

# Third-Party Reproduction

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## *A Guide for Patients*



Impacting Reproductive  
Care Worldwide

PATIENT INFORMATION SERIES

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# Third-Party Reproduction

## Sperm, egg, and embryo donation and surrogacy

### A Guide for Patients, Revised 2017

*A glossary of italicized words is located at the end of this booklet.*

#### **INTRODUCTION**

The phrase “third-party reproduction” refers to involving someone other than the individual or couple that plans to raise the child (intended parent[s]) in the process of reproduction. This includes using donated eggs, *sperm*, or *embryos* and *gestational-carrier* arrangements, in which the pregnancy is carried by someone other than the intended parent(s). *Surrogacy*, also sometimes referred to as traditional gestational carrier, is a particular type of gestational-carrier arrangement where the woman who carries the pregnancy also provides the egg. Unless specifically indicated, the term *gestational carrier* in this booklet will refer to a woman who carries a pregnancy, but has no genetic link to the fetus.

Third-party reproduction can be socially, ethically, and legally complex. As egg donation has become more common, there has been a reconsideration of the social and ethical impact this technology has had on prospective parents, their offspring, and the egg donors themselves. Surrogacy arrangements are controversial, and are subject to both legal and psychosocial scrutiny. This booklet will discuss the options for third-party reproduction, reviewing sperm donation, egg donation, embryo donation, and gestational-carrier arrangements.

#### **GAMETE DONATION**

Gametes are sperm or egg cells. Some aspects of sperm and egg donation are the same, others are specific to the type of gamete donated. In general, donors can be either known to the recipients or anonymous. There are different considerations for each type of donation (known versus anonymous), and those should be discussed with a mental-health professional (MHP) before treatment is started. For instance, with known donors, some of the suggested topics include how/when/if to tell the children/family/larger community, boundaries for involvement by the donor in the life of the child, and the feelings of the intended parent(s) about the biological connection (or lack thereof) to the child. With

anonymous donors, suggested topics include how/when/if to tell the children/family/larger community, the possibility of a lack of important medical information in the future, and the feelings of the intended parent(s) about the lack of biological connection to the offspring.

## EGG DONATION

The first pregnancy resulting from egg donation was reported in 1984. Since then, egg donation has helped many struggling with infertility to conceive. With egg donation, the intended parents will have a genetic link to the child only if they contribute the sperm used to fertilize the egg. Egg donation requires *in vitro fertilization (IVF)*, as the eggs are removed from one woman, fertilized in the laboratory, and the resulting embryo is transferred to the recipient's *uterus*. The basic steps of egg donation with IVF are described below. For more information about IVF, please see the ASRM patient education booklet titled, *Assisted Reproductive Technology*.

- The first step is to find an egg donor. This can be either someone known to the intended parent(s) or an anonymous donor.
- The donor takes medication to stimulate her ovaries to produce multiple eggs and the eggs are collected. Sometimes, to share costs, the eggs from an egg-donation cycle are split among several recipients.
- Sperm from either the recipient's male partner or a sperm donor are used to fertilize these eggs in the laboratory.
- An embryo (fertilized egg) is chosen and transferred to the uterus (womb) of the intended carrier and, hopefully, a pregnancy is established. The intended carrier can be the intended parent or another woman (gestational carrier), depending on the circumstances.

## Reasons for Egg Donation

Egg donation is often used for women whose ovaries have either been surgically removed or are functioning poorly. Poor function can be due to premature menopause, severe diminished ovarian reserve, medical disorders, or exposure to toxins like chemotherapy or radiation therapy. Egg donation also is appropriate for women who were born without ovaries.

Other uses for egg donation have emerged in recent years. It is sometimes used to avoid passing down inherited diseases to a woman's children. Egg donation also is used for women who have normal *ovulation*, but who have poor-quality eggs, for instance, women who have had multiple failed IVF cycles, women of advanced reproductive age (over age 38), and women with low response to medications for ovarian stimulation.

## Who Are Egg Donors?

There are several ways of obtaining *donor eggs*:

**Anonymous donors:** Women who are not known to the recipient(s). Donors may be found through egg donation programs or through agencies.

**Known (directed donors):** Women who are known to the recipient(s). The donor is generally a close relative or friend. In some instances, recipients advertise directly for donors in newspapers or on the internet. In these circumstances, the recipient(s) and the donor are known to each other in a limited way, and meet without an intermediary program or agency. Recipients should be cautious if recruiting donors directly without having an intermediary program or agency screen donors or without seeking legal counsel.

