subject to coercion in choosing the procedure. It also is important to consider that the availability of sex selection in the United States may have the impact of sanctioning sex selection and potentially increasing its use in populations where gender bias and social justice concerns are more prominent (51).

It is difficult to argue that the addition of sex-selection technology to ART being performed for medical reasons results in an important limitation of health resources. This is true particularly when PGT-A already is being performed for aneuploidy screening and the determination of sex is merely a byproduct of the technology being used to benefit IVF cycle outcomes. Pursuit of ART solely to enable sex selection may entail a more substantial effect on health care resources. Though it seems unlikely that such use of ART would result in limitation of availability of infertility care in the United States, it is not clear that such use, if prevalent, would be without effects on the availability of ART for more fundamental infertility care needs in situations where ART resources are less available and cultural pressures for sex selection greater. From the perspective of justice, it is important to ensure that a provider’s decision to offer ART for sex selection for nonmedical reasons does not adversely affect access to the service for medical reasons. In addition, any decision to offer the service must apply policies regarding nonmedical sex selection equally to all patients regardless of race, ethnicity, religion, sexual orientation, or marital status. An additional justice concern is that the use of ART for sex selection may be available only to those with the economic resources to pay for it.

CONCLUSION

In conclusion, ART practitioners who currently offer or decline to offer sex selection for nonmedical purposes do so against a varied ethical backdrop. Arguments regarding patient autonomy and reproductive liberty have been offered in support of the practice. Risks and burdens of the procedure, gender bias, sex stereotyping and nonacceptance of offspring, efforts to guard against coercion, the potential appearance of sanctioning sex selection, and issues of justice all raise concerns about the practice. Practitioners must take care to ensure that parents are fully informed about the risks and burdens of the procedure and that they are not being coerced to undergo it. Because the practice remains ethically controversial, clinics are encouraged to draft and make available written policies setting forth whether and under what circumstances nonmedical sex selection will be available.

Acknowledgments: This report was developed under the direction of the ethics committee of the American Society for Reproductive Medicine as a service to its members and other practicing clinicians. Although this document reflects appropriate management of a problem encountered in the practice of reproductive medicine, it is not intended to be the only approved standard of practice or to dictate an exclusive course of treatment. Other plans of management may be appropriate, taking into account the needs of the individual patient, available resources, and institutional or clinical

practice limitations. The ethics committee and the board of directors of the American Society for Reproductive Medicine have approved this report.

