

The ethical case for non-directed postmortem sperm donation

Nathan Hodson ,¹ Joshua Parker²

¹College of Life Sciences, University of Leicester, Leicester, United Kingdom

²Department of Education and Research, Wythenshawe Hospital, Manchester, UK

Correspondence to

Dr Nathan Hodson, Leicester, UK; n.hodson@doctors.org.uk

Received 17 June 2019

Revised 20 September 2019

Accepted 13 November 2019

ABSTRACT

In this article we outline and defend the concept of voluntary non-directed postmortem sperm donation. This approach offers a potential means of increasing the quantity and heterogeneity of donor sperm. This is pertinent given the present context of a donor sperm shortage in the UK. Beyond making the case that it is technically feasible for dead men to donate their sperm for use in reproduction, we argue that this is ethically permissible. The inability to access donor sperm and the suffering this causes, we argue, justifies allowing access to sperm donated after death. Moreover, it is known that individuals and couples have desires for certain sperm donor characteristics which may not be fulfilled when numbers of sperm donors are low. Enacting these preferences contributes significantly to the well-being of intended parents, so we argue that this provides a *pro tanto* reason for respecting them. Finally, we explore the benefits and possible disadvantages of such a system for the various parties affected.

INTRODUCTION

Many people hope that after death their bodies will be used to benefit others. In this article we outline and defend voluntary non-directed post-mortem sperm donation.¹ This proposal entails men being able to register their desire to donate their sperm after death for use by strangers. We begin by describing the need for donor sperm for use in artificial reproductive techniques (ARTs) and argue that this justifies allowing sperm to be added to the tissues one can donate after death. We then outline what we believe such a policy might look like, although an in-depth articulation of such a policy is outside the scope of this article. In the next section we consider the merits of such a solution, including the reasons men might have for donation and why donation after death would be appealing. Finally we consider the proposal's implications for wider society including the family of the deceased and any offspring produced to consider the question of whether this system would be undesirable, unethical or harmful.

THE UNMET NEED FOR DONOR GAMETES

The United Kingdom (UK) has a shortage of donor sperm. In 2016 there were 2273 donor insemination treatment cycles; 42% of the women registering had a male partner, 41% had a female partner and 17% were single.¹ The average number of newly

registered sperm donors per year between 2011 and 2013 was 586, an increase from 2004 where there were 237 donors.² Yet this increase includes donations for specific use by a known individual to create one offspring. In 2016 the Human Fertilisation and Embryology Authority (HFEA) reported 4306 *in vitro* fertilisation (IVF) treatment cycles with 'own eggs and donor sperm' and 924 treatment cycles with 'donor egg and donor sperm'.¹ Clearly there is high demand for donor sperm and HFEA reports demonstrate this is increasing.¹

Commercial imports have been the mainstay of UK efforts to keep up with increasing demand for donor sperm.¹ The Department of Health and Social Care estimates that 4000 samples were imported from the USA and 3000 from Denmark in addition to samples from other European Union (EU) countries.³ The HFEA highlights that imports are used to plug the gap because "the cost, time and resources required to recruit donors themselves is too high when there are specialist sperm banks who can carry out an efficient and reliable service".⁴ The Department of Health and Social Care has raised concerns that the UK's departure from the EU may worsen this state of affairs.³

There is no reason to believe demand for gametes will abate; the mismatch between supply and demand for sperm is likely to continue. Given the immense value of having the ability to reproduce, it is important to secure a reliable source of sperm, sufficient to meet requirements. In the next section we will argue that deceased donors offer an appealing and ethically acceptable alternative means of bolstering sperm supplies.

DOES AN UNMET NEED JUSTIFY THE USE OF GAMETES DONATED AFTER DEATH?

At this point one might respond by agreeing that there is a shortage of donor sperm, but that this does not justify harvesting sperm after death.¹ This case can be made along two lines. The first is that there are better ways of increasing donor sperm (this is addressed below when we consider men's reasons for donation). The second is that the nature of infertility is such that it is not a weighty enough concern to necessitate gamete donation after death.