**IVF programs:** Women undergoing IVF may agree to donate their excess eggs to infertile patients. This source of donors is limited because this type of donation can be seen as coercive, particularly if the donors are offered a financial discount on their own IVF cycle.

### Evaluation of the Egg Donor

All donors, both anonymous and known, should be screened per the most recent guidelines of the U.S. Food and Drug Administration (FDA) and ASRM. Donors should be legal adults in their state and preferably between the ages of 21 and 34. The reason for the age minimum is to ensure that the donor is mature enough to understand and provide true informed consent. The reason for the upper limit is that younger women typically respond favorably to ovarian stimulation, produce more eggs and high-quality embryos with greater chance of implantation, and have higher pregnancy rates than older women. If the donor is over the age of 35, recipients should be informed about the increased risk of having a child with a chromosomal abnormality such as Down syndrome and the impact of donor age on pregnancy rates.

Both anonymous and known donors should complete an extensive medical questionnaire about their personal and family medical history. Included in this questionnaire should be a detailed sexual history, substance use/abuse history, history of family disease, and psychological history. In the United States, the FDA requires that all egg donors be screened for risk factors for, and clinical evidence of, infections and diseases that can be passed to either the recipients or the offspring. A donor is not eligible if these are found. A medical professional reviews this history with the donor and conducts a comprehensive physical exam.

For anonymous donors, screening should assess the donor's motivation for donating her eggs and provide insight into the donor's personality, hobbies, educational background, and life goals. This is typically performed by an

MHP. Generally, each donor completes a written psychometric test result prior to meeting with an MHP. In addition to reviewing the psychometric test, the MHP has the opportunity to evaluate the donor further, discuss the many complex ethical and psychosocial issues she may encounter, and confirm that the donor truly is able to provide informed consent for egg donation.

The minimum laboratory testing of all donors should include screening and testing for syphilis, *hepatitis B and C*, human immunodeficiency virus (HIV)-1 and HIV-2, gonorrhea, and chlamydia, as well as screening for human transmissible spongiform encephalopathy and testing when risk factors for it exist. Outbreaks of other infectious diseases may become a concern. For instance, with the emergence of Zika virus, it is recommended that egg-donor candidates be screened for risk factors. Risk factors for Zika-virus infection include medical diagnosis of Zika virus within the last six months; residence in or travel to an area with a documented high rate of Zika-virus infections; and intimate sexual relations with a man with risk factors for Zika-virus infection. For additional recommended testing, check with the Centers for Disease Control and Prevention (CDC) ([www.cdc.gov](http://www.cdc.gov)) and the World Health Organization (WHO) ([www.who.org](http://www.who.org)). All infectious disease testing must be done and noted to be negative within 30 days before egg donation.

Donors should have documentation of their blood type and Rh status, complete blood count, and rubella titer. All donors should have genetic-carrier screening to identify if they are carriers of any heritable diseases. All donors should be tested for the presence of a cystic fibrosis (CF) mutation and spinal muscular atrophy.

Additional testing can be performed based on the ethnicity of the donors. Donors of Asian, African, and Mediterranean descent should undergo a hemoglobin electrophoresis as a screen for sickle-cell trait and thalassemias. If the donor is of Ashkenazi Jewish origin, CF mutation analysis and screening for Tay-Sachs disease, Canavan disease, familial dysautonomia, Gaucher disease, and other genetic diseases are indicated. Donors who are of French Canadian descent should be screened for CF mutation as well as Tay-Sachs disease. Further screening of a wider panel of genetic diseases is available, and may be performed based on the standard procedures of individual fertility clinics. Additional genetic testing such as Fragile X premutation screening and karyotyping of the donor is not required but may be offered by individual programs as part of their standard procedure or upon the request of the recipient(s).

### **Evaluation of the Recipient(s)**

Evaluation of the recipient(s) is similar to that of couples undergoing routine IVF. The physician should obtain a comprehensive medical history from

the recipient and her partner (if there is one). In addition, the assessment of the female partner will include a comprehensive gynecologic history and complete physical exam. She should have an assessment of ovarian reserve (when appropriate), blood type and Rh, and rubella and cytomegalovirus (CMV) testing. She should have an evaluation of her uterine cavity with a *hysterosalpingogram* (HSG), *sonohysterogram* (SHG), or *hysteroscopy*.

If the female recipient is over the age of 45 years, a more thorough evaluation with assessment of cardiac function, risk for pregnancy-related hypertension, and gestational diabetes should be considered. A consultation with a high-risk obstetrical specialist is recommended to discuss the impact of advanced maternal age on pregnancy, as well as any medical conditions that may affect a pregnancy.