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REFERENCES

- Ginsburg ES, Baker VL, Racowsky C, Wantman E, Goldfarb J, Stern JE. Use of preimplantation genetic diagnosis and preimplantation genetic screening in the United States: a Society for Assisted Reproductive Technology Writing Group paper. *Fertil Steril* 2011;96:865–8.
- Society for Assisted Reproductive Technology. Clinic summary report, Available at: https://www.sartcorsonline.com/rptCSR_PublicMultYear.aspx?reportingYear=2018. Accessed January 5, 2021.
- Ethics Committee of the American Society for Reproductive Medicine. Sex selection and preimplantation genetic diagnosis. *Fertil Steril* 1999;72:595–8.
- Ethics Committee of the American Society for Reproductive Medicine. Pre-conception gender selection for nonmedical reasons. *Fertil Steril* 2001;75:861–4.
- Capelouto SM, Archer SR, Morris JR, Kawwass JF, Hipp HS. Sex selection for non-medical indication: a survey of current pre-implantation genetic screening practices among US ART clinics. *J Assist Reprod Genet* 2018;35:409–16.
- Baruch S, Kaufman D, Hudson KL. Genetic testing of embryos: practices and perspectives of US in vitro fertilization clinics. *Fertil Steril* 2008;89:1053–8.
- Dondorp W, De Wert G, Pennings G, Shenfield F, Devroey P, Tarlatzis B, et al. ESHRE Task Force on ethics and Law 20: sex selection for non-medical reasons. *Hum Reprod* 2013;28:1448–54.
- Steinbock B. Sex selection: not obviously wrong. *Hastings Cent Rep* 2002;32:23–8.
- Sharp RR, McGowan ML, Verma JA, Landy DC, McAdoo S, Carson SA, et al. Moral attitudes and beliefs among couples pursuing PGD for sex selection. *Reprod Biomed Online* 2010;21:838–47.
- Macklin R. The ethics of sex selection and family balancing. *Semin Reprod Med* 2010;28:315–21.
- Harris J. No sex selection please, we're British. *J Med Ethics* 2005;31:286–8.
- Kalfoglou AL, Kammerzell M, Philpott S, Dahl E. Ethical arguments for and against sperm sorting for non-medical sex selection: a review. *Reprod Biomed Online* 2013;26:231–9.
- Heyd D. Male or female, we will create them: the ethics of sex selection for non-medical reasons. *Ethical Perspect* 2003;10:204–14.
- Katari S, Turan N, Bibikova M, Erilne O, Chalian R, Foster M, et al. DNA methylation and gene expression differences in children conceived in vitro or in vivo. *Hum Mol Genet* 2009;18:3769–78.
- Allen VM, Wilson RD, Cheung A, Genetics Committee of the Society of Obstetricians and Gynaecologists of Canada (SOGC), Reproductive Endocrinology Infertility Committee of the Society of Obstetricians and Gynaecologists of Canada (SOGC). Pregnancy outcomes after assisted reproductive technology. *J Obstet Gynaecol Can* 2006;28:220–50.
- Gelbaya TA. Short and long-term risks to women who conceive through in vitro fertilization. *Hum Fertil (Camb)* 2010;13:19–27.
- Kalra SK, Barnhart KT. In vitro fertilization and adverse childhood outcomes: what we know, where we are going, and how we will get there. A glimpse into what lies behind and beckons ahead. *Fertil Steril* 2011;95:1887–9.
- Basille C, Frydman R, El Aly A, Hesters L, Fanchin R, Tachdjian G, et al. Pre-implantation genetic diagnosis: state of the art. *Eur J Obstet Gynecol Reprod Biol* 2009;145:9–13.
- Pandey S, Shetty A, Hamilton M, Bhattacharya S, Maheshwari A. Obstetric and perinatal outcomes in singleton pregnancies resulting from IVF/ICSI: a systematic review and meta-analysis. *Hum Reprod Update* 2012;18:485–503.
- Boyle K, Batzer FR, Ravitsky V. "What's left in the dish?" Ethical issues related to preimplantation genetic diagnosis. *Fertil Steril* 2008;90:544–5.
- Wachbroit R, Wasserman R. Patient autonomy and value-neutrality in nondirective genetic counseling. *Stanford Law Pol Rev* 1995;6:103–11.
- Genetics and Public Policy Center. Public awareness and attitudes about reproductive genetic technology. December 9, 2002. Available at: <https://jscholarship.library.jhu.edu/handle/1774.2/979>. Accessed April 23, 2015.
- Hershberger PE, Pierce PF. Conceptualizing couples' decision making in PGD: emerging cognitive, emotional, and moral dimensions. *Patient Educ Couns* 2010;81:53–62.
- Herissone-Kelly P. The prohibition of sex selection for social reasons in the United Kingdom: public opinion trumps reproductive liberty? *Camb Q Healthc Ethics* 2006;15:261–72.
- Scott R. Choosing between possible lives: legal and ethical issues in preimplantation genetic diagnosis. *Oxf J Leg Stud* 2006;26:153–78.
- McDougall R. Acting parentally: an argument against sex selection. *J Med Ethics* 2005;31:601–5.
- Baldwin T. Reproductive liberty and elitist contempt: reply to John Harris. *J Med Ethics* 2005;31:288–90.
- Gilbar R. Between unconditional acceptance and responsibility: should family ethics limit the scope of reproductive autonomy? *Child Fam Law Quart* 2009;21:309–35.
- Herissone-Kelly P. Parental love and the ethics of sex selection. *Camb Q Healthc Ethics* 2007;16:326–35.
- Wilkinson S. 'Designer babies', instrumentalisation and the child's right to an open future. In: Athanassoulis N, editor. *Philosophical reflections on medical ethics*. New York: Palgrave Macmillan; 2005:44–69.
- Seavilleklein V, Sherwin S. The myth of the gendered chromosome: sex selection and the social interest. *Camb Q Healthc Ethics* 2007;16:7–19.
- Brown TK. How sex selection undermines reproductive autonomy. *J Bioeth Inq* 2017;14:195–204.
- Committee on Ethics, American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 360: sex selection. *Obstet Gynecol* 2007;109:475–8.
- Davis DS. The parental investment factor and the child's right to an open future. *Hastings Cent Rep* 2009;39:1–4.
- Soini S. Preimplantation genetic diagnosis (PGD) in Europe: diversity of legislation a challenge to the community and its citizens. *Med Law* 2007;26:309–23.
- Aghajanova L, Valdes CT. Sex selection for nonhealth-related reasons. *Virtual Mentor* 2012;14:105–11.
- Grazi RV, Wolowelsky JB, Krieger DJ. Sex selection by preimplantation genetic diagnosis (PGD) for nonmedical reasons in contemporary Israeli regulations. *Camb Q Healthc Ethics* 2008;17:293–9.
- te Taiao T, The Bioethics Council. Who gets born? A report on the cultural, ethical, and spiritual aspects of pre-birth testing. Wellington, NZ: The Bioethics Council; 2008.