The question of what sort of need constitutes grounds for taking a person's tissue after death for use in another person's body is contentious. Clearly life-threatening illnesses that can be cured or improved by transplant provide an adequate justification in so far as other caveats are fulfilled. Other diseases that are not life-threatening, like corneal transplants, are also candidates; so-called 'life-enhancing' transplants. Infertility is not

¹Whilst the discussion here focuses on sperm, the same arguments may apply to gametes generally should the technology permit egg donation after death for use in reproduction.



© Author(s) (or their employer(s)) 2020. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Hodson N, Parker J. *J Med Ethics* Epub ahead of print: [please include Day Month Year]. doi:10.1136/medethics-2019-105637

life-threatening however. There is also debate over whether infertility is a disease,⁵ which we cannot settle here and so will set aside. Nevertheless, as we argue below, infertility certainly causes suffering, some of which can be ameliorated by access to donor sperm. If it is morally acceptable that individuals can donate their tissues to relieve the suffering of others in 'life-enhancing transplants' for diseases, we see no reason this cannot be extended to other forms of suffering like infertility, which may or may not also be considered a disease.

THE FEASIBILITY OF POSTMORTEM GAMETE DONATION

It is almost 40 years since the first request for posthumous sperm retrieval was reported.⁶ Sperm can be collected after death via either electroejaculation or surgical methods. The former involves the delivery of electric shocks to the prostate via a probe inserted into the rectum to stimulate ejaculation. The latter entails an incision in the scrotum allowing access to the tubes that carry sperm from the testes to the urethra, from which the sperm is extracted.⁷ Following collection, sperm is cryopreserved until selection for use in reproduction, at which time the sperm sample is thawed just as it would be with a living donation.^{8,9} Although there are known benefits to using fresh sperm, it is more likely that following postmortem extraction sperm would be frozen.¹⁰

Sperm harvesting after death has been technically possible for many years and there is evidence that it can be used in reproduction. Case series have demonstrated that sperm retrieved from dead men can result in a viable pregnancies and healthy children, even when retrieved 48 hours after death.^{9,11}

Dead men's sperm can be used in ARTs and there is a need for more donor sperm. This raises the possibility that dead men could donate their sperm after death. In broad strokes, we envisage men indicating during life that they have a preference to donate sperm after death. Following death, sperm is extracted, stored in fertility clinics and made available to those requiring donor sperm. We assume that safety and quality standards would be equivalent to donation during life. We will not outline specific policy details like standards of consent, donor anonymity, family veto, and so forth. While these questions are important, they do not provide a knock-down objection to the idea of non-directive postmortem sperm donation; one could agree generally with the idea of non-directive postmortem sperm donation while disagreeing with the specifics of a policy.

THE CASE FOR POSTMORTEM SPERM DONATION

Sperm can be collected from dead men, stored and successfully used in reproduction. We now turn to the benefits of allowing posthumous sperm donation. We assume that posthumous donation would increase available sperm. This is speculative as there is no evidence regarding a situation of non-directive post-mortem sperm donation. It may be the case that living donations decrease as a result, risking overall reductions in donor sperm. Though ultimately we hope that those few living men who make sperm donations to strangers continue to do so, supplemented by the addition of single, small-volume donations made by a wider variety of men after death. But even if they did not, there is such a low number of living sperm donors in the UK that decreased sperm donation in life, when supplemented by donations after death, is likely to result in a net gain. Ultimately more sperm donors should increase the available donor sperm and it is inferred that this would increase sperm diversity.

The deceased

The reasons men decide to donate their sperm include altruism, procreation and genetic parenthood, as well as financial reasons;¹² yet living sperm donation remains uncommon among British men.¹³ This may be because of the loss of donor anonymity and the demands of donating sperm which include health tests, counselling and intimate discussions, and travel to clinics to make donations weekly for 3–6 months.¹⁴ While there have been discussions of how to increase donations during life, including greater financial incentives, at best this can only offset the disruption of sperm donation in life.¹⁵

There are barriers to donating sperm in life that may prevent some men acting on their desire to help others or see their genes continue into future generations through donation. Posthumous sperm donation avoids most of these problems, allowing men to access the positives of sperm donation without the drawbacks. Living kidney donation provides an informative comparison between the motivations to donate in life versus after death. It is difficult to overestimate the value of donated kidneys to those individuals on the transplant list. Many people feel the pull of altruism and have a desire to help those who need a kidney transplant. Yet the potential costs of donating during life mean that individuals would rather donate after death when those costs are eliminated.¹⁶ Gamete donation after death parallels kidney donation by offering the same benefits as donation in life with fewer drawbacks, thereby both incentivising men to donate and providing greater opportunity to fulfil some of their reproductive and altruistic desires. This makes voluntary postmortem sperm donation an attractive addition to living donation.