The assessment of the male partner (if there is one) should include a *semen analysis*, blood type and Rh factor, and genetic-carrier screening as indicated.

All intended recipients (female and male) should be screened for syphilis, hepatitis B and C, HIV-1 and HIV-2, West Nile virus, and risk factors for Zika virus.

### **Preparation of the Donor for Egg Retrieval**

To retrieve multiple eggs from the donor's ovaries, the donor must be given a combination of hormonal medications to stimulate the development of multiple eggs within the ovary. Human menopausal gonadotropin (hMG), recombinant *follicle-stimulating hormone* (r-FSH), or FSH (non-recombinant) are examples of medicines that are used. This regimen is called controlled ovarian stimulation. Development of eggs is monitored by ultrasound and measurement of hormones in the donor's blood. Other medications may include a gonadotropin-releasing hormone agonist (GnRH-a) or gonadotropin-releasing hormone antagonist (GnRH-ant) to prevent the donor from spontaneously ovulating (premature release of eggs). When egg development is at the appropriate stage (determined by measuring follicle size with ultrasound), the ovulation process is triggered by an injection of medicine to allow the eggs to mature in time for the egg retrieval.

Approximately 34-36 hours after the trigger medication is given, and before the eggs are released, the eggs are retrieved from the ovary using transvaginal ultrasound-guided oocyte aspiration (Figure 1). An ultrasound probe, which has a needle guide, is inserted into the vagina. A needle is fitted into the guide and placed through the vaginal wall into the ovary. The follicles of the ovaries are punctured one at a time and the eggs are collected. In the laboratory, the eggs are evaluated for maturity and the mature eggs are inseminated with sperm (either the male partner's

or donor sperm), which has been processed in the laboratory. For more details about the types of ovarian stimulation medications and the IVF procedure, please see the ASRM patient education booklets titled *Assisted Reproductive Technology* and *Medications for Inducing Ovulation*. For more information about the risks of IVF, please see the ASRM patient education fact sheet “In vitro fertilization (IVF): what are the risks?”

Figure 1

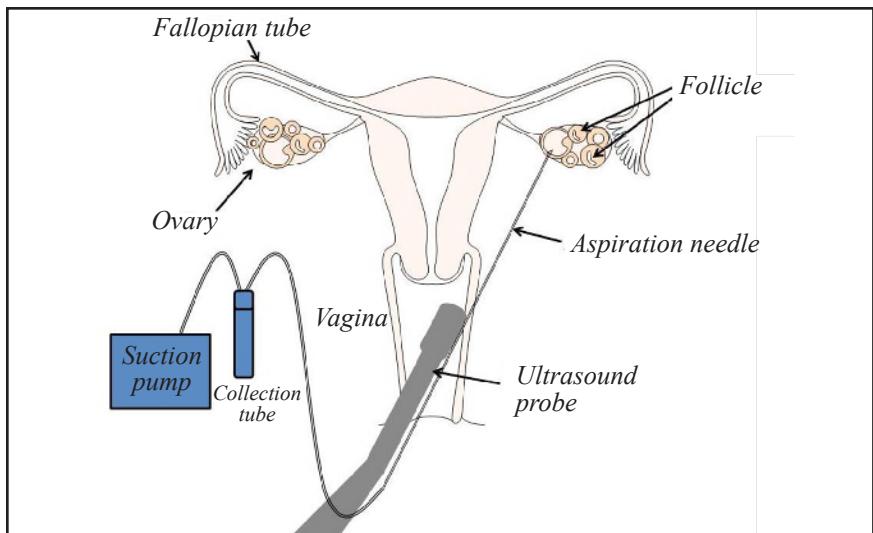


Figure 1. Egg retrieval is usually performed through the vagina with an ultrasound-guided needle.

### Preparation of the Recipient for Embryo Transfer

In cycles where the embryos are transferred without being frozen (fresh cycles), the donor's and recipient's cycles must be synchronized so that the recipient's uterine lining (*endometrium*) is ready for the embryo when it is transferred. For cycles where the embryo is frozen, the menstrual cycles of the recipient and donor do not need to be synchronized, but the recipient's endometrium must still be prepared, using medication, to receive the embryo before the embryo is transferred to her.

