

CONSENT FOR EGG FREEZING

INSTRUCTIONS:

This consent form provides a description of the treatment that you are undertaking.

- Read the consent completely. If you have any questions please speak with your doctor.
- Do not make any additions or deletions to the consent.
- Treatment **cannot** be started until all consents are signed.

INTRODUCTION

The goal of Egg Freezing is to preserve fertility as a preventative measure to avoid age-related infertility, infertility associated with chemotherapy or radiation treatment, or for ethical and religious concerns related to freezing embryos. Eggs that have been frozen can later be thawed, fertilized and the resulting embryos transferred into your uterine cavity to attempt pregnancy. So that you have a good understanding of the entire process you will be provided another consent to review entitled Consent Form For In Vitro Fertilization (IVF) Using Frozen Eggs. This consent will be signed if/when you make the decision to thaw your frozen eggs, but we encourage you to read it now to obtain an understanding of both the egg freezing and IVF processes.

Pre-treatment Recommendations

During treatment a patient should avoid any activity, behavior and medication that could reduce their chances of conceiving and having a healthy baby. The recommendations listed below are considered important for any patient attempting pregnancy or undergoing fertility treatment and should be followed.

1. A prenatal vitamin should be taken on a daily basis before the treatment is begun, optimally for at least one month prior to treatment. This reduces the chance that a baby will be born with a neural tube defect (e.g. spina bifida), which is a birth defect that affects the development of the spine.
2. Smoking must be avoided before and during treatment.
3. Recreational drugs are absolutely contraindicated.
4. Ingestion of aspirin or aspirin-like products (e.g. Motrin[®], Advil[®], Anaprox[®], Naprosyn[®], Aleve[®], etc.) should be avoided during treatment. However, in certain circumstances your doctor may prescribe low dose aspirin (baby aspirin, 81 mg). Tylenol[®] is safe to take during fertility treatment (and during pregnancy.)
5. The use of alcohol should be avoided during treatment.
6. The use of all prescription and over-the-counter medications (including herbal remedies) should be discussed with a physician before starting a treatment cycle. We do not recommend the use of any herbal remedies and/or medications that are not FDA-regulated.
7. Screening for sexually transmitted diseases such as HIV (human immunodeficiency virus), Hepatitis B, and Hepatitis C is required for all patients undergoing fertility treatment. HIV is the virus that causes acquired immunodeficiency syndrome (AIDS). A patient infected with HIV can pass the virus to their unborn child.

DESCRIPTION OF EGG FREEZING TREATMENT

Egg freezing involves several steps as outlined below. Patients are not guaranteed success at any or all of these steps. If optimal results are not achieved at any step, it may be recommended that the treatment be stopped and the cycle cancelled.

I. Ovulation Induction

The eggs are present in the ovaries within fluid-filled cysts called follicles. During a patient's menstrual cycle, usually one mature follicle develops, which results in the ovulation of a single egg. Several hormones including follicle stimulating hormone (FSH) and luteinizing hormone (LH) influence the growth of the ovarian follicle. These hormones are produced by the pituitary gland, which is located at the base of the brain. FSH is the main hormone that stimulates the growth of the follicle, which produces an estrogen hormone called *estradiol*. When the follicle is mature, a large amount of LH is released by the pituitary gland. This surge of LH helps to mature the egg and leads to ovulation 36-40 hours after its initiation.

Medications are administered to increase the number of follicles that develop, which will increase the number of eggs that are obtained at the egg retrieval. The 'main' medications that are used to cause many follicles to develop at the gonadotropin medications which virtually all patients receive. In addition to the gonadotropins you will receive another medication to prevent ovulation: a GnRH agonist or antagonist.