The intended social parents

The individual(s) planning to raise the child conceived with donor sperm are the intended social parents (although one may also be a biological parent). The intended social parents benefit from increased availability of gametes in three significant ways.

The shrinking pool of donors is bad for people who require donor sperm to reproduce. For example, this has led to increases in average waiting times for treatment cycles using donor sperm.¹³ The ability to reproduce matters to people and difficulty producing offspring is a source of suffering. Delaying access to donor sperm prolongs this suffering and forces potential parents to delay attaining what Brighouse and Swift described as the "goods of parenting" – the morally valuable items associated with parenthood.¹⁷ In other words, there is a negative impact on the welfare of those needing donor sperm through insufficient quantities. These factors cause unnecessary distress for potential parents and increasing the numbers of sperm donors might alleviate this.

We know that when people use donor sperm to reproduce, they often have diverse preferences for certain donor characteristics. One example of this is educational level.¹⁸ A further example is appearance.¹⁹ Indeed, survey data reveal that intended social parents highly value matching to the non-biologically related partner.²⁰ This may involve race matching; however, there are racial groups who struggle to find suitable donors. The shame and stigma of having a non-race-matched child through a lack of donors can be very real for these groups and for some has meant seeking donors abroad.²¹

There are many reasons why individuals and couples have various preferences that relate to their child's physical appearance and psychological characteristics: family cohesion and resemblance, maintaining privacy regarding the need for donor sperm, to provide a semblance of genetic kinship, concerns over the child's sense of identity, and hopes for the child's future. If sperm donation after death increases the numbers, and thereby

the variety, of donors then the likelihood of being able to satisfy such desires is increased. Satisfying such preferences is good because individuals' reproductive desires tend to be expressions of their most deeply held values and are "central to personal identity, to dignity, and to the meaning of one's life".^{22 23} As such, they are closely tied to an individual's well-being and autonomy. While some preferences are more important than others, in so far as others are not made worse off by their choices,²⁴ individuals benefit from, and ought to be afforded, opportunities to act on their deepest values and have the kind of family they desire.

Finally, some intended parents may have a preference for using sperm from a dead rather than living donor. The knowledge that the man who produced the donor sperm has died could provide a degree of simplicity when thinking about that child's future in terms of potential future interactions with their donor. We remain neutral on whether this is actually beneficial, but merely wish to suggest that some individuals might perceive this to be a benefit and that this is currently unmet as people can not choose to reproduce with dead stranger's sperm. We consider the welfare of the offspring further below.

WIDER CONSIDERATIONS

Thus far we have argued that allowing men to donate sperm after death creates an extra option (postmortem sperm) and fulfils a need for certain options (heterogeneity and increased quantity of sperm). Moreover, we have provided some reasons for believing that men have an interest in consenting to have their sperm collected after death. In this section, we consider the effects of such a system on children born from sperm obtained postmortem; the family of the deceased man; and wider society, to counter charges that such a policy would in some way harm these interested parties.

The offspring

We first begin by considering the welfare of a child born via sperm donated after death. One immediate problem with this approach is the non-identity problem. Provided that the child has a life worth living, even if they suffer as a result of being born by sperm donated after death, given this is their only way of existing, it is difficult to establish that they have been harmed or are worse off. Many would still be keen to know that being born this way doesn't cause suffering, or at least that such children are no worse off as compared with children born using sperm donated in life, so we consider the potential effects for children in spite of the non-identity problem. In doing so, however, it should at least be clear that these children do have a life worth living.²⁵