There are many ways to do this, but the principle of hormonal preparation is similar among individual protocols. Women whose ovaries are functioning are given a GnRH-a to temporarily suppress their menstrual cycle. When the donor starts medications to stimulate her ovaries, the recipient is given *estradiol* to stimulate the endometrium to develop. Estradiol may be given in the form of an oral pill, transdermal patch, or injection. Ultrasound and blood tests may be used to assess the readiness of the endometrium.

during this time. The recipient typically begins *progesterone* on the day after the donor receives the ovulation trigger medication. Progesterone causes specific changes within the endometrium that enable the embryo to implant. Progesterone may be given by intramuscular injection, vaginal gel, or tablet.

Figure 2

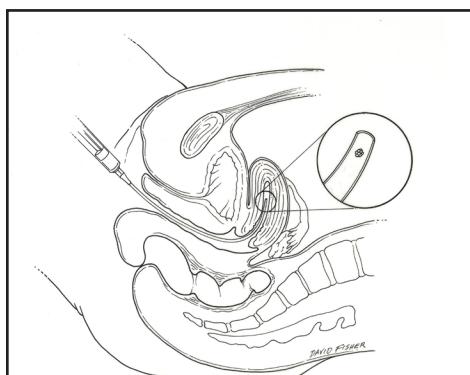


Figure 2. Embryo transfer is performed through the cervix.

Embryos are transferred into the recipient's uterus, usually within three to five days after the eggs are fertilized in the laboratory. The embryo transfer (Figure 2) is performed by passing a small catheter with the embryo(s) through the cervix and into the uterus. If the recipient couple has extra embryos, these embryos may be cryopreserved (frozen) and used later in additional attempts to achieve a pregnancy.

If there is no pregnancy, estradiol and progesterone are stopped. With a positive pregnancy test, these medications are continued through the first trimester to support the early pregnancy. The table below outlines what is going on with the recipient and the donor at the same time point during a fresh transfer cycle:

Donor	Recipient
<i>Counseling, testing, informed consent</i>	<i>Counseling, testing, informed consent</i>
	<i>GnRH-a (to regulate the menstrual cycle, taken by nasal spray or injection)</i>
<i>Ovarian stimulation medication (taken by injection) and GnRH agonist or GnRH antagonist (to prevent spontaneous ovulation, taken by nasal spray or injection)</i>	<i>Estradiol (taken by oral pill, transdermal patch, or injection)</i>
<i>Ultrasound (of follicles) and blood monitoring</i>	<i>Ultrasound (of endometrium) and blood monitoring</i>
<i>Ovulation trigger (by injection)</i>	<i>Progesterone (taken by intramuscular injection, vaginal gel, or tablet)</i>
<i>Egg collection</i>	

<b>Donor</b>	<b>Recipient</b>
<i>Counseling, testing, informed consent</i>	<i>Counseling, testing, informed consent</i>
<i>GnRH-a (to regulate the menstrual cycle, taken by nasal spray or injection)</i>	
	<i>Embryo transfer</i>

## Pregnancy Rates with Egg Donation

The pregnancy rate with egg donation depends on many factors but generally not on the age of the recipient. Success rates compiled by the Society for Assisted Reproductive Technology (SART) for the year 2015 show that the average live-birth rate per egg-donation cycle was 46.2% overall (50.4% for fresh cycles and 38.4% for frozen cycles) across all egg-donor programs. The major risk for egg donation is multiple gestations. In 2015, of the 9,197 cycles resulting in an embryo transfer, 4,249 resulted in a live birth. Of these live births, 74% resulted in singleton live births and 25.5% resulted in twin live births. Because many of the pregnancies miscarry before the number of fetuses can be counted, the percentage of multiple pregnancies actually may be higher. The current recommendation to reduce the risk of multiple gestations is to limit the number of embryos transferred. Most programs will limit the number of embryos transferred to one if the donor is between the ages of 21 and 37. Transfer of a single high-quality embryo, called elective single-embryo transfer (eSET), helps minimize the risk of multiple gestation.

## SPERM DONATION

Insemination using donor sperm has been practiced for over a century, although the first published reports of such were in 1945. Since the late 1980s, with the emergence of HIV, donor insemination (DI) has been performed only with frozen and quarantined sperm to allow for time to test the donors. FDA and ASRM guidelines recommend that sperm be quarantined for at least six months before being used.

## Reasons for Sperm Donation

Currently, DI is appropriate when the male partner has severe abnormalities in his semen and/or reproductive system, which may be present at birth (congenital) or develop later (acquired) and in other situations. For instance:

- Azoospermia (absence of sperm) can be due to a blockage (obstructive azoospermia), such as congenital bilateral absence of the vas deferens (CBAVD) or previous vasectomy. Alternatively, azoospermia can be due to testicular failure (nonobstructive azoospermia) resulting from exposure to toxins like pesticides, radiation treatment, or chemotherapy.

