PRB 00-35E

REPRODUCTIVE TECHNOLOGIES: SURROGACY, AND EGG AND SPERM DONATION

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Revised 9 February 2006

PARLIAMENTARY INFORMATION AND RESEARCH SERVICE
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INTRODUCTION

Twenty years ago, the only reproductive technologies available to infertile couples were artificial insemination and *in vitro* fertilization. Since that time, there has been an explosion of reproductive and genetic technologies, and a multitude of options are now available both to those with fertility problems and to those who wish not to pass on inheritable conditions to their offspring. The scientific, medical, ethical and legal communities have struggled to keep pace with the challenges posed by these advances.

Many of the new reproductive technologies (NRTs) available are briefly described in *Reproductive Infertility: Prevalence, Causes, Trends and Treatments.*(1), a 2001 Library of Parliament publication. This paper will provide an overview of the practices of donating gametes (eggs and sperm) and surrogacy, and will outline the steps taken by Canada thus far to regulate these practices.

GAMETE DONATION

Gametes – the reproductive cells of both men and women – are the male sperm and the female eggs (or ova). Sperm, or semen, banks for donated sperm have been in existence for a number of years, as donated sperm was requested for use in artificial insemination and *in vitro* fertilization procedures. Egg donation, however, is a much more recent phenomenon due to the significantly more elaborate techniques required to extract eggs from a woman's ovaries.

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(1) Sonya Norris, *Reproductive Infertility: Prevalence, Causes, Trends and Treatments*, PRB 00-32E, Parliamentary Information and Research Service, Library of Parliament, Ottawa, 2 January 2001.

A. Sperm Donation

The first regulation of reproductive technologies in Canada was for the donation of semen samples for use in artificial insemination or *in vitro* fertilization. In 1996, the *Semen Regulations* (*The Processing and Distribution of Semen for Assisted Conception Regulations)* of the *Food and Drugs Act* were issued, and were updated in March 2000.

Semen donors are usually anonymous and undergo rigorous screening for medical and genetic diseases and for all sexually transmitted and other infectious diseases, including AIDS and hepatitis. All donations must be quarantined for six months and the donor re-tested at this time to ensure samples are negative for the viruses that lead to those diseases. The *Semen Regulations* also stipulate that if a donated sample has a high white blood cell count, it must be destroyed, as this is often indicative of a viral or bacterial infection.

Sperm donation is now a controlled activity under the *Assisted Human Reproduction Act*, and will require licensing once the appropriate regulations have been implemented. The new Act will maintain the practice of "anonymous" donation, although detailed records will be maintained. Donors would have the option of revealing their identity if they choose.

Donations of sperm may be requested to overcome infertility in couples where the man has no sperm production or the sperm count is so low that pregnancy is improbable. Single women and lesbian couples also take advantage of donated sperm in order to conceive.

B. Egg Donation

Egg donation is a product of *in vitro* fertilization (IVF) technology. In IVF, multiple eggs are stimulated to grow via hormone therapy (controlled ovarian hyperstimulation) and are then harvested from the woman. Retrieval of the eggs requires sedation as they are removed vaginally with the use of a needle. The mature eggs are subsequently fertilized outside of the body and allowed to grow for a few days. The resulting embryos are then inserted into the uterus (a maximum of three, usually) and will be followed by implantation and pregnancy if the procedure is successful.

The egg harvesting technique developed for IVF has subsequently been used for the donation of eggs, in the same way as sperm has been used for donation purposes for decades. Donated eggs, from either known or anonymous donors, can be used to overcome infertility in women who: lack ovaries; have diminished ovarian function; or have a genetic disease or a history of genetic disease.

Egg donation, however, is considerably more complicated than sperm donation. In addition to the complex procedure for egg harvesting, eggs are also less amenable to storage than are sperm. Unlike the banking of sperm donations, no such banks exist for egg donations. Eggs are used immediately after retrieval and are fertilized *in vitro*. Resulting embryos are more easily stored than eggs and can either be implanted or stored cryogenically for an extended period of time.

Potential egg donors are carefully screened before being accepted. Most clinics currently require volunteers to submit to:

- a physical examination;
- blood tests for infectious agents and cervical cultures to test for sexually transmitted diseases;
- a medical history (personal and family); and
- psychosocial evaluation both for the health of the donated gametes and to evaluate the psychological impact on the donor of giving up gametes.