Concerns might be raised about the health of men who donate sperm after death given that they have died. Such health issues might be transmitted to the child via genes carried by donated sperm. This kind of problem can be minimised through health checks performed on the donors in addition to screening checks of the sperm. If we accept that this policy works for living donors to protect the physical welfare of the child so too should we be satisfied with parallel safeguards for dead donors. Even without such safeguards, there is no evidence that children born from sperm collected after death have suffered ill health as a result.¹¹

What about the psychological health of children born from dead donor sperm? There is no published evidence comparing the well-being of children conceived via the sperm of dead donors and living donors. There are data available regarding children conceived by living donors. While this does not directly address questions about the well-being of children born from dead sperm donors, at least some of the data prove insightful. Individuals conceived by donated sperm tend to respond

neutrally or with curiosity when the circumstances of their conception are explained during their school age years.^{26 27} Most people conceived by sperm donation feel 'indifferent', 'content' or 'happy' about being donor-conceived.²⁸ The Nuffield Council on Bioethics found that many individuals conceived through gamete donation were keen to know about the donor in terms of physical characteristics and medical information in addition to understanding their motivation for donation.²⁹ Other studies have found that donor offspring rarely cite desire for a relationship as a primary reason for searching for the donor. Once found, their relationship rarely resembles a parent-child relationship.³⁰ These findings suggest that individuals born from donated gametes are interested in understanding their origins but not in having parent-child relationships with the donor. This is important because there is no obvious reason to assume that knowing the donor was dead would alter these perspectives and that these children would thereby be harmed by wanting a relationship they cannot have. Moreover, this knowledge means that children's psychological needs regarding their origins can be met by providing the appropriate information.

The dead donor's family

The thorniest question regarding the donor's family relates to the 'family veto', a controversial element of the UK's solid organ donation policy which will not be addressed here. Here we consider the implications for families of adding sperm to the list of tissues that can be donated after death.

Grieving families commonly take solace in the knowledge that their loved one's organs have been used to improve the lives of others.³¹ Given the value that society places on parenthood and child-rearing, there is reason to believe that families of donors would react in a similar way regarding the donation of gametes. Specifically, families report that 'letting the donor live on' makes them feel better about knowing that their loved one donated³² and provides meaning to their loved one's death. If the organ donor's family can view them as living on through donation of organs, it seems entirely possible that continuing a genetic lineage might also provide a similar comfort. Indeed, some bereaved parents have attempted to have a grandson using their son's sperm.^{33 34} What we are suggesting here is that the donor's involvement in reproduction and transmission of genetic material might, for the family, represent a continuation of existence in a way that offers meaningful comfort.

There is the possibility that sperm donation after death could provide comfort to the family of the deceased; however, there is the risk that the family develop unrealistic expectations about whether sperm is used and the status of any resulting child to them. Genetic relatedness is often taken to imply a special relationship. While it is important to be mindful of such expectations and the risks of disappointment, these are present with living donation and are not taken to be a bulwark to donation or use. While the death of the donor can compound the issue, steps can be taken to ensure grounded expectations among the family.

Given the potential impact of postmortem sperm donation on the family, policy decisions could be used to soften the implications of postmortem sperm donation for the family. For our purposes, the important point is that considerations of the family, including a romantic partner surviving the deceased man, do not justify a blanket ban on the use of sperm collected after death, especially if the donor has specified a desire to donate.

Wider society

Surveys reveal that the population has generally favourable attitudes to the use of posthumous sperm in assisted reproduction

where sperm is used by known partners.^{35 36} This can be taken to suggest that the public do not object to sperm that was collected after death being used to produce a child, albeit in specific circumstances. What we infer from this is that objections from the public are likely to relate to the specific circumstances in which the sperm is used, namely that the donation is non-directive and outside an existing relationship, rather than because the donor is dead.

The moral integrity of society also stands to benefit from posthumous sperm donation. The UK consensus is that gametes ought not to be bought although donor expenses should be covered.³⁷ We do not take a view on this generally, but note the dissonance generated when sperm from countries such as Denmark where ‘vendors’ have been paid is used in the UK.³⁸ In so far as society benefits from a coherent bioethical policy reflecting its shared values, using dead donors rather than donors who were paid in other countries to bolster supplies might provide a more coherent policy.

