Recipients of Donor Eggs

Process, Risks, Consent

Donor Egg (DE) therapy has become an established treatment for infertility due to egg problems or certain genetic issues. The main goal of DE is to allow a patient the opportunity to become pregnant using eggs from a donor and sperm from her partner or from a donor. This is an elective procedure designed to result in the patient’s pregnancy when other treatments have failed or are not appropriate. I/We wish to attempt to become pregnant using Donor Egg In-Vitro Fertilization and Embryo Transfer (Donor Egg IVF & ET). The following pages detail the basic responsibilities and steps, as noted below, that are necessary as part of this process:

- We understand that we will be interacting with all members (administrative and clinical) of the IVF team during this process. We understand that all staff members have specific functions that will help our cycle run as efficiently as possible. (There are financial contracts that must be reviewed with the administrative staff that cover specific items such as cancellation issues).

- Completion of preliminary screening (eg. infectious diseases, autoimmune tests when indicated, endocrine evaluation, semen testing, assessment of uterine cavity with sonohysterogram or hysteroscopy, Pap’s smear, mammogram, cervical cultures, and possible genetic testing and/or psychological consultation)

- We understand that we must have a PCP or an OB-GYN physician to provide most medical care other than infertility care (i.e. pap smears, respiratory infections, urinary tract infections, etc.).

- If any of our blood tests or screening tests have been performed outside of AFC, we will assume responsibility for this lab-work by having results sent to AFC in a reasonable amount of time. We will also assume responsibility of any medical records that AFC physicians have requested by contacting and ensuring follow-up with that specific office.

- IVF Education and Consent Consultation with the clinical staff, and an injection training session will occur prior to uterine stimulation for future embryo transfer. All injectable prescriptions need to be filled prior to this training session and brought to the session. Any one administering injections also needs to attend this session, unless previously attended. Additional medications not initially prescribed may be ordered later in the cycle. I/We will have read, initialed, and completed all blanks (select the appropriate options and discuss these issues amongst ourselves) on the consent form PRIOR TO ATTENDING ANY FUTURE INJECTION TRAINING & CONSENT SIGNING VISIT.

- Treatment with oral, vaginal, and injectable hormonal agents (e.g. oral contraceptives, Lupron, estrogen, and progesterone) as well as oral antibiotics.

- Serial evaluation of hormonal blood levels (estradiol, progesterone) and transvaginal ultrasounds to assess the efficacy of the fertility medications. (all monitoring appointment visits will be scheduled before 10 AM)

- Participation in the Frozen Donor Egg Program will necessitate freezing of sperm specimens prior to embryo creation. When participating in the Fresh Donor Egg Program, production of a fresh semen specimen will be required on the day of egg retrieval (if applicable). If using frozen donor sperm, this MUST have been shipped and in AFC/AARL possession at least 2 weeks prior to retrieval or egg thaw (for frozen egg cycles). If fresh specimen is being used, partner/spouse MUST remain available on the day of retrieval if a second sample is needed.

- Serial blood pregnancy tests ~ 8 days to 3 weeks following embryo transfer.

- We understand that we are obligated to report to Advanced Fertility Care any medically or genetically pertinent discoveries (eg. birth defects, enzyme deficiencies, chromosomal defects, etc.) made during pregnancy or after the birth of our child/children and during the life of our child/children born through the donor oocyte IVF process. Depending on these findings, they may be reported to the donor as medically relevant.
Steps in the Process

Preliminary Screening of Recipient

I/We understand that there will be required preliminary screening for both partners. This may include female screening for infectious diseases (i.e. HIV, Hepatitis, Syphilis, Chlamydia, Mycoplasma, Ureaplasma), autoimmune disorders, and basic hormones. Also a mammogram, Pap smear, and age appropriate primary care clearance may also be required. In addition, uterine evaluation will be required and potentially a mock cycle may be required only for fresh donor egg cycles prior to the donor starting injection medication. Estrogen and Progesterone medications will be used to prepare for this mock cycle. Required testing of the recipient may include evaluation of the fallopian tubes for evidence of fluid dilation, of the uterus for adequacy of the endometrial lining, and of essential blood hormone levels. Additional testing may need to be performed as deemed medically necessary by your physician.

Male screening will include screening for infectious diseases, blood type (if unknown), and genetic carrier screening, and possible additional hormonal and genetic testing as may be deemed necessary. Male screening includes a semen analysis unless donor sperm is to be used. We understand that all required preliminary screening labs must be completed before the donor selection occurs.

Screening of Egg Donor

Donor Screening. Egg donors will have their medical, psychological, genetic and family history recorded and screened. Part of this screening is federally mandated (by the FDA), but most is based on regularly updated guidelines issued by the American Society for Reproductive Medicine, and will also include, but not limited to hormonal screening and urine drug screening. Should any additional testing be requested by the Recipients or necessary based on the Recipient's medical or family history, the Recipient(s) will be responsible for any additional expenses other than the cost of the standard preliminary tests.

History, exam, or labs may not reveal an unknown random carrier status. There may be a risk of disease inherited from the donor, which may not have been evident through the standard screening procedures of Advanced Fertility Care (“AFC”). The donor like any other healthy female has the same risk of being a carrier of an unknown condition, which she could transmit to the newborn. However, the risk of inherited disease is not increased with oocyte donation.

AFC cannot provide assurances of the accuracy of the medical histories supplied by the oocyte donor. No screening or testing regimen is perfect, so it is possible for children with major congenital malformations (birth defects) or health problems to occur despite appropriate screening. AFC does not guarantee any characteristics of a child resulting from the egg donation process, including, but not limited to, gender, blood type, eye color, hair color, height or intellectual ability.

Infectious Disease Testing Of The Egg Donor. The donor must have federally mandated infectious disease testing within 30 days of the egg retrieval. Unless these test results are available prior to the embryo transfer, the embryo transfer cannot take place and all of the eggs or embryos must be frozen for use and/or transfer at a time when the results are available. If the anonymous donor tests positive for any of the infectious diseases as mandated by federal law, the donor is considered ineligible and the eggs or embryos must be disposed of according to American Society for Reproductive Medicine (“ASRM”) Ethical Guidelines.

All donors are screened and/or tested for infectious diseases including HIV (the virus responsible for AIDS), syphilis, hepatitis (types B and C), gonorrhea, and chlamydia as mandated by federal law. Even with this screening, it is possible that an infectious disease could be transmitted to a child conceived with the donated eggs or to the woman who will carry the pregnancy.
Donor Selection and Program Selection

As part of the donor selection process, a suitable egg donor will need to be identified first. Depending on availability, in some cases the donor will be able to provide fresh eggs. In the majority of cases, a donor's eggs will already be frozen and stored in an Egg Bank. All donors must pass screening before any of their eggs can be used.

- **Donor Selection and Payment of Fees:** I/We will choose to use an eligible (as determined by AFC physicians) known donor or more commonly, an unknown “anonymous” donor selected from AFC’s donor program or another approved donor agency. Once the type of donor cycle AND donor has been selected, a schedule will be developed for embryo creation and future embryo transfer. If the donor eggs are already in an Egg Bank (Frozen Egg Cycle), depending on which type of frozen donor cycle is selected, embryo creation will usually occur within 6 weeks after full payment for the cycle is made. In many cases, sperm collection and freezing will also be required prior to creation of embryos by the AARL lab. In most cases, the embryo transfer can often occur within a few weeks of donor selection for fresh cycles or after embryo creation for frozen egg cycles. If the donor needs to undergo ovarian stimulation to produce the eggs (Fresh Cycle), additional time will be needed, and synchronization of the donor’s cycle and the recipient’s cycle is usually necessary.

  Payment of deposit (for Fresh Donor Egg Cycle) or payment in full (for Frozen Donor Egg Cycle) is due at the Donor Egg IVF Consent consultation which MUST occur within 5 business days of submission of the DONOR EGG SELECTION FORM.

- **Medications:** I/We understand that ONLY medications for the DONOR are included in the cost of the fresh donor egg cycle, if the donor selected is from the AFC Donor Program. The donor will receive the medications at AFC. Medication costs are NOT included for non-AFC egg donors.