1. *Gonadotropins* - these are injectable medications commonly prescribed to stimulate the ovaries of patients undergoing IVF treatment. Two types of gonadotropins can be prescribed and are discussed below and one or more of them may be prescribed.
 - FSH (Gonal-F[®], Follistim[®]) - These medications contain only FSH and are administered on a daily basis by injection.
 - Low Dose HCG – This medication contains the pregnancy hormone, hCG, which functions similarly to LH and is administered on a daily basis by injection. It is used in combination with FSH containing medications.
 - Human Menopausal Gonadotropins (Menopur[®]) - These medications contain equal amounts of FSH and LH, and are administered on a daily basis by injection.
2. *GnRH Agonist (Lupron[®])* – This medication is taken by daily injection. The primary role of this medication is to prevent a premature release of LH from the pituitary gland (the 'LH surge'), which normally causes the release of eggs (ovulation), Premature ovulation would result in no eggs available to be retrieved and must be prevented by administration of a GnRH agonist or antagonist (see below) medication. GnRH agonist such as Lupron need to be taken for several days before they have their effect to prevent ovulation. Though leuprolide acetate is an FDA (Federal 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, reactions at the injection site, fluid retention, muscle aches, headaches, and depression. No long term or serious side effects are known. Since GnRH agonists are often times administered after ovulation in the menstrual prior to beginning treatment, it is possible that they could be taken early in pregnancy. The safest course of action is to use a barrier method of contraception (condoms) during the month that you will be starting the GnRH-a. Sometimes the oral contraceptive pill is used just before the GnRH agonist is started. GnRH agonists have not been associated with any fetal malformations however you should discontinue use of this medication if an inadvertent pregnancy is confirmed.
3. *GnRH Antagonist (Cetrotide[®], Ganirelix[®])* - GnRH antagonists are medications that reversibly bind to GnRH receptors in the pituitary gland and prevent release of FSH and LH. They perform the same role as GnRH agonists do to prevent ovulation, but they are typically started on different days and administered for a shorter time since (unlike GnRH agonists) they instantly prevent

ovulation when they are started. GnRH antagonists are administered in combination with gonadotropins. The major benefit of a GnRH antagonist is that it suppresses a LH surge thereby preventing ovulation.

4. *Clomiphene Citrate (Clomid®)*, *Serophene®*) and *letrozole (Famara®)* - Rarely these medications are used in combination with or in lieu of gonadotropin medications to stimulate egg development. These medications are synthetic hormones that are taken orally for a period of five days and cause the release of FSH and LH, which stimulate the development of follicles.
5. *Human Chorionic Gonadotropin [hCG] (Ovidrel®, Profasi®, Pregnyl®, Novarel®)* - This medication contains the pregnancy hormone, hCG, which functions similarly to LH. It is administered by injection 36 hours before the egg retrieval to cause the eggs to be come mature which will allow them to become fertilized. hCG also looses the microscopic egg from the wall of the follicle so it can be more easily be removed at the egg retrieval.
6. *Oral contraceptive pills-* Many 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 stroke.

Note: Many of the medications that are used are administered by an injection. The patient or another person can be instructed to give these injections.

Risks

As with all injectable medications, bruising, redness, swelling, or discomfort can occur at the injection site. Rarely, there can be an allergic reaction to these drugs. The use of the above listed medications can cause side effects such as nausea, vomiting, hot flashes, headaches, mood swings, visual symptoms, memory difficulties, joint problems, weight gain and weight loss, all of which are temporary. The intent of giving these medications is to mature multiple follicles, and many patients experience some bloating and minor discomfort as the follicles grow and the ovaries become temporarily enlarged.. Other possible side effects include the following:

- *Ovarian Hyperstimulation* - After the egg retrieval is performed, the ovarian follicles, which have been aspirated, can fill up with fluid and form cysts. The formation of cysts will result in ovarian enlargement and can lead to lower abdominal discomfort, bloating and distention. These symptoms generally occur within two weeks after the egg retrieval. The symptoms usually resolve within 1-2 weeks without intervention. If ovarian hyperstimulation occurs, your physician may recommend a period of reduced activity and bed rest. Pregnancy can worsen the symptoms of ovarian hyperstimulation. Severe ovarian hyperstimulation is characterized by the development of large ovarian cysts and fluid in the abdomen and sometimes, the chest. Symptoms of severe ovarian hyperstimulation include abdominal distention and bloating along with weight gain, shortness of breath, nausea, vomiting and decreased urine output. Approximately 2% of patients will develop severe ovarian hyperstimulation and may need to be admitted to the hospital for observation and treatment. To help alleviate the symptoms of severe ovarian hyperstimulation an ultrasound-guided paracentesis can be performed which results in the removal of fluid from of the abdominal cavity. Rare, but serious consequences of severe ovarian hyperstimulation include formation of blood clots that can lead to a stroke, kidney damage and possibly death. Every patient who takes these medications can develop ovarian hyperstimulation

- *Ovarian Torsion (Twisting)* - In less than 1% of cases, a fluid filled cyst(s) in the ovary can cause the ovary to twist on itself. This can decrease the blood supply to the ovary and result in significant lower abdominal pain. Surgery may be required to untwist or possibly remove the ovary.
- *Ovarian Cancer*- Some research suggested that the risk of ovarian tumors may increase in patients who take any fertility drugs over a long period of time. These studies had significant flaws which limited the strength of the conclusions. Some more recent studies have not confirmed this risk.
- *Breast and Uterine Cancer*: More research is required to examine what the long-term impact of fertility drugs on the development of breast and ovarian cancer. For uterine cancer, the numbers are too small to achieve statistical significance, but it is at least possible that use of fertility drugs may indeed cause some increased risk of uterine cancer.

II. Monitoring

During treatment, monitoring the response of the ovaries is performed with periodic blood hormone tests and/or vaginal ultrasound exams. Monitoring helps the physician to determine the appropriate dose of the medications and the timing of the egg retrieval. Vaginal ultrasound examinations are usually painless and considered to be safe. However, the theoretical possibility of harm can never be excluded. Blood drawing may be associated with mild discomfort and, possibly, bruising, bleeding, infection or scar at the needle sites. The need for repeated ultrasound examinations and/or blood drawing on a frequent basis requires the patient's presence in the vicinity of a Boston IVF monitoring site.

III. Egg Retrieval

Egg 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 themselves) and granulosa (egg-supporting) cells. Rarely, the ovaries are not accessible by the transvaginal route and laparoscopy or transabdominal retrieval is necessary. These procedures and risks will be discussed with you by your doctor if applicable. Anesthesia is generally used to reduce if not eliminate discomfort. Risks of egg retrieval include:

Infection: Bacteria normally present in the vagina may be inadvertently transferred into the abdominal cavity by the needle used to retrieve the eggs. These bacteria may cause an infection of the uterus, fallopian tubes, ovaries or other intra-abdominal organs. The estimated incidence of infection after egg retrieval is less than 0.5%. Treatment of infections could require the use of oral or intravenous antibiotics. Severe infections occasionally require surgery to remove infected tissue. Infections can have a negative impact on future fertility. Prophylactic antibiotics are sometimes used before the egg retrieval procedure to reduce the risk of pelvic or abdominal infection in patients at higher risk of this complication. Despite the use of antibiotics, there is no way to eliminate this risk completely.

Bleeding: The needle passes through the vaginal wall and into the ovary to obtain the eggs. Both of these structures contain blood vessels. In addition, there are other blood vessels nearby. Small amounts of blood loss are common during egg retrievals. The incidence of major bleeding problems has been estimated to be less than 0.1%. Major bleeding will frequently require surgical repair and possibly loss of the ovary. The need for blood transfusion is rare. (Although very rare, review of the world experience with IVF indicates that unrecognized bleeding has lead to death.)

Trauma: Despite the use of ultrasound guidance, it is possible to damage other intra-abdominal organs during the egg retrieval. Previous reports in the medical literature have noted damage to the bowel,

appendix, bladder, ureters, and ovary. Damage to internal organs may result in the need for additional treatment such as surgery for repair or removal of the damaged organ. However, the risk of such trauma is low.