Many fertility clinics in Canada have offered egg donation services. Canada's *Assisted Human Reproduction Act* prohibits the commercialization of egg and sperm donation, including the payment of anonymous egg donors, exchange for IVF services and the advertisement of such services.

SURROGACY

Surrogacy is also referred to as a pre-conception arrangement, or contract motherhood, and is one of the more ethically volatile categories of the NRTs. Although this practice is not as common in Canada as it is in the United States, a number of Canadian fertility clinics have offered the service. There are different types of arrangements. The surrogate may

either be artificially inseminated with the sperm of the commissioning father and will become the genetic mother (genetic surrogate), or she may have an embryo produced through IVF of the commissioning couple's gametes, in which case the surrogate provides only the womb for gestation and makes no genetic contribution (gestational surrogate). The surrogate arrangement may or may not involve the use of a broker, or lawyer, with accompanying fees.

A. Reasons for Surrogate Use

Women who are unable to overcome their infertility through other NRTs may opt for use of a gestational or genetic surrogate in order to obtain an infant. Some medical conditions – such as diabetes, heart problems or severe high blood pressure – may also prevent an otherwise fertile woman from carrying a baby to term. However, most people have heard accounts of surrogates being commissioned simply because the commissioning couple does not wish to submit to the months of pregnancy and labour of delivery. There is little, if any, existing documentation on which to estimate the proportion of each of these, or other, reasons.

B. Commercial vs. Non-commercial Arrangements

These two categories of surrogacy essentially separate the purely altruistic practice from the business arrangement. In commercial pre-conception arrangements, the surrogate receives payment for her services in the form of fees and expenses. In non-commercial arrangements, frequently between family members or close friends, one woman offers to carry a baby for the other, with no contract required and no financial compensation requested.

C. Genetic vs. Gestational Surrogate

A genetic surrogate essentially donates her own egg and is inseminated with the sperm of the commissioning man. This sort of surrogacy has been used, in some form, since the beginning of time. Women who have had hysterectomies, or perhaps are older, or have experienced premature menopause may elect to solicit a genetic surrogate.

A gestational surrogate has an embryo inserted into her uterus following IVF. The embryo is produced with the egg and sperm of the commissioning couple, or in some cases, donated gametes. A couple may choose to request a gestational surrogate when the woman has

no uterus or is unable to carry a pregnancy to term. Success rates of pregnancy are generally higher for artificial insemination than for IVF, and therefore by extension genetic surrogacy is generally more successful than gestational surrogacy.

D. Issues Raised When Considering Surrogacy

1. Arguments Against Pre-conception Arrangements

Surrogacy is much more common in the United States than it is in Canada. Arguments against the practice therefore frequently draw upon the U.S. experience. Some people believe that pre-conception agreements, specifically commercial ones, have the potential to exploit women. Typically these arrangements are between older, well-educated and affluent commissioning couples and younger, less-educated and poor women. Many feel that this will exploit the women, who may be lured by the fees offered but may not appreciate the risks involved, both physical and psychological. The U.S. experience also suggests that surrogates may be "imported" from other countries solely for the purpose of surrogacy and then subsequently returned to that country.

Another issue raised by those who oppose the practice of surrogacy is the commodification of babies. Those who oppose the practice contend that, simply stated, a commercial pre-conception arrangement is a business transaction in which a child is a product that is sold by the surrogate and purchased by the commissioning couple, or individual. Many suggest that inevitably there will be commissioning couples who will refuse to accept the infant if he or she does not meet their specifications.

Some see pre-conception arrangements as a means of marketing reproduction. The practice attempts to attach a commercial value to the reproductive process and, by extrapolation, to a woman in her capacity to reproduce. Opponents of surrogacy see these and other issues as harmful to individuals, families and society. They feel that ultimately legitimizing the practice would result in a lack of respect for the sanctity of life.

2. Arguments in Support of Pre-conception Arrangements

Supporters of surrogacy argue that the practice provides a valuable option to women who are medically unable to carry a child. Many people believe that surrogacy is merely another way to treat infertility. Others feel that couples have the right to reproduce without the interference of government and that a woman has the right to choose to be a surrogate if she gives informed consent.