- **Injection Training & Consent Consultation with Full Payment:** I/We understand that I/we will attend the REQUIRED injection training appointment in preparation for an embryo transfer. If the partner/spouse will not be giving the injections, the support person who will be giving injections MUST also be present at this visit. In the case of fresh embryo transfers, this visit will be scheduled once all preliminary requirements have been completed, after the donor has passed her preliminary requirements, and before any treatment medications are initiated for either the donor or recipient. This consultation includes a review of medications, treatments, procedures, and includes the signing of clinical consents. Full payment for the cycle is due prior to or at the time of this visit unless prior arrangements have been made with the billing office.

- **Synchronization of menstrual cycle:** Synchronization of the cycles will be accomplished with a combination of possible birth control pills and Lupron. Possible side effects of these medications include but are not limited to hot flashes, headaches, insomnia, mood changes, weight gain, and fatigue.
Ovarian Stimulation of Donor to Obtain Eggs

- Injections of the natural hormones FSH and/or LH (gonadotropins) are used to cause a group of eggs to develop to maturity in the donor.
- Additional medications are used to prevent premature ovulation.
- An overly vigorous ovarian response can occur, or conversely an inadequate response.

Medications are used to stimulate the ovary in hopes of inducing the simultaneous growth of several oocytes (eggs) over the span of 8 or more days. Monitoring of the donor’s ovarian response by ultrasound is important. A typical pattern of office visits is shown below:

Office visits:  

This process does not cause the donor to run out of eggs sooner in the future. The eggs that are induced to grow by these medications were already “linked” to this cycle and would have died anyway had they not been induced to grow.

Preparation of the Recipient’s Uterus for Embryo Transfer

- Successful attachment of embryo(s) to the uterine lining depends on adequate hormonal support.
- Estrogen and Progesterone, given by the intramuscular, transdermal, oral, and/or vaginal route, is routinely given for this purpose.

Medications for Hormonal Support of the Uterine Lining

Successful attachment of embryos to the uterine lining (endometrium) depends on adequate hormonal support of the lining. Estrogen agents (i.e. oral or vaginal pills, transdermal patches, injections), and Progesterone agents, (i.e. injections, lozenges, and vaginal suppositories) will be used to prepare and support the uterine lining for embryo transfer. Estrogen will be started approximately 1 to 3 weeks after starting Lupron. Progesterone will be started around the day of the donor’s egg retrieval and continued until the pregnancy test. The duration of this support is from 2 to 10 weeks. Possible side effects of these medications include but are not limited to headaches, lower abdominal pain, breast tenderness, mood changes, weight gain, and undocumented possible future risks such as estrogen dependent cancer. The medical literature to date has not supported any risk of cancers with this therapy. Serial transvaginal ultrasounds and blood estradiol levels will be done throughout the cycle to assess the adequate absorption of the medication and ensure the satisfactory preparation of the endometrial lining.

Medications may include the following (not a complete list):

- **GnRH-agonists (leuprolide acetate) (Lupron®):** This medication is taken by injection. There are two forms of the medication: A short acting medication requiring daily injections and a long-acting preparation lasting for 1-3 months. The primary role of this medication is to prevent a premature LH surge, which could result in the release of eggs before they are ready to be retrieved. Since GnRH-agonists initially cause a release of FSH and LH from the pituitary, they can also be used to start the growth of the follicles or initiate the final stages of egg maturation. Though leuprolide acetate is an FDA (U.S. Food and Drug Administration) approved medication, it has not been approved for use in IVF, although it has routinely been used in this way for more than 20 years. Potential side effects usually experienced with long-term use include, but are not limited to: hot flashes, vaginal dryness, bone loss, nausea, vomiting, skin reactions at the injection site, fluid retention, muscle aches, headaches, and depression. No long term or serious side effects are known. Since GnRH-a are oftentimes administered after ovulation, it is possible that they will be taken early in pregnancy. The safest course of action is to use a barrier method of contraception (condoms) the month you will be starting the GnRH-a. GnRH-a has not been associated with any fetal malformations, however you should discontinue use of the GnRH-a immediately if pregnancy is confirmed.
• **Progesterone and Estradiol**: Progesterone and estradiol are hormones normally produced by the ovaries after ovulation and required to develop and maintain the uterine endometrium for implantation of embryos. For the purposes of an embryo transfer from embryos derived from either frozen eggs or embryos, supplemental progesterone and estradiol are given to ensure adequate hormonal development and support of the uterine lining. Progesterone is usually given by injection or by the vaginal route (Endometrin®, Crinone®, Prochieve®, Prometrium®, or pharmacist-compounded oil based injections or suppositories). Progesterone is often continued for some weeks after a pregnancy has been confirmed. Progesterone has not been associated with an increase in fetal abnormalities. Side effects of progesterone include depression, sleepiness, allergic reaction, and if given by intra-muscular injection, includes the additional risk of infection or pain at the injection site. Estradiol, if given, can be by oral, trans-dermal, intramuscular, or vaginal administration. Side effects of estradiol include nausea, irritation at the application site if given by the trans-dermal route and the risk of blood clots or stroke.

• **Oral contraceptive pills**: Some treatment protocols include oral contraceptive pills to be taken for 2 to 4 weeks before gonadotropin injections are started in order to suppress hormone production or to schedule a cycle. Side effects include unscheduled bleeding, headache, breast tenderness, nausea, swelling and the risk of blood clots or, very rarely, stroke.

• **Other medications**: Antibiotics may be given for a short time during the treatment cycle to reduce the risk of infection associated with egg retrieval or embryo transfer. Antibiotic use may be associated with vaginal yeast infection, nausea, vomiting, diarrhea, rashes, sensitivity to the sun, and allergic reactions. Anti-anxiety medications or muscle relaxants may be recommended prior to the embryo transfer. The most common side effect is drowsiness. Other medications such as steroids, heparin, low molecular weight heparin or aspirin may also be included in the treatment protocol.

Egg Retrieval from a Donor (Fresh Cycle)

- Eggs are removed from the ovary with a needle under ultrasound guidance.
- Anesthesia is provided to make this comfortable.
- Complications are rare.

Oocyte retrieval is the removal of eggs from the ovary. A transvaginal ultrasound probe is used to visualize the ovaries and the egg-containing follicles within the ovaries. A long needle, which can be seen on ultrasound, can be guided into each follicle and the contents aspirated. The aspirated material includes follicular fluid, oocytes (eggs) and granulosa (egg-supporting) cells. Rarely, the ovaries are not accessible by the transvaginal route and laparoscopy or trans-abdominal retrieval is necessary. Anesthesia is generally used to reduce, if not eliminate, discomfort. For the egg donor, the retrieval is the last step.
In Vitro Fertilization and Embryo Culture

- Sperm and eggs are placed together in specialized conditions (culture media, controlled temperature, humidity and light) to achieve fertilization.
- Culture medium is designed to permit normal fertilization and early embryo development, but the content of the medium is not standardized.
- Embryo development in the lab helps distinguish embryos with more potential from those with less or none. On average, only 30-50% of embryos will normally develop to the blastocyst stage.

After eggs are retrieved or thawed (in the case of frozen eggs), they are transferred to the embryology laboratory where they are kept in conditions that support their needs and growth. The eggs are placed in small dishes or tubes containing "culture medium," which is special fluid developed to support development of the eggs and embryos made to resemble that found in the fallopian tube or uterus. The dishes containing the eggs are then placed into incubators, which control the temperature and atmospheric gasses the eggs and embryos experience.

A few hours after eggs are retrieved, sperm are placed in the culture medium with the eggs, or individual sperm are injected into each mature egg in a technique called Intracytoplasmic Sperm Injection (ICSI) (see below). The eggs are then returned to the incubator, where they remain to develop. Periodically over the next few days, the dishes are inspected so the development of the embryos can be assessed.