Failure: It is possible that the aspiration will fail to obtain any eggs or the eggs may be abnormal or of poor quality and otherwise fail to produce a viable pregnancy.

Anesthesia - Usually medications administered by an anesthesiologist are required for the egg retrieval surgery. You will have a consultation with the anesthesiologist before the procedure to review the risks and benefits of the anesthesia. In some cases, the use of anesthesia on a specific patient may be associated with an increased risk. In such cases the physician may offer local anesthesia without the assistance of an anesthesiologist. It is mandatory that you do not drink or eat anything after midnight prior to day of the egg retrieval. After the procedure is completed, you will be discharged home in about an hour. Following any anesthetic you must be accompanied home by a responsible adult. You are responsible for bringing a responsible adult with you on the day of the egg retrieval. Following the egg retrieval, vaginal spotting and lower abdominal cramping are normal.

During the remainder of the day following the surgery, activities should be limited. If significant bleeding, vomiting, abdominal pain or any other symptoms develop, you should contact your physician. If you should have any difficulty in contacting your physician you should proceed to the emergency department of the nearest hospital.

IV. Freezing (Cryopreservation) of Eggs

There are two main laboratory methods to freeze human eggs: (1) Slow freezing which involves gradual freezing in a programmable freezer, and (2) Fast freezing (also called vitrification) in which the eggs are frozen very rapidly. Both these methods use chemicals to protect the cells from damage from water crystallization during the freezing and thawing process. While the optimal method to freeze eggs may be unknown and Boston IVF may use either technique, vitrification is currently the primary method .

There are many complex and sometimes unknown factors, which may prevent egg freezing and the establishment of pregnancy using frozen eggs. Known factors include, but are not limited to, the following:

1. The ovaries may not respond adequately to the medications.
2. Technical problems including inadequate visualization or the position of the ovaries may prevent the retrieval of the eggs.
3. There may be failure to recover an egg because ovulation has occurred prior to the time of the egg retrieval.
4. Eggs may not be recovered.
5. The eggs may not be normal.

When the eggs are chosen to be thawed:

1. The eggs may not survive the thawing process.
2. Fertilization may not occur.
3. Cell division of the embryos may not occur.
4. The embryos may not develop normally.
5. Embryo transfer into the uterus may be technically difficult or impossible.
6. If the transfer is performed, implantation may not result.
7. If implantation occurs, the embryo(s) may not grow or develop normally
8. Equipment failure, infection, technical problems, human error and/or unforeseen factors may result in loss or damage to the frozen eggs.

Egg Storage:

Eggs will be stored at Boston IVF, or may be transferred to the storage facility of your choice until you decide to thaw them for an in vitro fertilization (IVF) procedure. There are costs associated with egg freezing, storage and transportation. You have discussed these costs with a Boston IVF financial counselor.

Egg Disposition:

If at any time you choose not to use your frozen eggs, then you may request, that Boston IVF dispose of your frozen eggs. You may decide to donate your eggs to research. In the case of egg donation to research, no eggs will be fertilized, and all will ultimately be destroyed. In addition, you agree to adhere to any current or future National Institutes of Health guidelines regarding oocyte research. In either case, you must sign a new informed consent document informing Boston IVF of your decision.

By initialing below, I am acknowledging understanding that in the event of my death, my eggs will be disposed of, unless otherwise directed by law, a court order or as designated in my will. If a surviving partner, friend/s or family member/s wish to conceive using my eggs after my death, a legal document and/or court order will be required. Designated executors should be aware of your wishes.

INITIALS

I understand and agree that Boston IVF cannot be held responsible for any changes in the political climate that restricts or prohibits future use or disposition options. Reproductive laws vary state-by-state and may require individual consideration based on which states are involved in treatment, transport, and/or disposition.