- Severe oligozoospermia (decreased sperm count) or other significant sperm or seminal fluid abnormalities also are indications for DI.
- Ejaculatory dysfunction, such as inability to achieve or maintain an erection or to ejaculate, is a scenario where DI can be helpful.
- DI in place of an affected male's sperm can help bypass significant genetic defects that can be passed to children.
- When there is no male partner, such as with single women who wish to become parents or lesbian couples who desire a pregnancy, but who lack a male partner, DI is needed for pregnancy.

## **Selection of Sperm Donors**

Sperm donors should be of legal age and ideally less than 40 years of age to minimize the potential increased risks of older male parents. Like egg donors, sperm donors can be anonymous or known (directed). ASRM believes it is important that both anonymous and known donors undergo the same initial and periodic screening and testing process, whether or not they are intimate sexual partners of the recipient. The FDA requires that anonymous and directed sperm donors be screened for risk factors for, and clinical evidence of, communicable disease agents or diseases.

A donor is ineligible if either screening or testing shows the presence of a communicable disease or a risk factor for a communicable disease. A comprehensive medical questionnaire to evaluate the health of a donor and review of his family medical history is the primary focus in selecting a donor. Particular attention is paid to the potential donor's personal and sexual history to exclude those males who are at high risk for communicable diseases including HIV, hepatitis, and other sexually transmitted diseases. A family medical health history is obtained for at least two generations of family members. Prospective donors must have a physical examination with screening for visible physical abnormalities, as well as testing for sexually transmitted diseases. Routine blood analysis includes documentation of the donor's blood type. Current FDA regulations require infectious disease testing to be performed within seven days of all sperm donations. The sperm are collected by masturbation, concentrated into small volumes of motile sperm, and frozen or *cryopreserved* until used. For donors, testing for syphilis, chlamydia, gonorrhea, HIV-1, HIV-2, human T-lymphotropic virus (HTLV)-I and HTLV-II, CMV, hepatitis B surface antigen, and hepatitis C antibody are performed prior to donation and thereafter should occur at six-month intervals, per FDA guidelines. Although the FDA exempts directed sperm donors from the six-month retesting requirement, ASRM recommends that directed donors be retested just as anonymous donors are retested. Comprehensive genetic testing may be impractical; however, at this time, ethnically based genetic testing is standard in most sperm banks.

It is recommended that all sperm donors, anonymous and directed, have a psychological evaluation and counseling by an MHP. The assessment should seek any psychological risks and evaluate for financial and emotional coercion. The donor should discuss his feelings regarding disclosure of his identity and plans for future contact. Psychological testing may be performed, if warranted.

The sperm donor should undergo a semen analysis, and the test sample should be frozen and thawed for evaluation. Sperm susceptibility to damage with freezing varies among individuals, as well as among samples of a given donor. Donors are considered if the post-thaw semen specimen meets minimum standards. In general, specimens should contain a minimum of 20 to 30 million motile (moving) sperm per milliliter after thawing. Post-thaw motility is generally in the range of 25% to 40%.

Two types of samples are offered by most sperm banks. Intracervical insemination (ICI) specimens are prepared for intracervical inseminations only. Samples must be washed if used for intrauterine inseminations (IUIs). Although sperm preparations for ICI are available, most reproductive endocrinology practices perform IUI. Both ICI and IUI semen samples are frozen and quarantined for a minimum of 180 days. They are not released until the donor is retested for communicable diseases and the results are negative.

In addition to medical information obtained from the donor, donors are asked to provide detailed information about their personal habits, education, hobbies and interests. Sperm banks may provide pictures of the donor and video or audiotapes from the donor. Donors may identify themselves as open to contact from any child conceived through DI once a child reaches legal age.

### **The Insemination Procedure**

Before proceeding with DI, recipient(s) must be evaluated thoroughly for the causes of infertility with a comprehensive medical history and physical exam (for both partners, if present). It is recommended that the woman document ovulation with either an ovulation predictor kit or a history of regular menstrual intervals. In addition to a pelvic examination, an HSG or a saline SHG will indicate the shape of the uterine cavity and if the fallopian tubes are open.