The following day after eggs have been inseminated or injected with a single sperm (ICSI), they are examined for signs that the process of fertilization is underway. At this stage, normal development is evident by the still single cell having 2 nuclei; this stage is called a zygote or a 2PN embryo. Two days after insemination or ICSI, normal embryos have divided into about 4 cells. Three days after insemination or ICSI, normally developing embryos contain about 8 cells. Five days after insemination or ICSI, normally developing embryos have developed to the blastocyst stage, which is typified by an embryo that now has 80 or more cells, an inner fluid-filled cavity, and a small cluster of cells called the inner cell mass.

It is important to note that since some eggs and embryos may be abnormal, it is expected that not all eggs will fertilize and not all embryos will divide at a normal rate. The chance that a developing embryo will produce a pregnancy is related to many factors including whether its development in the lab is normal, but this correlation is not perfect. This means that not all embryos developing at the normal rate are in fact also genetically normal, and not all poorly developing embryos are genetically abnormal. Nonetheless, their visual appearance is the most common and useful guide in the selection of the best embryo(s) for transfer.

In spite of reasonable precautions, any of the following may occur in the lab that would prevent the establishment of a pregnancy:

Fertilization of the egg(s) may fail to occur.
- An egg may be fertilized abnormally resulting in an abnormal number of chromosomes in the embryo; these abnormal embryos will not be transferred.
- The fertilized eggs may degenerate before dividing into embryos, or adequate embryonic development may fail to occur.
- Bacterial contamination or a laboratory accident may result in loss or damage to some or all of the eggs or embryos.
- Laboratory equipment may fail, and/or extended power losses can occur which could lead to the destruction of eggs, sperm and embryos.
- Other unforeseen circumstances may prevent any step of the procedure to be performed or prevent the establishment of a pregnancy.
- Hurricanes, floods, or other "acts of God" (including bombnings or other terrorist acts) could destroy the laboratory or its contents, including any sperm, eggs, or embryos being stored there.

Quality control in the lab is extremely important. On occasion, immature or unfertilized eggs, sperm or abnormal embryos that are being discarded may be used for quality control and training purposes prior to being discarded, in accordance with normal laboratory procedures and applicable laws. This material would not be capable of establishing a pregnancy or a cell line.
**Intracytoplasmic Sperm Injection (ICSI)**

- ICSI is used to increase the chance of fertilization when fertilization rates are anticipated to be lower than normal.
- Overall success rates with ICSI are similar to those achieved with conventional insemination.
- An increased risk of genetic defects in offspring is reported.
- ICSI will not correct oocyte defects.

The use of ICSI provides an effective treatment for male factor infertility. The negative effects of abnormal semen characteristics and sperm quality on fertilization can be overcome with ICSI if viable sperm are available because the technique bypasses the shell around the egg (zona pellucida) and the egg membrane (oolemma) to deliver the sperm directly into the egg. ICSI involves the direct injection of a single sperm into the interior of an egg using an extremely thin glass needle. ICSI allows couples with male factor infertility to achieve fertilization and live birth rates similar to those achieved with in vitro fertilization (IVF) using conventional methods of fertilization in men with normal sperm counts. ICSI can be performed even in men with no sperm in the ejaculate if sperm can be successfully surgically collected from the epididymis or the testis by a urologist.

ICSI is associated with a slightly higher risk of birth defects. Whether this association is due to the ICSI procedure itself or to inherent sperm defects has not been determined. The impact of ICSI on the intellectual and motor development of children has also been controversial, but recent studies have not detected any differences in the development of children born after ICSI, conventional IVF, or natural conception.

Certain genetic abnormalities have been shown to increase in IVF offspring. The prevalence of sex chromosome (X and Y) abnormalities in children conceived via ICSI is higher than observed in the general IVF population, but the difference between the two groups is small (0.8% to 1.0% in ICSI offspring vs. 0.2% in the general IVF population). Translocations (a re-arrangement of chromosomes that can cause miscarriage) may be more common in ICSI offspring (0.36%) than in the general population (0.07%). Although these differences might result from the ICSI procedure itself, men with abnormal semen analyses are more likely themselves to have chromosome abnormalities and may produce sperm with abnormal chromosomes. These abnormalities could be passed to their offspring.

Some men with extremely low or absent sperm counts have small deletions on their Y chromosome. When viable sperm can be obtained to fertilize eggs with ICSI, sperm containing a Y chromosomal microdeletion may result in male offspring who also carry the microdeletion and may be infertile. A Y chromosome microdeletion can often, but not always, be detected by a blood test.

Men who are infertile because of congenital bilateral absence of the vas deferens (CBAVD) are affected with a mild form of cystic fibrosis (CF). When sperm aspiration and ICSI results in conception, the CF gene will be passed on to the offspring. Men with CBAVD and their partners should be tested for CF gene mutations prior to treatment. However, some CF mutations may not be detected by current testing, so that some parents who test negative for CF mutations could still have affected children.

By consenting to have ICSI performed, my/our physician will prescribe antibiotics for the male partner (Azithromycin) during the female stimulation cycle. This medication is administered to reduce the risk of bacterial contamination in the semen specimen used to collect the sperm for the ICSI procedure. It is possible to have a mild or severe allergic reaction to Azithromycin. It is also possible to have a serious drug interaction when Azithromycin is taken with certain other medications. Inform the physician of all current medications and allergies.

The IVF procedure will otherwise not deviate from the standard protocol and embryo replacement will generally occur three to five days after retrieval.

I/We understand that while the IVF team believes that in certain situations there are clear benefits to having our eggs undergo ICSI to increase the probability of fertilization, the procedure may also involve the following risks or disadvantages:
1. The procedure requires additional laboratory handling of the sperm, eggs, and embryos.
2. There is a potential for damage or destruction of the eggs during the ICSI procedure. It is also possible that embryos formed after ICSI may appear or be abnormal. This is also true after convention fertilization. Although damage is rare, serious damage precluding viability of the egg may occur in less than 10% of the cases.
3. The exact likelihood of fertilization for a given egg or patient cannot be predicted. However, published reports claim that the fertilization rates exceed 50% per egg and over 90% of couples have embryos available for transfer.
4. Laboratory personnel select the sperm that are used for ICSI and the selection is subjective. This could theoretically increase the risks of birth defects including infertility.
5. Even when embryos are transferred, there is no guarantee that pregnancy will occur.

If recommended by the physician, my/our decision to have ICSI may be beneficial to me/us as the chance of fertilization may increase with a resulting increase in pregnancy rates. In my/our particular case, however, I/we understand that there is no guarantee that we will achieve fertilization or that any embryos that are transferred will implant and result in a pregnancy.

My/Our decision to do ICSI does not preclude our ability to complete any other component of an IVF cycle.

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**Embryo Transfer into Recipient or Carrier**

- After a few days of development, the best appearing embryos are selected for transfer.
- When starting with cryopreserved donor embryos, embryos are considered to be viable and suitable for transfer if at least 50% of the cells survive the thawing process.
- The number chosen for transfer influences the pregnancy rate and the multiple pregnancy rate.
- The age of the egg used to create the embryo, the visual appearance of the developing embryo, and the internal genetic composition of the embryo have the greatest influences on pregnancy outcome.
- Using ultrasound guidance, embryos are placed in the uterine cavity with a thin tube.
- In the case of frozen eggs, excess embryos of sufficient quality that are not transferred can be frozen.

One or more embryos are selected for transfer to the uterine cavity. In the case of embryo thaw, the number of embryos thawed and intended for transfer will be predetermined by the recipient(s) in consultation with the physician and as noted on this consent form. Embryos are placed in the uterine cavity with a thin tube (catheter). Ultrasound guidance may be used to help guide the catheter or confirm placement through the cervix and into the uterine cavity. Although the possibility of a complication from the embryo transfer is very rare, risks include infection and loss of, or damage to, the embryos.

The number of embryos transferred influences the pregnancy rate and the multiple pregnancy rate. The age of the woman and the appearance of the developing embryo have the greatest influence on pregnancy outcome and the chance for multiple pregnancy. While it is possible, it is unusual to develop more fetuses than the number of embryos transferred. It is critical to discuss with your doctor the number to be transferred before the transfer is done.

In an effort to help curtail the problem of multiple pregnancies (see multiple pregnancies), national guidelines published in 2013 recommend limits on the number of embryos to transfer (see Tables below). These limits should not be viewed as a recommendation on the number of embryos to transfer. These limits differ depending on the
developmental stage of the embryos and the quality of the embryos and take into account the patient’s personal history.

