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RESEARCH ARTICLE



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Women, Wombs and Warnock: 40 years after the Warnock Report, is legislation fit for purpose for uterus transplantation?

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ABSTRACT

This article examines and evaluates the adequacy of current legislation regarding uterus transplants in light of the Warnock Committee's foundational work on reproductive ethics and technology. With increasing advancements in reproductive technology, the potential for uterus transplants to provide opportunities for cisgender women with absolute uterine factor infertility (AUFI) to gestate has garnered significant attention. However, existing legal frameworks often lag behind medical innovations, leading to disparities in access, regulation, and patient rights. Questions also arise regarding applying existing legislation to novel medical innovations, such as the potential to provide a uterus transplant to transgender women. As uterus transplantation emerges as a viable treatment option for cisgender women with absolute uterine factor infertility, the need for comprehensive legal frameworks becomes increasingly urgent and so this article assesses whether existing assisted reproduction laws are fit for purpose or whether reform is required given advances in reproductive medicine such as uterus transplantation.

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Warnock Committee Report; uterus transplantation; transgender access; embryo transfer; legislation; fit for purpose

Introduction

Published in July 1984, the Report of Committee of Inquiry into Human Fertilisation and Embryology is the foundation for legislation regulating human fertilisation and embryology in the United Kingdom today. Known as the Warnock Report, its influences are still felt 40 years later.

The remit of the Warnock Committee was:

To consider recent and potential developments in medicine and science related to human fertilisation and embryology; to consider what policies and safeguards should be applied, including consideration of the social, ethical and legal implications of these developments; and to make recommendations. (Report of the Committee of Inquiry into Human Fertilisation and Embryology, 1984, Para 1.2)

The medical developments that the Warnock Committee considered included artificial insemination, in vitro fertilisation (IVF), egg donation, surrogacy, the cryopreservation and storage of human gametes and embryos, and the use of human embryos in research. Since its publication, and the subsequent legislation, the Human Fertilisation and Embryology Acts of 1990 and 2008 (HFE Act), reproductive medicine has progressed in ways not imagined by either the Warnock committee members, or those who submitted evidence to the Committee. Human embryonic stem cells, in vitro derived gametes, and mitochondrial replacement therapy are just three such developments. Likewise, the prospect of uterus transplantation (UTx) was not discussed, yet uterus transplantation became a reality in 2014 with the first birth following a uterus transplant (Brännström et al., 2015).

There are several potential issues that the regulation of uterus transplantation raises, including but not limited to legal parentage, resource allocation, and consent. As the focus of this special issue is the Warnock Report which considered developments in human fertilisation and embryology, this article concentrates on the resulting assisted reproduction legislation. Specifically, this article considers one aspect in particular, the possibility of transferring human embryos into transgender women following a uterus transplant.

Uterus transplantation

Uterus transplantation involves transplanting a uterus donated by one woman (the donor) into another

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woman (the recipient) to give the recipient the opportunity to gestate. Currently, uterus transplantation is available to cisgender women with absolute uterine factor infertility (AUFI) who have their own ovaries. Women have congenital or acquired AUFI, they have either been born without a uterus or have had their uterus removed due to medical reasons or have a non-functioning uterus. It is recognised that uterus transplantation offers cisgender women with AUFI the opportunity to gestate their own genetically related child for the first time.

As Hammond-Browning and Williams have noted, 'While UTx itself is an isolated procedure, it occurs as part of a long and arduous process (for all involved parties ...)' (Hammond-Browning & Williams, 2024). Uterus transplantation involves multiple steps: following enquiry by potential recipients, medical teams utilise selection criteria to identify suitable recipients who must then participate in physical and psychological assessments. Once a recipient is selected, they must undergo egg retrieval and the creation of embryos in vitro which are stored for later embryo transfer. The recipient will then go through the transplant procedure and commence immunosuppressive medication; the donation of a uterus can be from either a living or a deceased donor (either is permitted within the United Kingdom). Living donors are subjected to significant testing prior to donation, and then recovery. Approximately 3-6 months post-transplant (subject to clinical approval) the recipient will undergo a single embryo transfer that will hopefully result in pregnancy. A pregnancy that utilises a donated uterus is highly monitored and requires extensive interaction with healthcare professionals; pregnancies are highrisk and potential rejection of the donated uterus is closely and carefully monitored. Birth is always by caesarean section at least 2 weeks prior to the expected due date (and may be earlier if there are medical complications). This is due to the uncertainty and risks around the donated uterus withstanding contractions. The recipient may have the option of retaining the uterus to attempt a second pregnancy. The uterus will be removed via a hysterectomy either at the time of birth or shortly after to minimise the impact of immunosuppressant medication (adapted from Hammond-Browning & Williams, 2024).