Donating Discarded Eggs: In the course of your treatment some or all of your eggs may be discarded and not used for your treatment. The purpose of this consent is to inform you of the option to donate the discarded eggs to scientific research. Scientific research studies involving discarded eggs are aimed at gaining a better understanding of infertility and seek to improve techniques used in the treatment of infertility. If discarded eggs are used as part of a human research project it would only be done in compliance with an Institutional Review Board (IRB) approved protocol. No discarded materials would be used to establish a pregnancy. Donation of discarded materials is voluntary, and your decision will not affect your clinical care. You may change your mind at any time without penalty or loss of benefits to which you are otherwise entitled. By signing below, you are agreeing to donate or not to donate your discarded eggs to research:

Choose one of the options below regarding your discarded eggs

I DO / DO NOT agree to donate eggs that will be discarded.

Potential Risks

Initially egg freezing was viewed by the American Society for Reproductive Medicine (ASRM) as experimental but in October 2012 the Practice Committee of the ASRM reviewed the available published data and concluded that this technique should no longer be considered experimental (Fertil Steril, 2012). They also reported that there are no increases in chromosomal abnormalities, birth defects, or developmental deficits in the children born from cryopreserved oocytes (eggs). However, egg freezing is a new technology and there could be unforeseen risks realized in the future.

For additional information regarding the potential risks associated with the use of frozen eggs for a future pregnancy please refer to [Consent Form for In Vitro Fertilization Using Frozen Eggs](#).

A technique to assist the fertilization of frozen/thawed eggs called Intra-Cytoplasmic Sperm Injection (ICSI) is required. There is always the possibility that eggs will not survive thawing or will not fertilize, and, as a result, no viable embryos will be available for embryo transfer. Therefore, Boston IVF cannot guarantee the successful live birth of a baby from frozen eggs.

I understand that to date, there are no known effects from long-term storage of cryopreserved (frozen) eggs. Although there are theoretical risks of congenital malformations, I/we understand that the best available research suggests that the rate of birth defects in children born following the cryopreservation of eggs is the same as the rate observed in an age-matched group of pregnant women who conceived without assisted reproduction.

As with any technique requiring sophisticated equipment, technical problems and equipment failure may occur. Boston IVF, its directors and employees shall not be held liable for any damage, loss or problems due to improper freezing, maintenance, storage, withdrawal, thawing and/or delivery caused by human error, malfunction of the storage tank, failure of utilities, strike by workers, cessation of services or other labor disturbances, any war, acts of public enemy or other disturbances such as fire, wind, earthquake, flooding or other acts of God. Boston IVF provides no insurance coverage, compensation plan or free medical care to compensate a patient if their eggs are harmed in any way by the cryopreservation process.

Potential Benefits

Egg freezing may benefit you personally if you are able to prolong your child-bearing years by successfully freezing your eggs. However, no guarantees can be made that your eggs will successfully survive the freezing and thawing process, or the fertilization process. There are also no guarantees that you will achieve a successful pregnancy. The process of freezing or storing eggs instead of embryos (fertilized eggs) addresses the ethical issues that some may individuals may have with freezing and thawing embryos.

Requests for Pregnancy Follow-up Data

It is important for Boston IVF to have follow up on pregnancies that result from frozen eggs. Please be aware that by signing this consent I agree to notify Boston IVF regarding any pregnancy resulting from these frozen eggs. In addition I agree that Boston IVF may contact me regarding any pregnancy resulting from these eggs. Such information may include delivery of baby or babies, baby weight, gender, complications of pregnancy and any birth defects.

Financial Responsibility

I understand that I will be required to pay a fee for freezing and storage of the frozen eggs. I understand that if the frozen eggs are thawed, fertilized and transferred into my uterus there will be additional costs. I understand that there is an annual fee for continued storage of my frozen eggs and is subject to change. This fee is non-refundable and may not covered by health insurance. I am aware that storage fees are separate from any fees incurred related to other treatments through Boston IVF and any future disposition or transport fees.