The table below reflects recommendations based on national average success rates. At AFC, pregnancy success rates are significantly higher than the national average. Therefore your physician will discuss the maximum number of embryos for you to transfer based on your medical and reproductive history, as well as the quality and number of embryos you have. This limit may very well be lower than those numbers listed in the table below.

### Recommended MAXIMUM LIMITS on the number of embryos to transfer

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*In cases where eggs have been thawed and fertilized, there may be additional embryos remaining in the lab after the transfer is completed. Depending on their developmental normalcy, it may be possible to freeze them for later use. For those completing this document for cryopreserved eggs you MUST also complete the separate document entitled “Specimen Storage Agreement” before freezing. This document outlines the choices you have with regard to the disposition of biological specimens including eggs, semen, and embryos in a variety of situations that may arise. You are free to submit a statement at a later time indicating different choices, provided you both agree in writing. It is also incumbent upon you to remain in touch with the clinic regarding your residence, and to pay for storage charges as they come due.*

**Blastocyst culture**

In some cases, one or more of the embryos may cease their development prior to reaching the blastocyst stage. This may result in fewer embryos for transfer and, in some cases, no embryo transfer at all. Higher rates of identical twinning are reported.

**Assisted Hatching**

- Assisted hatching involves making a hole in the outer shell (zona pellucida) that surrounds the embryo. Use of this technique is recommended standard-of-care when using frozen eggs.
- Hatching may make it easier for embryos to escape from the shell that surrounds them.

The cells that make up the early embryo are enclosed within a flexible membrane (shell) called the zona pellucida. During normal development, a portion of this membrane dissolves, allowing the embryonic cells to escape or “hatch” out of the shell. Only upon hatching can the embryonic cells implant within the wall of the uterus to form a pregnancy.

Assisted hatching is the laboratory technique in which an embryologist makes an artificial opening in the shell of the embryo. The hatching is usually performed on the day of transfer, prior to loading the embryo into the transfer catheter. The opening can be made by mechanical means (slicing with a needle or burning the shell with a laser) or chemical means by dissolving a small hole in the shell with a dilute acid solution.

Some programs have incorporated artificial or “assisted hatching” into their treatment protocols because they believe it improves implantation rates, and ultimately, live birth rates although definitive evidence of this is lacking.

Risks that may be associated with assisted hatching include damage to the embryo resulting in loss of embryonic cells, or destruction or death of the embryo. Artificial manipulation of the zygote may increase the rates of monozygotic (identical) twinning which are significantly more complicated pregnancies. There may be other risks not yet known.
Cryopreservation

- Freezing of eggs and embryos can provide additional chances for pregnancy.
- Frozen eggs and embryos do not always survive the process of freezing and thawing.
- Ethical and legal dilemmas can arise when couples separate or divorce, especially for embryos; disposition agreements are essential.
- It is the responsibility of each couple with frozen eggs and/or embryos to remain in contact with the clinic on an annual basis.

Freezing (or “cryopreservation”) of eggs or embryos is a common procedure. Since multiple eggs (oocytes) are often produced during ovarian stimulation, on occasion there are more embryos available than are considered appropriate for transfer to the uterus. Such embryos can be frozen for future use. Alternatively, some eggs can be frozen before being exposed to sperm. Both strategies save the expense and inconvenience of stimulation to obtain additional eggs in the future. Furthermore, the availability of cryopreservation permits patients to transfer fewer embryos during a fresh cycle, reducing the risk of high-order multiple gestations (triplets or greater). Other possible reasons for cryopreservation of embryos include freezing all embryos in the initial cycle to prevent severe ovarian hyperstimulation syndrome (OHSS), or if a couple were concerned that their future fertility potential might be reduced due to necessary medical treatment (e.g., cancer therapy or surgery). The pregnancy success rates for cryopreserved embryos transferred into the human uterus can vary from practice to practice. Overall pregnancy rates at the national level with frozen embryos are lower than with fresh embryos. This, at least in part, results from the routine selection of the best-looking embryos for fresh transfer, reserving the “second-best” for freezing. There is some evidence that pregnancy rates are similar when there is no such selection.

**Indications:**
- To reduce the risks of multiple gestation
- To preserve fertility potential in the face of certain necessary medical procedures
- To increase the chance of having one or more pregnancies from a single cycle of ovarian stimulation
- To minimize the medical risk and cost to the patient by decreasing the number of stimulated cycles and egg retrievals

**Risks of cryopreservation:** There are several techniques for embryo cryopreservation, and research is ongoing. Older methods include “slow,” graduated freezing in a computerized setting, and current modern methods incorporate “rapid” freezing methods, called “vitrification.” Current techniques deliver a high percentage of viable eggs and embryos thawed after cryopreservation, but there can be no certainty that eggs and embryos will thaw normally, nor be viable enough to divide and eventually implant in the uterus. Cryopreservation techniques could theoretically be injurious to the embryo. Extensive animal data (through several generations), and limited human data, do not indicate any likelihood that children born of embryos that have been cryopreserved and thawed will experience greater risk of abnormalities than those born of fresh embryos. However, until very large numbers of children have been born following freezing and thawing of embryos, it is not possible to be certain that the rate of abnormalities is no different from the normal rate.

**If you choose to freeze eggs or embryos, you MUST complete the separate document entitled “Specimen Storage Agreement” before freezing. This document outlines the choices you have with regard to the disposition of biological specimens including eggs, semen, and embryos in a variety of situations that may arise. You are free to submit a statement at a later time indicating different choices, provided you both agree in writing. It is also incumbent upon you to remain in touch with the clinic regarding your residence, and to pay for storage charges as they come due.**
Special Issues with the Use of Donor Eggs

Donor Identity. If my/our donor is anonymous, we pledge that we will never seek her identity, except as allowed below or if a court orders otherwise. I/We also understand that AFC will protect my/our identity and will not reveal it to the donor except as allowed below, as required by law, or if a court orders otherwise. However, I/we understand that if a child born from this donation has a medical or psychological need that might be met by the donor, then I/we may contact Advanced Fertility Care, LLC and ask that our request be relayed to the donor. Such requests may be for a medical need such as a bone marrow transplant, or, once any child or children born from this donation are legal adults, a request may be made by the child or children for the identity of the donor to be revealed. The donor is under no obligation to consent to any request.

Information on all cycles of Assisted Reproductive Technology treatment, along with data identifying recipients and women who undergo ART with their own eggs, is currently collected into a national database under the 1992 Fertility Clinic Success Rate and Certification Act. As part of this process, the Society for Assisted Reproductive Technology plans to begin to collect identifying information on all egg donors. As with recipient cycles and cycles for women using their own eggs, this information may be used to track outcomes. For this purpose, certain donor identifying information such as name, date of birth, and social security number may be reported to a Registry by SART member clinics for data aggregation purposes. ASRM guidelines currently require permanent records be kept for all egg donation cycles. Efforts to collect this information are intended to respect donation confidentiality and not to disclose confidential identifying information to recipients, donors, or offspring. Control of such information in the future may, however, depend on applicable law.

Parental Rights and Responsibilities. I/We understand and accept my/our responsibilities for the care of any child resulting from the egg donation process, and it is my/our intent to be the legal parent(s) of any child that results from the egg donation process, with all the rights and responsibilities that come with parenting. Under no conditions will I/we seek financial aid from the donor or AFC. I/We understand that neither AFC nor the donor will assume any financial responsibility for the upbringing of any child resulting from the egg donation process under any circumstances except as provided by law. I/We assume responsibility for all costs associated with the use of donor eggs.

I/We am/are aware that while there are laws in my state governing the legal status of children born following the use of donor eggs or sperm, there are no such laws related to the use of donor embryos or gestational carriers. Furthermore, such laws only protect children that are actually born in my state. I/We understand that the laws governing egg/embryo/sperm donation regarding who the legal parents are vary from state to state. In some cases, the intended parents may obtain a pre-birth Court order establishing their parental rights, and in some states they will need to formally adopt the child (or children). AFC does not offer legal advice on these matters and I/we acknowledge and agree that I/we must consult an attorney with expertise in family law related to assisted reproductive technologies in the state where the child will be delivered concerning these matters.