Insemination may be timed based on a woman's natural cycle or in concert with an *ovulation induction* cycle and should occur close to the time of ovulation. The procedure is relatively simple and is performed in the clinician's office. The woman is positioned on the examination table as if in preparation for a pelvic examination. The physician or nurse then places

the speculum into the vagina to visualize the cervix. The semen sample is drawn up into an insemination catheter attached to a syringe. With IUI (Figure 3), the catheter is passed through the cervix and washed semen specimen is placed into the uterine cavity. This enables a higher concentration of sperm to reach the uterine cavity and fallopian tubes, which is where fertilization occurs. With ICI, the unwashed sample is placed into the cervix.

Figure 3

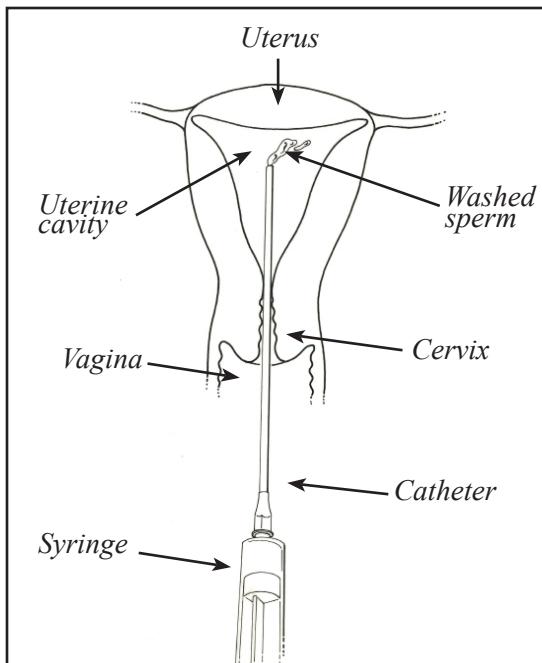


Figure 3. Insemination

### Pregnancy Rates

Pregnancy rates with donor insemination depend on many factors, including the age of the female recipient and whether the recipient has other female fertility factors such as *endometriosis*, tubal disease, or ovulatory dysfunction. In general, the monthly chance of pregnancy ranges from 8% to 15%. A number of studies have shown that pregnancy rates using donor sperm with IUI are higher than with ICI when frozen semen is used. The risk of birth defects as a result of conceiving with donor insemination is no different than natural conception, and is in the range of 2% to 4%.

### EMBRYO DONATION

Embryo donation is a procedure that enables embryos that were created by individuals undergoing fertility treatment to be transferred to other

infertile patients to help them achieve a pregnancy. Reasons to have embryo donation include untreatable infertility that involves both partners, untreatable infertility in a single woman or woman without a male partner, recurrent pregnancy loss thought to be related to embryonic factors, and genetic disorders affecting one or both partners.

The process of embryo donation requires that the recipient(s) undergo(es) the appropriate medical and psychological screening recommended for all gamete-donor cycles. In addition, the female partner undergoes an evaluation of her uterine cavity and then her endometrium is prepared with estrogen and progesterone in anticipation of an embryo transfer.

In the United States, embryo donation must meet FDA guidelines for screening of the donors. In the case of embryos that have been created previously, the FDA recommends (but does not require) that the individual(s) who created these embryos undergo(es) the requisite screening and testing required of all egg and sperm donors. For embryos that are created specifically for donation, the sperm and egg donors must be screened and tested as any other sperm and egg donors who are not intimate sexual partners of the recipients.

Embryo donation can be a controversial process from both an ethical and legal standpoint. Of paramount importance is that informed consent and counseling be provided to both the donors of the embryos and the recipient(s) to address the potential issues that embryo donation might raise. In addition, due to the absence of explicit laws regarding embryo donation, all parties should consult with legal counsel regarding a pre-donation agreement and whether recognition of parentage by the courts is needed for the intended parent(s).

Pregnancy following embryo donation depends on the quality of the embryos that were frozen, the age of the woman who provided the eggs, and the number of embryos transferred. In 2014, there were 1,200 embryo donation cycles initiated in the United States; and 36.4% of these cycles resulted in a live birth ([www.sart.org](http://www.sart.org)).

## **GESTATIONAL-CARRIER ARRANGEMENTS**

Surrogacy is a type of gestational-carrier arrangement in which a woman is inseminated with sperm to become pregnant for another person(s). A surrogate provides both the egg and carries the pregnancy; she has a genetic link to the fetus she might carry. Surrogacy arrangements often are controversial and have the potential to be complicated both legally and psychologically. In contrast, a typical gestational carrier is a woman who carries a pregnancy from an embryo(s) that was/were created by the intended parent(s), using their own or donated sperm and egg. A typical gestational carrier has no genetic link to the fetus she will be carrying.