Some people believe that commercial arrangements should be separated from the non-commercial ones. They suggest that although commercial pre-conception arrangements may be unacceptable, the altruistic practice should be permitted as it does not commodify infants or exploit underprivileged women like its commercial counterpart.

E. Regulation of Surrogacy in Canada

The *Assisted Human Reproduction Act* does not specifically prohibit surrogacy. Rather, it prohibits payment for surrogacy, either to the potential surrogate or to an intermediate to arrange a surrogacy. In addition, it is now prohibited to counsel, induce or medically treat a woman under the age of 21 to become a surrogate. Fertility clinics generally advise clients to seek legal counsel before entering into any surrogacy agreements.

CHRONOLOGY OF CANADA'S ACTIONS WITH RESPECT TO NEW REPRODUCTIVE TECHNOLOGIES

Since the 1993 Royal Commission on New Reproductive Technologies report, the federal government has taken several actions, but few with any regulatory outcome. These include the following:

1993-1996 – Federal/Provincial/Territorial Working Group on Reproductive and Genetic Technologies (RGT) was established to advise the Deputy Ministers of Health.

1995 – Interim moratorium on specific RGTs was announced; this voluntary moratorium applied to: buying and selling of eggs, sperm and embryos; egg donation in exchange for *in vitro* fertilization services; germ-line genetic alteration; human embryo cloning; retrieval of eggs from cadavers and fetuses, etc.

1996 – Advisory Committee on Reproductive and Genetic Technologies was established to advise Health Canada on moratorium compliance and other developments.

1996 – Regulations for the processing and distribution of semen for assisted conception implemented.

1996 – Bill C-47, The Human Reproductive and Genetic Technologies Act, was introduced to prohibit unacceptable RGT practices including the commercialization of gametes and embryos, surrogacy, cloning, non-medical sex selection, maintenance of embryos outside the womb, post-mortem retrieval of gametes, embryo transfer between human and other animals, research on gametes or embryos without donor consent, etc.

1996 – Minister of Health released a discussion paper entitled *New Reproductive and Genetic Technologies: Setting Boundaries, Enhancing Health*, proposing a regulatory framework for national standards on permissible practices such as *in vitro* fertilization, donor insemination, use of fetal tissue, storage and donation of gametes and embryos, and embryo research including pre-implantation diagnosis.

1997 – Bill C-47 died on the *Order Paper* at the call of the 1997 federal election.

1997 – Canada signed the UNESCO Universal Declaration on the Human Genome and Human Rights, which also agreed with the G-7 position on the need for a prohibition of nuclear transfer for human cloning.

1998 – Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans produced by the Medical Research Council, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council.

1999 – Health Canada issued an overview paper on reproductive and genetic technologies (RGTs) to further the discussion on the proposed approach and management of a regulatory framework.

2000 – Guidelines for semen donation were updated.

2000 – Health Canada produced a discussion paper regarding possible new legislation dealing with RGTs.

2001 – House of Commons Standing Committee on Health report, *Assisted Human Reproduction: Building Families*.

2004 – Royal Assent to the *Assisted Human Reproduction Act*.

CONCLUSION

This paper has offered an overview of gamete donation and pre-conception arrangements. Although sperm donation and pre-conception arrangements, in various forms, have been practised for some time, egg donation is a relatively new option.

SELECTED REFERENCES

Health Canada, Therapeutic Products Programme. *Guidance for the Interpretation of Sections 2 to 5 of the Canadian Fertility and Andrology Society 2000 Guidelines for Therapeutic Donor Insemination.* Ottawa, Therapeutic Products Programme, Health Canada, 25 May 2000.

House of Commons Standing Committee on Health. *Assisted Human Reproduction: Building Families*. December 2001.

Norris, Sonya. *Reproductive Infertility: Prevalence, Causes, Trends and Treatments.* PRB 00-32E. Ottawa: Parliamentary Information and Research Service, Library of Parliament, Ottawa, 2 January 2001.

Royal Commission on New Reproductive Technologies. *Proceed With Care*. Final Report. Ottawa: Minister of Government Services Canada, Ottawa, 1993.