Confidentiality. I/We understand and agree that, if I/we have an identified donor, aspects of my/our medical care and conditions and that of the donor may be revealed and/or discerned as part of the treatment process.

I/We understand the confidentiality of medical records, including any photographs, X-rays or recordings, will be maintained in accordance with applicable state and federal laws. We (I) may request our records be released to other physicians. Data from the ART procedure will also be provided to the Centers for Disease Control and Prevention (CDC), and to the Society for Assisted Reproductive Technologies (SART) of the America Society for Reproductive Medicine (ASRM) if my/our clinic is a member of this organization. The 1992 Fertility Clinic Success Rate and Certification Act requires that CDC collect data on all assisted reproductive technology cycles performed in the United States annually and report success rates using these data. Because sensitive information will be collected on you, CDC applied for and received an “assurance of confidentiality” for this project under the provisions of the Public Health Service Act, Section 308(d). This means that any information that CDC has that identifies you will not be disclosed to anyone else without your consent.
Limits to the Success of the Process

There are a number of reasons IVF using donated eggs may be unsuccessful:

- Inadequate egg development, when using a fresh egg donor, may result in cancellation of the cycle prior to egg retrieval. I/We understand that I/we are financially responsible for all charges resulting from a cancelled egg donation cycle, including fees for services for the donor, recipient and partner, up to and including the day of cancellation.
- The egg donor may respond too vigorously to the medications and be at risk of ovarian hyperstimulation syndrome (OHSS) and this may necessitate cancellation of the cycle prior to egg retrieval. I/We understand that I/we are financially responsible for all charges resulting from a cancelled egg donation cycle, including fees for services for the donor, recipient and partner, up to and including the day of cancellation.
- Ovulation may occur spontaneously before the donor eggs can be retrieved.
- The egg donor may not be able to complete the cycle for medical, personal or logistical reasons and may withdraw from the treatment cycle before the egg retrieval.
- In rare cases, no donor eggs may be retrieved.
- The donor eggs may not be normal.
- A fresh semen sample may not be able to be produced the day of the procedure; a frozen specimen (if previously provided) will then be utilized, however, this may result in fewer eggs being fertilized.
- The frozen sample of sperm or tissue may be unusable or non-viable.
- Fertilization may not occur, or may occur abnormally, e.g. an egg may be fertilized by more than one sperm (polyspermia) and could develop abnormally. Fertilization may not occur or abnormal fertilization may occur, even with the use of intracytoplasmic sperm injection. Such embryos will not be transferred.
- Intracytoplasmic sperm injection may result in damage, destruction or loss of one or more eggs (oocytes) or sperm.
- Cleavage or cell division of fertilized eggs may not occur.
- The embryos may not develop normally.
- Selective assisted hatching, if recommended, may lead to damage or loss of one or more embryos.
- The embryo transfer may be difficult or may not be possible.
- In fresh cycles, an anonymous egg donor’s infectious disease testing results (performed within 30 days of the egg retrieval) may be unavailable making it necessary to freeze all the eggs or embryos for use at a later time.
- An anonymous egg donor’s infectious disease testing results (performed within 30 days of the egg retrieval) may be positive making it necessary to discard the eggs or embryos. If the eggs or embryos need to be discarded (no embryo transfer takes place), I/we understand that I/we are financially responsible for all charges resulting from our egg donation cycle, including fees for the donor, recipient and partner, up to and including the day the eggs or embryos are discarded.
- Implantation of the embryos into the wall of the uterus may not occur, even with the use of selective assisted hatching.

Laboratory. An event may occur in the laboratory resulting in loss or damage to some or all of the eggs or embryos. I/We understand that assisted reproductive technologies involve the use of mechanical and/or electrical equipment. AFC/AARL will take reasonable measures to maintain and monitor this equipment. However, despite their best efforts, equipment failure may result in the damage or loss of one or more of my/our sperm, eggs or embryos. I/We understand and agree that AFC/AARL shall be responsible only for acts of negligence on its part and the part of its employees, contractors, and consultants. The program will account honestly for all gametes and embryos.

Pregnancy Loss. Although pregnancy may be successfully established, there is still the possibility of miscarriage, ectopic pregnancy, stillbirth and/or congenital abnormalities (birth defects). Conceptions resulting from IVF/ET have been associated with a slightly higher risk of birth defects than pregnancies resulting from a natural conception. However, it is still unclear whether the risk is related to patients, medications, or laboratory procedures. It is possible that infertile couples differ from the general population, and it is not the technology that leads to the higher risk.
Risks to Egg Recipient(s) – Intended Parents

Risks of Pregnancy

Pregnancies that occur with IVF are associated with increased risks of certain conditions (see Table below from the Executive Summary of a National Institute of Child Health and Human Development Workshop held in September 2005, as reported in the journal Obstetrics & Gynecology, vol. 109, no. 4, pages 967-77, 2007). Some of these risks stem from the higher average age of women pregnant by IVF and the fact that the underlying cause of infertility may be the cause of the increased risk of pregnancy complications. This was demonstrated in an Australian study that reviewed adverse obstetric and perinatal outcomes in sub-fertile women conceiving without ART (see Table below). There may be additional risks related to the IVF procedure per se, but it is difficult to assign the relative contributions.

### Potential Risks in Singleton IVF-conceived Pregnancies

<table>
<thead>
<tr>
<th>Risk</th>
<th>Absolute Risk (%) in IVF-conceived Pregnancies</th>
<th>Relative Risk (vs. non-IVF-conceived Pregnancies in a control population)</th>
<th>Relative Risk of Non-IVF Infertile Patients (vs. control population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-eclampsia</td>
<td>10.3%</td>
<td>1.6 (1.2–2.0)</td>
<td>1.29 (1.02-1.61)</td>
</tr>
<tr>
<td>Placenta previa</td>
<td>2.4%</td>
<td>2.9 (1.5–5.4)</td>
<td></td>
</tr>
<tr>
<td>Placental abruption</td>
<td>2.2%</td>
<td>2.4 (1.1–5.2)</td>
<td></td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>6.8%</td>
<td>2.0 (1.4–3.0)</td>
<td>1.25 (0.96-1.63)</td>
</tr>
<tr>
<td>Cesarean delivery *</td>
<td>26.7%</td>
<td>2.1 (1.7–2.6)</td>
<td>1.56 (1.37-1.77)</td>
</tr>
</tbody>
</table>

In this table, the Absolute risk is the percent of IVF Pregnancies in which the risk occurred. The Relative Risk is the risk in IVF versus the risk in non-IVF, non-infertile pregnancies; for example, a relative risk of 2.0 indicates that twice as many IVF pregnancies experience this risk as compared to non-IVF pregnancies. However, the third column indicates the increased risk of adverse outcome in infertile women conceiving without ART suggesting that being infertile increases the risk of adverse outcomes unrelated to ART/IVF. The numbers in parentheses (called the “Confidence Interval”) indicate the range in which the actual Relative Risk lies.

* Please note that most experts believe the rate of Cesarean delivery to be well above the 26.7% rate quoted here.

Multiple gestations, which account for 30% of IVF pregnancies, increase the risk of pregnancy complications. The most important maternal complications associated with multiple gestations are preterm labor and delivery, pre-eclampsia, and gestational diabetes. Placenta previa (placenta extends over the cervical opening), vasa previa (one or more of the blood vessels extends over the cervical opening), and placental abruption (premature separation of the placenta) are also more common in multiple gestations. Postpartum hemorrhage may complicate 12% of multifetal deliveries. Having triplets or more increases the risk of more significant complications including post-partum hemorrhage and transfusion. Other complications of multiple gestations include gall bladder problems, skin problems, excess weight gain, anemia, excessive nausea and vomiting, and exacerbation of pregnancy-associated gastrointestinal symptoms.

Although embryos are transferred directly into the uterus with IVF, ectopic (tubal, cervical and abdominal) pregnancies have occurred either alone or concurrently with a normal intra-uterine pregnancy. These abnormal pregnancies oftentimes require medical treatments with methotrexate (a weak chemotherapy drug) or surgery to treat the abnormal pregnancy.