If I/we decide to move or discard my/our eggs, I/we understand fees will continue until the eggs are no longer in storage at Boston IVF.

If there is failure to make payments of egg storage fees for one year, after reasonable notification of such non-payment mailed to our last known address as provided to Boston IVF by me, I understand that Boston IVF reserves the right to thaw and discard the eggs without further notice to me.

I understand that it is my responsibility to notify Boston IVF in writing of any changes in my contact information including my address, telephone number, and email.

If Boston IVF ceases to exist, we will be sent written notice by U.S. mail so that we can make arrangements to have our eggs discarded or transferred to another facility for continued storage. If upon receipt of such notice, I fail to make appropriate, timely arrangements for the discarding or transfer of my eggs (i.e., within six months of receipt of such notice), I understand that Boston IVF reserves the right to remove the eggs from storage and discard them and may do so without further notification.

Boston IVF is not aware of any insurance coverage for fertility preservation and does not provide any comprehensive insurance advice. There may be some cases and plans which cover certain parts of the procedure (for example, the fertility drugs), but you must research your own insurance coverage and you are responsible for all costs related to the procedure.

The foregoing general information is based upon the experience and knowledge of the Boston IVF physicians. It is based, in part, upon a review of the literature pertaining to Reproductive Medicine. This information is generally accurate and comprehensive; however, medicine is a dynamic discipline and reproductive medicine in particular is constantly evolving. Estimates of risks factors and the relative benefits of alternative treatment that have been discussed with you represent the best professional judgment of the physicians and caregivers of Boston IVF taking into account your specific needs and circumstances.

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ACKNOWLEDGEMENT OF INFORMED CONSENT AND AUTHORIZATION

I acknowledge that I have read and fully understand this written material, and all of my questions concerning the procedure have been fully answered to my satisfaction.

I am aware that there are other laboratories that offer egg freezing and storage and I have freely chosen to have the service performed at Boston IVF.

I accept the responsibilities, conditions and risks involved as set out in this document and as explained to me by the staff of Boston IVF.

I have had read the consent entitled "Consent to Freeze Eggs". I understand that before the frozen eggs can be thawed and used for in vitro fertilization (IVF) a separate IVF Consent needs to be signed and notarized no more than 1 year before the egg retrieval procedure.

I acknowledge that it is my responsibility to notify Boston IVF in writing if I become aware of any information that Boston IVF should have in order to discharge its obligations under this agreement.

If I am married or in a common law arrangement, I agree to notify BIVF immediately in writing of any change in my marital status including separation or divorce.

I understand that the contact information that I have provided below is the sole information that will be used to locate me if I lose contact with Boston IVF. I acknowledge that it is my responsibility to notify Boston IVF in writing if I move or otherwise change my address.

I understand that my frozen eggs will be considered to be abandoned if more than one year has passed since I have been in contact with Boston IVF in writing and, despite diligent efforts, Boston IVF is unable to contact me at my last known address. If the frozen eggs are considered to be abandoned, then Boston IVF reserves the right to remove the frozen eggs from storage and discard them.

I acknowledge that I, the undersigned, am voluntarily freezing eggs at Boston IVF and alternatives to egg freezing have been explained to me. By signing this document I acknowledge that Boston IVF has obtained from me informed consent to freeze my eggs.

Patient Name (print) **Patient Signature** **Today's Date (MM/DD/YYYY)**

PATIENT- TYPE OF PICTURE IDENTIFICATION: Driver's License Passport Other:

ID NUMBER: _____ State/Country: _____ Expiration Date: _____
(MM/DD/YYYY)

Physician Attestation

The above mentioned patient and partner (if applicable) have been informed and counseled by me and other team members regarding the risks and benefits of the relevant treatment options, including non-treatment. The patient and partner (if applicable) expressed understanding of the information presented during the discussion.

Physician Name (print) **Physician signature** **Today's Date**