Uterus transplantation is a novel transplant in the field of organ donation and transplantation; it is intended to be a temporary transplant, it is a qualityof-life transplant that is life-giving rather than life preserving, and it uniquely involves the field of assisted reproduction as well as organ donation/transplantation. Proof of concept has been shown with both living (Brännström et al., 2015) and deceased donors (Ejzenberg et al., 2018), although the majority have so far occurred with donations from known living donors. Uterus transplantation is happening across the globe, while the majority are currently performed in clinical trials, some clinical teams are now offering or moving towards offering uterus transplantation as a treatment for women with AUFI (UAB Medicine, n.d.). As medicine improves and awareness increases, it is likely that demand will increase.

Surgical success of a uterus transplant is 'defined as a case resulting in normal blood flow post-transplantation with regular menstruation' (Brännström et al., 2024), however, recipients will likely only consider a uterus transplant to be successful if it results in the birth of a live child. When the transplant is a surgical success, the success rate of uterus transplants resulting in live births is higher than for 'standard' IVF and embryo transfer procedures. Over 70 babies have been born from 140 uterus approximately transplant procedures (Brännström et al., 2025) and some women have been able to use their donated uterus for two births before hysterectomy.

Regulation of uterus transplantation in the United Kingdom

Within the United Kingdom, and as recommended within the Warnock Report, the Human Fertilisation and Embryology Authority (HFEA) regulates and licences clinics that provide assisted reproduction. In addition, the Human Tissue Authority (HTA) oversees organ donation and transplantation. As uterus transplantation involves both medical specialities, it is a highly requlated area of medicine despite not being in the contemplation of legislators prior to enactment of the relevant legislation. The HTA implements the provisions of the Human Tissue Act 2004 which includes strict consent requirements for organ donation. Twenty years after its enactment, deemed consent to organ donation is now the default position in England and Wales, whereby a person is considered to have consented to organ donation unless they have recorded a decision not to donate or are in an excluded group (NHS Blood & Transplant, n.d.). Deemed consent has been implemented through the enactment of The Human Transplantation (Wales) Act 2013 and the Organ Donation (Deemed Consent) Act 2019, both of which permit deemed consent for certain organs. However, deemed consent does not apply to the uterus as it is an organ that is explicitly excluded from the deemed consent provisions, therefore express consent must be provided before the donation of a uterus. This applies to both living and deceased donation.

Likewise, when formulating its recommendations, the Warnock Committee did not envisage that a woman would be able to gestate within her own body utilising another woman's uterus. Indeed, the practice of surrogacy whereby a woman gestated a child for another couple, was one that the Warnock Committee was not fully supportive of. Although there was not universal agreement amongst the members of the committee, the Warnock Committee recommended the criminalisation of those involved in arranging surrogacy pregnancies and that such agreements should be unenforceable (Report of the Committee of Inquiry into Human Fertilisation and Embryology, *1984*, Para 8.18-8.18, Expression of Dissent: A. Surrogacy).

The application of the Warnock Report recommendations to situations beyond the committees imagination is one that has been discussed in the literature (Adkins, 2023; Hammond-Browning, 2015). There has been rapid innovation in assisted reproduction since the first birth following IVF in 1978; the legislation less so! There are areas of legal interest regarding uterus transplantation, including legal parentage (Hammond-Browning & Williams, 2024). One important aspect of the regulation that deserves further attention, judicially, academically, medically, socially, and politically, is the legality of transferring human embryos to someone who is not a cisgender woman. This is particularly relevant in light of the Warnock recommendations which were based on the medical knowledge of that time, and the subsequent legislation which is now being interpreted and applied to medical innovations.

Only women's wombs?