### Age-related risk to recipient / carrier

Certain risks of pregnancy increase with age. Most common are high blood pressure, diabetes, bleeding while pregnant, and growth problems for the baby. Above 44 years of age, it is prudent to have a consultation and full medical evaluation before becoming pregnant. This may involve both an internist and a high-risk obstetrician.

### Risks to Offspring

- IVF babies seem to be at a slight increased risk for birth defects.
- The risk for a multiple pregnancy is significantly higher for patients undergoing IVF, even when only one embryo is transferred.
- Multiple pregnancies are the greatest risk for babies following IVF.
- Some risk may also stem from the underlying infertile state, or from the IVF techniques, or both.

Overall Risks: Since the first birth of an IVF baby in 1978, more than 5 million children have been born worldwide following IVF treatments. Numerous studies have been conducted to assess the overall health of IVF children and the majority of studies on the
safety of IVF have been reassuring. A major problem in interpreting the data arises from the fact that comparing a group of infertile couples to a group of normally fertile couples is not the proper comparison to make if one wants to assess the risk that IVF technology engenders. Infertile couples, by definition, do not have normal reproductive function and might be expected to have babies with more abnormalities than a group of normally fertile couples. This said, even if the studies suggesting an increased risk to babies born after IVF prove to be true, the absolute risk of any abnormal outcome appears to be small. In addition, singletons conceived with IVF tend to be born slightly earlier than naturally conceived babies (39.1 weeks as compared to 39.5 weeks). IVF twins are not born earlier or later than naturally conceived twins. The risk of a singleton IVF conceived baby being born with a birth weight under 5 pounds nine ounces (2500 grams) is 12.5% vs. 7% in naturally conceived singletons.

Birth Defects: The risk of birth defects in the normal population is 2-3%, and is slightly higher among infertile patients. Most of this risk is due to delayed conception and the underlying infertility issues. In a recent large study performed in Australia (see reference), the risk of birth defects was not increased among women who had routine IVF treatment, but was higher among those who employed ICSI as part of the treatment. No higher risk was seen in frozen embryo transfer and donor egg cycles.

Imprinting Disorders. These are rare disorders having to do with whether a maternal or paternal gene is inappropriately expressed. In two studies of children with the imprinting disorder called Beckwith-Weidemann Syndrome, more were born after IVF than expected. A large Danish study, however, found no increased risk of imprinting disorders in children conceived with the assistance of IVF. Since the incidence of this syndrome in the general population is 1/15,000, even if there is a 2 to 5-fold increase to 2-5/15,000, this absolute risk is very low.

Childhood cancers. Most studies have not reported an increased risk with the exception of retinoblastoma: In one study in the Netherlands, five cases were reported after IVF treatment which is 5 to 7 times more than expected. Further studies have not supported this finding.

Infant development. In general, studies of long-term developmental outcomes have been reassuring so far; most children are doing well. However, these studies are difficult to do and suffer from limitations. A more recent study with better methodology reports an increased risk of cerebral palsy (3.7 fold) and developmental delay (4 fold), but most of this stemmed from the prematurity and low birth weight that was a consequence of multiple pregnancy.

### Potential Risks in Singleton IVF Pregnancies

<table>
<thead>
<tr>
<th>Potential Risk</th>
<th>Absolute Risk (% in IVF Pregnancies)</th>
<th>Relative Risk (vs. non-IVF Pregnancies)</th>
<th>Relative Risk for infertile women without ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preterm birth</td>
<td>11.5%</td>
<td>2.0 (1.7–2.2)</td>
<td>1.32 (1.05–1.67)</td>
</tr>
<tr>
<td>Low birth weight (&lt; 2500 g)</td>
<td>9.5%</td>
<td>1.8 (1.4–2.2)</td>
<td>1.44 (1.11–1.85)</td>
</tr>
<tr>
<td>Very low birth weight (&lt; 1500 g)</td>
<td>2.5%</td>
<td>2.7 (2.3–3.1)</td>
<td></td>
</tr>
<tr>
<td>Small for gestational age</td>
<td>14.6%</td>
<td>1.6 (1.3–2.0)</td>
<td>0.99</td>
</tr>
<tr>
<td>NICU (intensive care) admission</td>
<td>17.8%</td>
<td>1.6 (1.3–2.0)</td>
<td></td>
</tr>
<tr>
<td>Stillbirth</td>
<td>1.2%</td>
<td>2.6 (1.8–3.6)</td>
<td></td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>0.6%</td>
<td>2.0 (1.2–3.4)</td>
<td>2.19 (1.10–4.36)</td>
</tr>
<tr>
<td>Cerebral palsy</td>
<td>0.4%</td>
<td>2.8 (1.3–5.8)</td>
<td></td>
</tr>
<tr>
<td>Genetic risks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-imprinting disorder</td>
<td>0.03%</td>
<td>17.8 (1.8–432.9)</td>
<td></td>
</tr>
<tr>
<td>-major birth defect</td>
<td>4.3%</td>
<td>1.5 (1.3–1.8)</td>
<td></td>
</tr>
<tr>
<td>-chromosomal abnormalities after ICSI</td>
<td>0.6%</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>-of a sex chromosome</td>
<td>0.4%</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>-of another chromosome</td>
<td>0.4%</td>
<td>5.7</td>
<td></td>
</tr>
</tbody>
</table>

In this table, the absolute risk is the percent of IVF pregnancies in which the risk occurred. The relative risk is the risk in IVF versus the risk in non-IVF pregnancies. For example, a relative risk of 2.0 indicates that twice as many IVF pregnancies experience this risk as compared to non-IVF pregnancies. The numbers in parentheses (called the “Confidence Interval”) indicate the range in which the actual relative risk lies.

### Risks of a Multiple Pregnancy

Currently, more than 30% of IVF pregnancies are twins or higher-order multiple gestations (triplets or greater), and about half of all IVF babies are a result of multiple gestations. Identical twinning occurs in 1.5% to 4.5% of IVF pregnancies, and may occur more frequently after blastocyst transfer.

Prematurity accounts for most of the excess perinatal morbidity and mortality associated with multiple gestations. IVF twins deliver on average three weeks earlier and weigh 1,000 gm less than IVF singletons. Triplet (and greater) pregnancies deliver before 32 weeks (7 months) in almost half of cases. Fetal growth problems and discordant growth among the fetuses also result in perinatal morbidity and mortality. Multifetal pregnancy reduction (where one or more fetuses are terminated) reduces, but does not eliminate, the risk of these complications.
Fetal death rates for singleton, twin, and triplet pregnancies are 4.3 per 1,000, 15.5 per 1,000, and 21 per 1,000, respectively. The death of one or more fetuses in a multiple gestation (vanishing twin) is more common in the first trimester and may be observed in up to 25% of pregnancies after IVF. Loss of a fetus in the first trimester is unlikely to adversely affect the surviving fetus.

Multiple fetuses that share the same placenta, as in most identical twins, have additional risks. Twin-twin transfusion syndrome, in which excess or insufficient amniotic fluid results from an imbalance of circulation between the fetuses, may occur in up to 20% of twins sharing a placenta. Twins sharing the same placenta have a higher frequency of birth defects compared to twins with two placentas. After the first trimester, death of one fetus in a twin pregnancy is more common with a shared placenta and may cause harm to the remaining fetus.

Long-term consequences of multiple gestations include the major complications of prematurity (cerebral palsy, retinopathy of prematurity, and chronic lung disease), as well as those of fetal growth restriction (polycythemia, hypoglycemia, necrotizing enterocolitis). It is unclear to what extent multiple gestations themselves affect neuro-behavioral development in the absence of these complications. At mid-childhood, prematurely born offspring from multiple gestations have lower IQ scores, and multiple birth children have an increase in behavioral problems compared with singletons. It is not clear to what extent these risks are affected by IVF per se.