Though gestational-carrier arrangements require IVF and surrogacy arrangements do not, it is more common in the United States to use gestational carriers; surrogacy is uncommon and illegal in many states.

Using a gestational carrier is both a medically and emotionally complex process that requires careful evaluation by medical professionals, MHPs, and legal professionals to ensure that the procedure is satisfactory for both the carrier and the intended parents.

### **Reasons for Using a Gestational Carrier**

Often, a gestational carrier is used when a woman has normally functioning ovaries but doesn't have a uterus. Women who were born without a uterus (müllerian agenesis) or who had a hysterectomy are obvious candidates. Other candidates include women who are born with abnormalities of the uterus (congenital müllerian anomalies), such as a T-shaped or hypoplastic uterus, and/or who have a history of infertility or recurrent miscarriages. Women with untreatable scar tissue in their uterus are also candidates.

A gestational carrier also may be used for women with a medical condition that makes being pregnant unsafe. Examples of medical conditions that may prompt the use of a gestational carrier include severe heart disease, systemic lupus erythematosus, history of breast cancer, severe renal disease, CF, severe diabetes mellitus, and women who have a history of severe preeclampsia with HELLP syndrome (Hemolysis, Elevated Liver enzymes, and Low Platelet count).

### **Selection of a Gestational Carrier**

Gestational carriers are known to the intended parents. They can be relatives or friends who volunteer to carry the pregnancy. Others are found through agencies that specialize in recruiting women to become a gestational carrier. Carriers should be at least 21 years old and have delivered a live-born child at term. The use of an older carrier is challenging because pregnancy complications, especially hypertension or gestational diabetes, are much more common in older women. When considering an older gestational carrier, it is important to consider her overall health and screen for underlying medical conditions that might complicate a pregnancy. An older gestational carrier and intended parents must be counseled regarding the obstetric risk.

### **Evaluation of the Intended Parents and Gestational Carrier**

The intended parents should undergo a complete medical history and physical examination. Semen analysis should be obtained for the male partner, and an evaluation of ovarian function should be performed for the female partner.

The gestational carrier should undergo a complete medical history including a detailed obstetric history, lifestyle history, and physical exam. She should have an evaluation of her uterine cavity with HSG, SHG, or hysteroscopy.

Infectious-disease screening for syphilis, gonorrhea, chlamydia, CMV, HIV, and hepatitis B and C should be performed on the intended parents and the gestational carrier. The carrier also should be screened for immunity to rubella, rubeola, and varicella. In addition, her blood type and Rh factor should be noted. Other screening may be needed in areas of outbreak of infections, such as Zika virus. Check with the CDC and WHO for information about specific areas and infections ([www.cdc.org](http://www.cdc.org); [www.who.org](http://www.who.org)).

### **Counseling of Gestational Carrier and the Intended Parents**

Counseling of gestational carriers is intended to give the carrier a clear understanding of the psychological impact and potential issues related to pregnancy. With the assistance of an MHP, the gestational carrier (and her partner, if there is one) should explore managing a relationship with the intended parents, coping with attachment to the fetus, and the impact of a gestational carrier arrangement on her children and her relationships with her partner, friends, and employers. The intended parents should explore their ability to maintain a respectful relationship with the carrier. The carrier and intended parents should meet with the MHP to discuss the type of relationship they would like to have and expectations they have regarding a potential pregnancy. This includes discussion of the number of embryos to be transferred, prenatal diagnostic interventions, fetal reduction and therapeutic abortion, and managing the relationship while respecting the carrier's right to privacy.

### **LEGAL CONSIDERATIONS**

Third-party reproduction involves several legal issues. Written consent should be obtained for any procedure. In situations of known sperm or egg donors, both donors, as well as intended parents, are advised to have separate legal counsel and sign a legal contract that defines the financial obligations and rights of the donor with respect to the donated gametes. With embryo donation, in the absence of statutes defining rights and responsibilities, a pre-donation agreement and a judicial determination of parentage are suggested prior to the donation taking place. With gestational carrier arrangements, legal contracts, in addition to delineating financial obligations, may include details regarding the expected behavior of the carrier to ensure a healthy pregnancy, prenatal diagnostic tests, and agreements regarding fetal reduction or abortion in the event of multiple pregnancy or the presence of fetal anomalies. Finally, many states allow for a declaration of parentage before the child's birth, which avoids the need

for adoption proceedings. Because laws regarding third-party reproduction are either nonexistent or different from one state to another, all couples are advised to consult with an attorney knowledgeable in reproductive law in their individual state(s).