Uterus transplants are currently only offered to cisgender women with AUFI who have their own ovaries, in order to utilise their eggs in the IVF process (Hammond-Browning, 2019a). There has been discussion in the academic and medical literature as well as the media as to whether uterus transplants could one day be offered to transgender women, and thereafter cisgender men as it would have been proven within the male anatomy (Bayar et al., 2023; Hammond-Browning, 2019b; Thys et al., 2024). The desire of transgender women to undergo uterus transplantation for reproductive reasons as well as a means of further gender realignment has been explored through surveys (e.g. Jones et al., 2021) as well as in the academic literature (e.g. Bayar et al., 2023). It should be noted that the legality of performing a uterus transplant in someone other than a cisgender woman will depend upon the regulatory situation in each country; this includes regulation governing access to IVF, as some countries only permit married heterosexual couples to access IVF, thereby preventing a uterus transplant to someone other than a cisgender woman for reproductive means.

Within the United Kingdom, the transplantation of a uterus to a transgender woman appears legally unproblematic, although it would be subject to ethical scrutiny and HTA approval. Indeed, the role of the Equality Act 2010 is such that it has been noted that 'UK and EU legislation would make it legally impermissible to refuse to perform UTx in transgender women solely because of their gender identity' (Jones et al., 2019).

Nevertheless, post-transplantation, there has been very little discussion about the legality of transferring embryos to someone other than a cisgender woman. If a transgender woman was to receive a uterus transplant for the purpose of reproduction, this would necessitate the use of IVF and embryo transfer. A transgender woman would not have any oocytes for use in the IVF process but may still be a biological parent if they have taken fertility preservation steps by cryopreserving sperm.

Judicially, the legality of transferring embryos to someone other than a cisgender woman has only been raised once. This was in a 2019 case, R (on the application of TT) v The Registrar General for England & Wales [2019] EWHC 2384 (Fam) (known as the McConnell case), which sought to determine the legal parentage of a transgender man (McConnell) who had retained his female reproductive organs and underwent intrauterine insemination (IUI), he successfully gestated and gave birth. McConnell had undergone IUI at a licensed clinic after receiving a gender recognition certificate which granted him legal male status. The court held that he was the child's legal mother, not father, by virtue of the fact that he had gestated and given birth. Unfortunately, the court could not explicitly consider and address the legality of transferring human embryos to someone other than a cisgender woman as the court noted that '... the legality of the treatment is not an issue in the present claim. It is, however, a point that the HFEA, the Government and those interested in these matters in Parliament may wish to consider further in the interests of legislative clarity' (at Para 22).

Despite the lack of detailed further consideration of the issue as called for by the court, the HFEA subsequently amended its Code of Practice to explicitly stipulate the legal parenthood of trans patients: The Gender Recognition Act 2004 sets out the circumstances in which a gender recognition certificate (GRC) will be issued and provides trans people with a formal mechanism by which they can be legally recognised in their acquired gender. The centre should be aware that obtaining a GRC (or an interim GRC) does not affect the status of the person as the legal mother, father or second parent of a child. What is relevant in determining legal parenthood is the birth gender of the trans patient. (Code of Practice, 9th Edition, updated October 2023, HFEA at 6.50)

Nonetheless, the HFEA has failed to address whether embryos may be legally transferred to someone other than a cisgender woman. The HFE Act 1990 (as amended) provides that "treatment services" means medical, surgical or obstetric services provided to the public or a section of the public for the purpose of assisting *women* (emphasis added) to carry children' (Human Fertilisation and Embryology Act 1990 as amended, Section 2). Undoubtedly, when the Warnock Committee members were considering all the evidence submitted to it, it was unforeseeable that anyone other than a cisgender woman could gestate a child. It is therefore no surprise that the legislation regulating assisted reproduction refers to treatment 'for the purpose of assisting women to carry children', and if interpreted in light of the social conditions and medical knowledge at the time, would be upheld to refer to cisgender women only. A purposive approach to interpreting the legislation could define 'women' as including both cisgender and transgender women, as well as transgender men (as they were born with female anatomy). However, this may contravene the desires of the transgender community, indeed in the McConnell case, counsel for McConnell rejected the submission by the Government that 'trans-men are treated as 'women' in order to come within the provisions of the HFEA legislation' (at Para 22).