**The Option of Multifetal Pregnancy Reduction:** The greater the number of fetuses within the uterus, the greater is the risk for adverse perinatal and maternal outcomes. Patients with more than twins are faced with the options of continuing the pregnancy with all risks previously described, terminating the entire pregnancy, or undergoing a procedure called multifetal pregnancy reduction. By reducing the number of fetuses, multifetal pregnancy reduction (MFPR) decreases risks associated with preterm delivery, but often creates important ethical dilemmas. Pregnancy loss is the main risk of MFPR. However, current data suggest that such complications have decreased as experience with the procedure has grown. The risk of loss of the entire pregnancy after MFPR is approximately 1%, although this risk increases when the number of fetuses prior to the procedure is greater than three.

**Ethical and Religious Considerations in Infertility Treatment**

Infertility treatment can raise concerns and questions of an ethical or religious nature for some patients. The technique of in vitro fertilization (IVF) involves the creation of human embryos outside the body, and can involve the production of excess embryos and/or “high-order” multiple pregnancy (triplets or more). Patients and their spouses or partners who so desire are encouraged to consult with trusted members of their religious or ethics community for guidance on their infertility treatment.

**Psychosocial Effects of Infertility Treatment**

A diagnosis of infertility can be a devastating and life-altering event that impacts on many aspects of a patient’s life. Infertility and its treatment can affect a patient and her spouse or partner medically, financially, socially, emotionally and psychologically. Feelings of anxiety, depression, isolation, and helplessness are not uncommon among patients undergoing infertility treatment. Strained and stressful relations with spouses, partners and other loved ones are not uncommon as treatment gets underway and progresses.

Rearing of twins and high-order multiples may generate physical, emotional, and financial stresses; and the incidence of maternal depression and anxiety is increased in women raising multiples.

Patients may consider working with mental health professionals who are specially trained in the area of infertility care, as well as with their health care team, to minimize the emotional impact of infertility treatments. National support groups are also available, such as RESOLVE, (www.resolve.org, Tel. 1-888-623-0744) or The American Fertility Association (AFA), (www.theafa.org, Tel: 1-888-917-3777).

**Alternatives to IVF**

Using donor sperm, donor eggs, adoption, or not pursuing treatment are all options. Gametes (sperm and/or eggs), instead of embryos may be frozen for future attempts at pregnancy in an effort to avoid potential future legal or ethical issues relating to disposition of any cryopreserved embryos. Sperm and egg freezing are now considered well established and successful procedures.

**Reporting Outcomes**

The 1992 Fertility Clinic Success Rate and Certification Act requires the Centers for Disease Control and Prevention (CDC) to collect cycle-specific data as well as pregnancy outcome on all assisted reproductive technology cycles performed in the United States each year and requires them to report success rates using these data. Consequently, data from my/our IVF procedure will be provided to the CDC, and to the Society of Assisted Reproductive Technologies (SART) of the American Society for Reproductive Medicine (ASRM) (if my/our clinic is a member of this organization). The CDC may request additional information from the treatment center or contact me/us directly for additional follow-up. Additionally, my/our information may be used and disclosed in accordance with HIPAA guidelines in order to perform research, data aggregation and/or quality control. All information used for research will be de-identified prior to publication. De-identification is a process intended to prevent the data associated with my/our treatment being used to identify me/us as individuals.
Notice of Arbitration

It is understood that any and all disputes relating to this Agreement or its breach, or to medical malpractice, that is, as to whether any medical services rendered under this contract were unnecessary or unauthorized or were improperly, negligently or incompetently rendered, shall be settled by arbitration in Scottsdale, Arizona (Maricopa County), in accordance with Arizona’s Revised Uniform Arbitration Act (A.R.S. §12-3001, et seq.), and utilizing the then-current procedural rules of the American Arbitration Association. I/We, by entering into this contract, are giving up my/our constitutional right to have any such dispute decided in a court of law before a jury, and instead are accepting the use of arbitration. Judgment upon the arbitration award may be entered in any court having jurisdiction hereof. The arbitrator or, if necessary, a court of competent jurisdiction, shall award the costs of arbitration, including reasonable attorneys’ fees, to AFC/AARL/AASC provided that any of them are the substantially prevailing party in the arbitration and/or in any subsequent litigation to enforce an arbitration award. Any arbitration shall be conducted in the English language and the award rendered in the United States dollars. Should I/we, or either of us, dismiss or abandon a claim or counterclaim before the arbitration hearing, AFC/AARL/AASC shall be deemed the “substantially prevailing party” for purposes of this section. Service of any petition to confirm the arbitration award shall be complete on personal delivery or the deposit of the petition and notice in the United States mail.

General Consent

1. Insurance coverage for any or all of the above procedures may not be available and I/we will be personally responsible for all expenses of this treatment that are not covered by insurance.

2. I/We expect this procedure to be performed with not less than the customary standard of care. I/We understand the risks and benefits as outlined.

3. I/We have had the opportunity to review this treatment and ask questions of my/our physician concerning the alternative options to utilization of donated eggs, including adoption and no treatment. The full egg donation process has been explained to us (me), together with the known risks. I/We understand the explanation that has been given to us. I/We have had the opportunity to ask any questions I/we might have and those questions have been answered to my/our satisfaction. Any further questions may be addressed to the AFC staff for physician(s). I/We acknowledge that utilization of donated eggs is being performed at my/our request and with my/our consent.

4. I/We, the undersigned, request, authorize and consent to the utilization of donated eggs by AFC and AARL and as appropriate, its employees, contractors, and consultants and authorized agents for the purpose of achieving a pregnancy.

5. I/We understand that there are other options available to us to help us have a child. These may include adoption or treatments including such techniques as surgery, ovulation induction, in vitro fertilization and sperm donation. I/We have had the opportunity to discuss these options, as well as others with my/our physician(s). In an attempt to have a child, I/we now elect to utilize donated eggs donated at (or transferred to) AFC and AARL.

6. We understand that the chances of becoming pregnant from this procedure average 40 to 70% in successful programs. We understand that no warranty or guarantee has been made to us that eggs will be retrieved, will fertilize, will cleave, will be placed in the uterus, will implant, will produce a pregnancy, lead to a delivery, or produce a live born child. We understand that one-third (7% overall incidence) of multiple pregnancies result in multiples greater than twins. Multiple pregnancies are associated with an increased risk of miscarriage, diabetes of pregnancy, pregnancy induced hypertension, premature labor, premature delivery of the baby, intrauterine death of the baby before it is born, poor growth of the developing fetus, and cesarean section.

7. We understand that we will be responsible for the donor’s expenses. The donor expenses include the selection of a donor, (if from an outside agency and paid to that agency), screening tests, psychological evaluation, medications, ultrasounds, and blood tests. A supplemental health insurance policy to cover any medical expenses during the process will be provided by AFC as part of the fee. If a cycle is canceled, we understand that we will be responsible for all charges up to the date of cancellation.

8. We understand that any child born as a result of this process is our legitimate child and we have all the rights and obligations of parents of that child.
9. We understand that the oocyte donor’s identity will be kept confidential to us and our identity will be kept confidential to the donor. We understand that the oocyte donor will not receive any information regarding the outcome of the oocytes, fertilization, pregnancy, and pregnancy outcome.

I/WE ACKNOWLEDGE THAT WE HAVE READ AND FULLY UNDERSTAND THIS INFORMED CONSENT/AGREEMENT IN ITS ENTIRETY. I/WE HAVE BEEN ENCOURAGED TO AND HAD THE OPPORTUNITY TO ASK QUESTIONS AND OUR QUESTIONS REGARDING THESE PROCEDURES HAVE BEEN ANSWERED TO MY/OUR COMPLETE SATISFACTION. I HAVE ALSO RECEIVED INFORMATION ABOUT ALTERNATIVE PROCEDURES TO ALLOW ME TO BECOME PREGNANT IF THEY EXIST. I UNDERSTAND THAT I MAY WITHDRAW MY CONSENT AT ANY TIME TO PARTICIPATE IN THIS PROGRAM, WITHOUT PREJUDICE.

I/We acknowledge that I/we have read and understood the information provided above regarding the Donor Egg IVF process and its risks, and agree to go forward with this treatment as my/our signatures below testify.