Potential donors and recipients also should be made aware that laws may change and anonymity cannot be guaranteed for the future. There are movements to eliminate anonymous donation in many countries, and some no longer permit it. Additional challenges can be encountered when third-party donation or gestational carrier arrangements cross international borders.

## **CONCLUSION**

Third-party reproduction provides many couples an opportunity to make their dream of having a child a reality. The comprehensive nature of the screening and counseling for all parties is designed to meet the needs of all involved. As third-party reproduction is more widely used, there continues to be a broader understanding of the ethical, moral, and legal issues involved. The goal of physicians, MHPs, and attorneys specializing in reproductive law is to enable this process to move forward as smoothly as possible and help individuals achieve their goals of parenthood.

*For more information on this and other reproductive health topics visit  
[www.ReproductiveFacts.org](http://www.ReproductiveFacts.org)*



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Email your comments on this booklet to [asrm@asrm.org](mailto:asrm@asrm.org).  
In the subject line, type “Attention: Patient Education Committee.”

## GLOSSARY

**Cryopreserved.** Slow freezing of eggs or embryos at a very low temperature to store for use at a later time.

**Donor eggs.** The eggs taken from the ovaries of one woman and donated to another woman to achieve pregnancy.

**Eggs.** The female sex cells (also called oocytes) produced by the female's ovaries.

**Embryo.** The earliest stage of human development arising after the union of the sperm and egg (fertilization).

**Embryo transfer.** Placement of an embryo into the uterus through the vagina and cervix.

**Endometriosis.** A condition where endometrial-like tissue (the tissue that lines the uterus) implants outside the uterus, such as on the ovaries, fallopian tubes, and in the abdominal cavity.

**Endometrium.** The lining of the uterus that is shed each month with the menstrual period. The endometrium thickens and thus provides a nourishing site for the implantation of a fertilized egg.

**Estradiol.** The predominant estrogen (hormone) produced by the follicular cells of the ovary.

**Fertilization.** The fusion of sperm and egg.

**Follicle-stimulating hormone (FSH).** In women, FSH is the pituitary hormone responsible for stimulating the follicles in the ovary to grow, stimulating egg development, and the production of the female hormone estrogen. FSH also can be given as a medication.

**Gestational carrier.** A woman who carries a pregnancy for another individual. Typically, the carrier has no genetic relationship with the resulting child.

**Hepatitis B and C.** Viruses that may be sexually transmitted, or transmitted by contact with blood and other bodily fluids, that can cause infection of the liver leading to jaundice and liver failure.

**Hysterosalpingogram (HSG).** An x-ray procedure during which dye is injected through the cervix into the uterine cavity to show the inner shape of the uterus and degree of openness (patency) of the fallopian tubes.

**Hysteroscopy.** The insertion of a long, thin, lighted telescope-like instrument, called a hysteroscope, through the cervix and into the uterus to examine the inside of the uterus. Hysteroscopy can be used to both diagnose and surgically treat uterine conditions.

**In vitro fertilization (IVF).** A method of assisted reproduction that involves combining an egg with sperm in a laboratory dish. If the egg fertilizes and begins cell division, the resulting embryo is transferred into the woman's uterus where it will hopefully implant in the uterine lining and further develop.

**Ovulation.** The release of a mature egg from its developing follicle in the ovary. This usually occurs approximately 14 days before the next menstrual period (the 14th day of a 28-day cycle).

**Ovulation induction.** The administration of hormone medications (ovulation drugs) that stimulate the ovaries to ripen several eggs at one time.

**Progesterone.** A female hormone that prepares the lining of the uterus (endometrium) for implantation of a fertilized egg and also allows for complete shedding of the endometrium at the time of menstruation.

**Semen analysis.** The examination of semen under a microscope to determine the number of sperm (sperm count), their shape (morphology), and their ability to move (motility).

**Sperm.** The male reproductive cells that fertilize a woman's egg. The sperm head carries genetic material (chromosomes); the midpiece produces energy for movement; and the long, thin tail wiggles to propel the sperm.

**Surrogate.** A surrogate is a type of gestational carrier who both provides the egg and carries the pregnancy. In this procedure the surrogate is genetically related to the child.

**Uterus (womb).** The hollow, muscular organ in the pelvis where an embryo implants and grows during pregnancy. The lining of the uterus, called the endometrium, produces the monthly menstrual blood flow when there is no pregnancy.

# *Notes*

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