CONCLUSIONS

The ability to reproduce matters to people and donated sperm enables many people to fulfil their reproductive desires. Limitations in numbers and variety of donors have consequences for individuals and couples who require donor sperm. Here we have argued that it is both feasible and morally permissible for men to volunteer their sperm to be donated to strangers after death in order to ensure sufficient quantities of sperm with desired qualities. Indeed, sperm donated postmortem may also be an attractive option for some intended parents and some potential donors.

Although this is a promising alternative method of obtaining donor sperm, several questions remain. Some of these questions parallel ongoing debates in organ donation, although the use of donated reproductive material might alter the nature of questions about consent and the family veto. Other questions regarding quality of consent and integrity of donor anonymity also have comparisons in living gamete donation. Finally, ART funding in the UK remains contentious so it is unclear who would pay for voluntary non-directive postmortem gamete donation.

Twitter Nathan Hodson @nathanhodson and Joshua Parker @joshp_j

Acknowledgements The authors thank Professor Susan Bewley for her comments on an earlier version of the manuscript. We would also like to thank two anonymous reviewers for their helpful comments on this the paper.

Contributors NH and JP made equal contributions to the conception, planning, writing and editing of this article.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement (2) There are no data in this work

ORCID iD

Nathan Hodson <http://orcid.org/0000-0001-6022-2260>

REFERENCES

- Human Fertilisation & Embryology Authority. *Fertility treatment 2014-2016*, 2018.
- Human Fertilisation & Embryology Authority. Egg and sperm donation in the UK. donation report datasheet. Available: <https://www.hfea.gov.uk/about-us/publications#> [Accessed 21 Jan 2019].
- Department of Health and Social Care. Quality and safety of organs, tissues and cells if there's no Brexit deal. Available: <https://www.gov.uk/government/publications/quality-and-safety-of-organs-tissues-and-cells-if-theres-no-brexit-deal> [Accessed 27 Sep 2019].
- Human Fertilisation & Embryology Authority. Egg and sperm donation in the UK: 2012–2013, 2014. Available: <https://ifglive.blob.core.windows.net/umbraco-website/2026/egg-and-sperm-donation-in-the-uk-2012-2013.pdf> [Accessed 21 Jan 2019].
- Maung HH. Is infertility a disease and does it matter? *Bioethics* 2019;33(1):43–53.
- Rothman CM. A method for obtaining viable sperm in the postmortem state. *Fertil Steril* 1980;34(5):512.
- Batzler FR, Hurwitz JM, Caplan A. Postmortem parenthood and the need for a protocol with posthumous sperm procurement. *Fertil Steril* 2003;79(6):1263–9.
- Shefi S, Raviv G, Eisenberg ML, et al. Posthumous sperm retrieval: analysis of time interval to harvest sperm. *Hum Reprod* 2006;21(11):2890–3.
- Jequier AM, Zhang M. Practical problems in the posthumous retrieval of sperm. *Hum Reprod* 2014;29(12):2615–9.
- Maris E, Ferrieres-Hoa A, Gala A, et al. [Comparison of birth weights of children born after slow frozen embryo replacement versus fresh embryo transfer]. *Gynecol Obstet Fertil Senol* 2019;47(3):305–10.
- Robson SJ, Campbell S, McDonald J, et al. Pregnancy and childhood health and developmental outcomes with the use of posthumous human sperm. *Hum Reprod* 2015;30(10):2259–62.
- Van den Broeck U, Vandermeeren M, Vanderschueren D, et al. A systematic review of sperm donors: demographic characteristics, attitudes, motives and experiences of the process of sperm donation. *Hum Reprod Update* 2013;19(1):37–51.
- Gudipati M, Pearce K, Prakash A, et al. The sperm donor programme over 11 years at Newcastle Fertility Centre. *Hum Fertil* 2013;16(4):258–65.
- O'Reilly D, Bowen JM, Perampaladas K, et al. Feasibility of an altruistic sperm donation program in Canada: results from a population-based model. *Reprod Health* 2017;14(1):8.