If any clause, sentence, provision, or other portion of this Agreement is, or becomes illegal, null, void or unenforceable for any reason, or is held by any court of competent jurisdiction to be so, the remaining portions shall remain in full force and effect.

NOTICE: BY SIGNING THIS CONTRACT, YOU ARE AGREEING TO HAVE ANY ISSUE OF MEDICAL MALPRACTICE OR LEGAL ISSUE RELATED TO THIS AGREEMENT DECIDED BY NEUTRAL ARBITRATION, AND YOU ARE GIVING UP YOUR RIGHT TO A JURY OR COURT TRIAL. SEE PAGE #16 OF THIS CONTRACT.

<table>
<thead>
<tr>
<th>Partner 1 (Print):</th>
<th>Sign:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: M / F (circle)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partner 2 (Print):</th>
<th>Sign:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: M / F (circle one)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Donor Egg Recipient Treatment Plan

My/Our selections below, along with our initials and signatures on this document indicate our desired plan for treatment as previously discussed with my/our physician.

Type of Cycle

I/We select the following: (Select only 1 choice)

Frozen Donor Egg Cycle: Desire and Consent to Thaw, Fertilize, and Transfer

- Frozen Donor Egg Cycle (with eggs from AFC Egg Bank) – 2 BLAST GUARANTEE if eligible*
  - *Eligibility Criteria:
    - Sperm must have normal parameters to be eligible (Total Motile Sperm > 10 million)
    - At least 12 eggs must be available for the selected donor or donors (may select up to 2 donors if 1st donor does not have 12 eggs available)
    - Preimplantation Genetic Testing of embryos is not an option

- Frozen Donor Egg Cycle (with eggs from AFC Egg Bank) – NO GUARANTEE
  - Includes base cohort of six (6) eggs that will be thawed.
  - Additional Eggs: If recipient desire more than six (6) eggs, additional eggs may be purchased (based on availability) and thawed at an additional cost.

Fresh Donor Egg Cycle:

- Dedicated: I/We, as the recipient (couple), understand that I/we will receive ALL the eggs obtained from the ovaries of an unknown donor for the purposes of initiating a pregnancy.

- Shared Cycle: I/We, as the recipient (couple), understand that I/we will receive ONE HALF of the mature eggs obtained, divided equally by quality and number, from the oocyte donor at the time of the oocyte retrieval. A shared donor oocyte in-vitro fertilization (“IVF”) cycle is one in which the eggs of an unknown donor are retrieved and then shared between you (“recipient”) and Advanced Fertility Care (“AFC”).

  At AFC, we require 12 mature eggs or more for a shared cycle. If 12 or more mature eggs are able to be retrieved from the donor, the eggs are evenly shared in both quality and quantity between the recipient and AFC. In the event of an odd number of mature eggs being retrieved, the extra egg is given to the recipient. The Recipient’s share of the eggs will be fertilized with the sperm designated by the Recipient for the purpose of initiating a pregnancy.

  If 11 mature eggs or less are retrieved, the recipient will then be entitled to the entire number of eggs. In this event, the cycle will revert back to that of a dedicated donor egg IVF cycle and AFC will not receive any of the eggs. In this circumstance, the cost of the cycle will increase to the full amount of a dedicated fresh donor egg IVF cycle and therefore, the shared donor contingency deposit initially paid will be applied to the cost of the cycle, and will NOT be refunded. If 12 or more mature eggs are retrieved, the contingency deposit will be refunded by check as defined in the separate financial agreement. In addition, for those initially choosing to undergo the AFC Shared Donor Cycle, the Money Back Guarantee option will not be available.

  AFC makes every effort in the donor’s screening to identify women we feel will produce enough eggs for a shared cycle. However, we must also be prepared in advance if a donor does not produce the required number of eggs to allow for a shared cycle.

  **AFC reserves the right to rescind the option for the “AFC Shared Cycle” at ANY time due to facility scheduling, personnel, or resource limitations. If this should be the case, Recipient will be responsible for the full cost of the dedicated donor egg IVF cycle.**
Provider of Eggs

I/We plan to use eggs from:

- Anonymous Egg Donor:
  
  - **AFC Frozen Donor Egg Cycle:**
    
    The 1st Choice Donor #_________ and 2nd Choice Donor #_________ has/have been screened and determined to be eligible as donor(s) by AFC. I/We have reviewed the Donors’ profile and accept her as my/our donor. Her identity will remain anonymous.

  - **AFC Fresh Donor Egg Cycle:** The chosen Donor #_________ has been screened and determined to be eligible as a donor by AFC. I/We have reviewed the Donor’s profile and accept her as my/our donor. Her identity will remain anonymous.

- Outside Donor Agency or Egg Bank
  
  Agency or Egg Bank Name: _______________________________________________

- Known Egg Donor: I/We only accept eggs donated by the woman listed below:
  
  Donor Name:________________________________________ Relationship: __________________________

  Agency or Egg Bank Name: ____________________________________________________________

Provider of Sperm

I/We plan to use sperm from:

- Spouse / partner (i.e. Intended Parent)
- Donor (specify name or number): _____________________________________________________
- Other (specify arrangement): _______________________________________________________

Carrier of Embryos

I/We plan to transfer the embryos into:

- Me, the intended parent
- A Gestational Carrier ----if known, her name: __________________________________________

Method of Insemination

I/We acknowledge that I/we have discussed the possibility of the need for ICSI with our (my) physician and understand, agree and consent that:

- **ICSI HAS BEEN RECOMMENDED** by my/our physician and therefore WILL BE PERFORMED.

- Conventional Insemination HAS BEEN RECOMMENDED by my/our physician and ICSI will not be performed, unless the semen at time of egg retrieval is sub-optimal based on the best medical judgment of the AFC/AARL staff, or the initial fertilization is poor. In these cases ICSI may be recommended, and if I/we agree to its use, this will incur additional fees. In addition, ICSI may also be recommended if there are 5 or fewer eggs that are retrieved. I/We understand that I/we will be notified if ICSI is recommended and will need to provide verbal consent at that time.

- **We DO NOT consent to ICSI under any circumstances.** If this has been recommended by my physician, I/we acknowledge that this choice may have a significant negative impact on the success of the cycle.
Limit on Number Inseminated

Regarding the number of eggs to expose to sperm, I/we choose:
- Inseminate ALL Mature Eggs
- Inseminate SOME Mature Eggs

Number or fraction of mature eggs to be exposed to sperm: _____% of eggs (or) _____ # of eggs

Plan for Eggs NOT Inseminated (if applicable)

☐ N/A: I/We wish all possible eggs be fertilized

Regarding the eggs not exposed to sperm for fertilization I/we choose:
- Freeze for my later use (requires Specimen Storage Agreement), and additional fees will apply
- Donate to:
  - Research
  - Another person or couple as designated in the Specimen Storage Agreement
- Discard. This disposal will follow ASRM Ethical Guidelines. These extra eggs will no longer be available for attempting a pregnancy.

Assisted Hatching of Embryos

I/We acknowledge that I/we have discussed the possibility of the need for Assisted Hatching of Embryos with our (my) physician and understand, agree and consent that:
- N/A: Assisted Hatching of Embryos HAS NOT BEEN RECOMMENDED by my/our physician and therefore WILL NOT be performed, unless circumstances change on or before day of transfer and it is recommended by the AFC/AARL team. I/We will be notified of such and will need to provide verbal consent at that time.
- Assisted Hatching of Embryos HAS BEEN RECOMMENDED by my/our physician and will be performed
- I/We DO NOT consent to Assisted Hatching under any circumstances. If this has been recommended by my physician, I/we acknowledge that this choice may have a negative impact on the success of the cycle.

Plan for Embryos NOT Transferred

Regarding the disposition of embryos not transferred, we (I) elect the following option:
- Freeze Excess Embryos (requires Specimen Storage Agreement) Additional fees will apply.
- Donate Excess Embryos to:
  - Research
  - Another person or couple as designated in the Specimen Storage Agreement. Additional consents and testing will need to be completed.
- Discard Excess Embryos. This disposal will follow ASRM Ethical Guidelines. These extra embryos will no longer be available for attempting a pregnancy.

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