39. Gendercide. *Economist* 2010;13:77–80.
40. Sen A. More than 100 million women are missing. *New York Review of Books*; December 20, 1990:61–6.
41. Purdy L. Is preconception sex selection necessarily sexist? *Reprod Biomed Online* 2007;15(Suppl 2):33–7.
42. Dickens BM, Serour GI, Cook RJ, Qiu RZ. Sex selection: treating different cases differently. *Int J Gynaecol Obstet* 2005;90:171–7.
43. GALLUP. Slight preference for having boy children persists in U.S. Available at: <https://news.gallup.com/poll/236513/slight-preference-having-boy-children-persists.aspx>. Accessed March 15, 2021.
44. Dahl E, Gupta RS, Beutel M, Stoebel-Richter Y, Brosig B, Tinneberg HR, et al. Preconception sex selection demand and preferences in the United States. *Fertil Steril* 2006;85:468–73.
45. Oomman N, Ganatra BR. Sex selection: the systematic elimination of girls. *Reprod Health Matters* 2002;10:184–8.
46. Puri S. “I know it’s a girl and I need your help to get it out of me.” *Slate* August 2, 2011. Available at: <https://slate.com/human-interest/2011/08/sex-selection-in-the-united-states-the-ethical-dilemmas-for-doctors.html>. Accessed December 15, 2021.
47. Hvistendahl M. *Unnatural selection: choosing boys over girls, and the consequences of a world full of men*. New York: PublicAffairs; 2011.
48. Almond D, Edlund L, Milligan K. O sister where art thou? The role of son preference and sex choice: evidence from immigrants to Canada. Available at: www.nber.org/papers/w15391.pdf. Accessed March 16, 2021.
49. Drakos C. Missing women: a phenomenon of the developed world? New evidence from first generation immigrants in the United Kingdom. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1879909. Accessed March 16, 2021.
50. Puri S, Adams V, Ivey S, Nachtigall RD. “There is such a thing as too many daughters, but not too many sons”: a qualitative study of son preference and fetal sex selection among Indian immigrants in the United States. *Soc Sci Med* 2011;72:1169–76.
51. de Melo-Martín I. Sex selection and the procreative liberty framework. *Kennedy Inst Ethics J* 2013;23:1–18.

Uso de la tecnología reproductiva para la selección del sexo por razones no médicas: opinión del Comité de Ética.

Debido a que la práctica de la selección del sexo antes de la implantación es éticamente controvertida, se anima a las clínicas a desarrollar y poner a disposición sus políticas con respecto a su uso. Los profesionales que ofrecen servicios de reproducción asistida no tienen ninguna obligación ética de proporcionar o negarse a proporcionar métodos de selección de sexo no médicamente indicados. Este documento reemplaza al documento del mismo nombre, publicado por última vez en 2015.