- Dyer C. HFEA canvasses on whether to increase compensation to egg and sperm donors. *BMJ* 2011;342(Jan 17 1).
- NHS Blood and Transplant. Kidney activity. Available: https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/4496/section_5_kidney_activity.pdf [Accessed 06 Jul 2018].
- Brighthouse H, Swift A. Goods of parenting. In: McLeod F, Baylis C, eds. *Family-making : contemporary ethical challenges. Issues in biomedical ethics*. Oxford: Oxford University Press, 2014: 11–28.
- Whyte S, Torgler B, Harrison KL. What women want in their sperm donor: a study of more than 1000 women's sperm donor selections. *Econ Hum Biol* 2016;23:1–9.
- Maung HH. Ethical problems with ethnic matching in gamete donation. *J Med Ethics* 2019;45(2):112–6.
- Frith L, Sawyer N, Kramer W. Forming a family with sperm donation: a survey of 244 non-biological parents. *Reprod Biomed Online* 2012;24(7):709–18.
- Taneja P. Asian egg donor shortage in UK 'forcing couples abroad'. BBC News, 2013. Available: www.bbc.com/news/uk-22533906 [Accessed 06 Jul 2018].
- Brock DW. Shaping future children: parental rights and societal interests. *J Polit Philos* 2005;13(4):377–98.
- Robertson JA. *Children of choice: freedom and the new reproductive technologies*. Princeton, NJ: Princeton University Press, 1994: 24.
- Harris J. Rights and reproductive choice. In: Holm S, Harris J, eds. *The future of human reproduction: choice and regulation*. Oxford: Oxford University Press, 1998: 5–37.
- Parfit D. *Reasons and persons*. Oxford: Oxford University Press, 1984.
- Blake L, Casey P, Readings J, et al. 'Daddy ran out of tadpoles': how parents tell their children that they are donor conceived, and what their 7-year-olds understand. *Hum Reprod* 2010;25(10):2527–34.
- Mac Dougall K, Becker G, Scheib JE, et al. Strategies for disclosure: how parents approach telling their children that they were conceived with donor gametes. *Fertil Steril* 2007;87(3):524–33.
- Jadva V, Freeman T, Kramer W, et al. The experiences of adolescents and adults conceived by sperm donation: comparisons by age of disclosure and family type. *Hum Reprod* 2009;24(8):1909–19.
- Nuffield Council on Bioethics. *Donor conception: ethical aspects of information sharing*. London: Nuffield Council on Bioethics, 2013.
- Beeson DR, Jennings PK, Kramer W. Offspring searching for their sperm donors: how family type shapes the process. *Hum Reprod* 2011;26(9):2415–24.
- Human Tissue Authority. Deceased organ donation. Human Tissue Authority. Available: <https://www.hta.gov.uk/guidance-public/deceased-organ-donation> [Accessed 10 Apr 2018].
- Ralph A, Chapman JR, Gillis J, et al. Family perspectives on deceased organ donation: thematic synthesis of qualitative studies. *Am J Transplant* 2014;14(4):923–35.
- Bannerman L. Couple create a grandchild using dead son's sperm, 2018. *The Times*. Available: <https://www.thetimes.co.uk/article/couple-create-a-grandchild-using-dead-son-s-sperm-bq3nkplfv> [Accessed 10 Apr 2018].
- Uni, Assaf. Israeli parents use deceased son's sperm to continue family. Newsweek, 2016. Available: <https://www.newsweek.com/2016/10/21/israeli-parents-use-deceased-sons-sperm-continue-family-508628.html> [Accessed 10 Apr 2018].
- Barton SE, Correia KF, Shalev S, et al. Population-based study of attitudes toward posthumous reproduction. *Fertil Steril* 2012;98(3):735–40.
- Nakhuda GS, Wang JG, Sauer MV. Posthumous assisted reproduction: a survey of attitudes of couples seeking fertility treatment and the degree of agreement between intimate partners. *Fertil Steril* 2011;96(6):1463–6.
- Watson S. Reimbursement of expenses for living donors. NHS England, highly specialized commissioning. Available: <https://www.england.nhs.uk/wp-content/uploads/2017/08/comm-pol-reimbursement-expenses-living-donors.pdf> [Accessed 10 Apr 2018].
- Bay B, Larsen PB, Kesmodel US, et al. Danish sperm donors across three decades: motivations and attitudes. *Fertil Steril* 2014;101(1):252–7.