Nevertheless, this approach fails to engage with Section 3(2) and 3ZA HFE Act 1990 (as amended), where it is stated that:

'No person shall place in a woman-

(a) an embryo other than a permitted embryo (as defined by section 3ZA), or

(b) any gametes other than permitted eggs or permitted sperm (as so defined)' (Section 3(2) HFE Act)

Permitted eggs must have been 'produced by or extracted from the ovaries of a woman', and permitted sperm must have been 'produced by or extracted from the testes of a man' (section 3ZA (2) and (3) HFE Act. Further, within section 3ZA (6) it is stated that

"woman" and "man" include, respectively, a girl and a boy (from birth)'. It is the inclusion of 'from birth' within this section that could prevent a purposive interpretation and application of this section. The inclusion of 'from birth' indicates that this is a continuing state of affairs, whereby permitted eggs and sperm are only those extracted from women and men who continue to be the gender that they were assigned from birth. Therefore, it is possible that the use of a transgender woman's sperm may not be permitted to be used to create embryos for transfer. As such, I would advocate for further discussion and clarification of these provisions before uterus transplantation in transgender women becomes technically possible. A strict interpretation of the legislation would prevent the use of transgender people's gametes in assisted reproduction, as their gender has changed from that assigned at birth (Hammond-Browning, 2024).

Discussions are also taking place around transgender women accessing uterus transplantation for reasons other than reproduction; that there may be a desire to receive a uterus as part of their gender alignment (e.g. Jones et al., 2021). From social and ethical perspectives, these are important discussions to have, however, notwithstanding the possibility of expanding the use of uterus transplantation beyond its current reproductive purpose, it must be recognised that there are a limited number of uteri that are suitable for donation. As uterus transplantation becomes more widely known and accessible, 'The supply of living donors may be insufficient to meet the demand' (Kristek et al., 2019) and deceased donation may prove equally insufficient. Additionally, questions remain about the funding of uterus transplantation, for what purpose funding may be provided for, and whether this should be funded by the State or privately (e.g. Wilkinson & Williams, 2016).

Medically and ethically, the benefit of performing a uterus transplant for reasons other than reproduction must be explored. If a transgender woman was to receive a uterus transplant for gender alignment purposes, this would require extensive invasive surgery with associated risks of immunosuppressant medications, for a short-term remedy. The uterus will need to be removed as it is a temporary life-enhancing transplant and to reduce the risks associated with immunosuppressive medication; the current recommendation is to retain the uterus for 5–6 years maximum, but this is to allow for reproduction and possibly up to 2 children (Brännström et al., 2024). For a non-reproductive use, the recommendation may be different taking into consideration whether the scales balance the harm of undergoing a uterus transplant against the perceived non-reproductive benefits.

Conclusion

As noted by Brännström and others, 'this innovation [UTx]... is becoming accepted as a novel and effective clinical procedure with an acceptable safety profile at this early stage. In the future, and after appropriate local preparations, UTx should be part of the reproductive medicine specialist's armamentarium for the treatment of infertility of those women suffering from AUFI' (Brännström et al., 2024). While the rate of medical innovation has been rapid, such that clinicians are starting to view uterus transplants as a treatment option for AUFI within 10 years of the first birth of a child following a uterus transplant, the regulatory and ethical questions have continued to be debated without significant resolution.

The Warnock Report was ground-breaking in its permissive approach to human embryo research, and the recommendations that it made have formed the backbone to the subsequent and enduring legislation on assisted reproduction. However, the legislation governing human reproduction, and organ donation and transplantation, was written and debated at a time when uterus transplantation was not contemplated by legislators. The Human Fertilisation and Embryology Acts of 1990 and 2008 have withstood the test of time relatively well and on the whole could be argued to be fit for purpose. If applied solely to uterus transplantation for cisgender women, the resultant law following the Warnock Report remains fit for purpose. While the legislation can be applied with relative ease to uterus transplantation in cisgender women, the possibility of uterus transplants for transgender women and potentially also cisgender men raise guestions of legality and equality. Likewise, resource allocations and implications, and funding of uterus transplants cannot be ignored. All possible and prospective recipients of a uterus transplant are not equally acknowledged by the law as it currently stands. Therefore, there is a need for clarification and reform. Indeed, the HFEA itself has called for reform of the Human Fertilisation and Embryology Acts (Human Fertilisation & Embryology Authority, 2023). If it is agreed that legislative reform is required, it is important that all stakeholders have a voice including discourse between policy makers, clinicians, and patient groups to ensure that the legislation remains fit for purpose and reflects the medical and societal advancements of the last 40 years.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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