HOLY FAMILY

NURSING HOME & MATERNITY HOSPITAL

Formerly Known as PARMAR HOSPITAL (Estd. 1977)

PARIVAAR IVF CENTRE

www.parivaarivf.com HELPLINE NO : 98140-22276,0181-2231740

ParivaarIVF

A Complete Guide For Your IVF Treatment

Parivaar IVF

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Parivaar IVF

Welcome to Parivaar IVF Centre

Thank you for entrusting your care to the Parivaar IVF. We are totally committed to helping you have the baby you want.

Since its founding in 2004, the **Parivaar IVF** centre has been dedicated to providing superb medical care in a compassionate, patient friendly atmosphere. Known around the world as a leader in cutting edge infertility, it offers you an unparalleled array of medical experts and resources.

As medical director, it is my personal and professional mission to ensure that you receive the benefit of our extraordinary services in a warm, supportive environment that accommodates your individual needs.

We have created this website to help you navigate your IVF treatment easily. We hope you will find it helpful in anticipating your needs and answering questions. Our philosophy of care emphasizes patient education as well as interaction between patients and medical practitioners. Please feel free to bring us any questions, concerns or feedback you have at any time during your treatment. We are here to help you.

Sincerely,

Physician and Staff Profiles

At Parivaar IVF centre, we have created a team of highly trained specialists to ensure that you are given the best chance to achieve your goal of having child. Your physician has been paired with a primary care nurse who will work closely with you and your spouse or partner. During your cycle, your progress will be monitored on a regular basis. Because our doctors rotate performing monitoring functions as well as retrievals and transfers, it is possible that a physician other than your primary physician may perform one of your procedures

We provide the opportunity for you to meet all of the physicians during your IVF cycle so that you will feel comfortable with any of the physicians any time. When you check in at the front desk for morning monitoring, you will notice that there is an assigned doctor of the day. If you haven't met that day's doctor, please mention this to one of PARIVAAR IVF staff and we will be sure you have the opportunity to meet the physician, sit down, ask questions and become acquainted.

DR. (MRS.) SURJEET KAUR (FOUNDER & DIRECTOR)

Dr. Surjeet Kaur (M.S) Director of Parivaar test tube baby centre. Dr. Surjeet Kaur did her MBBS & M.S from RNT Medical College Udaipur, Rajasthan. She worked in Sewak Ram Hospital for 4 years. In 1981 she laid the foundation of Parmar Hospital in Rainak bazaar. In 1994 the hospital shifted to Saheed Udham Singh Nagar and the name was changed to Holy Family Nursing & Maternity Home. IVF Wing formerly known as Parivaar Test tube baby centre started in 2004. In addition to her extensive experience in clinical practice. She was secretary of FOGSI Jalandhar for 11 Years. Now she is financial secretary of FOGSI Jalandhar. She is a life member of NARCHI. She is also life member of International menopausal society. She organized colposcopy camp in her hospital and arranged free infertility camp in rural area of Jalandhar for awareness.

CONSULTING & VISITING EMBRYOLOGIST

Charudutt Joshi M.SC (Life science) Cart (Belgium) He is secretary 'ACE' Association of clinical Embryologist. He is member of European Society of Human Reproduction Alpha Scientist in reproduction medicine. India Society for assisted Reproduction Indian Fertility Society. Executive Member MP chapter ISAR. He is graduate in Life sciences with specialization in Embryology (1993). Life member of ISAR Since year 2000. He attended various national and international conferences in India and abroad. Delivered lectures in field of embryology. Working as consultant embryologist to various ART centers in India and SAARC Countries.

EMBRYOLOGIST

Dr. Meenu Bhanot did her B.A.M.S from GNDU. She did her Msc (Biotechnology) 2006-2008. She did her training at Panaccea Biotech (3 months). Dr. Kennath Gillman Fertility centre, Human reproduction centre, Calcutta (3 Wks training), Intermedics, Mumbai 10 days hands on ICSI training.

COUNSELLOR

Counsellors are an important adjunct to any infertility clinic. A person who has a good knowledge of the various causes of infertility, its social and gender implications and the possibilities offered by the various treatments modalities, should be considered as qualified to occupy this position. The person should have a working knowledge of the psychological stress that would be experienced by potential patients and should be able to counsel them to assuage their fears and anxiety. We have with us Dr. Meena Saini BAMS who is giving her services to the centre since 2004. She comforts and give nice atmosphere to the patient to discuss their problems.

What is an IVF Cycle?

Simply put, an IVF cycle is an exaggeration of the first half of your regular menstrual cycle, the follicular phase. The same things that occur during a normal menstrual cycle also occur in an IVF cycle, and in the same order; however to an exaggerated degree. Instead of one follicle producing one egg, the goal is to stimulate multiple follicles in both ovaries, thereby producing multiple eggs.

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The big difference between IVF and a regular menstrual cycle is that ovulation does not take place in an IVF cycle; instead, the eggs are retrieved at the point of maturation, and are fertilized in the IVF lab.

Once the embryos are transferred back into the uterus, the cycle resumes. The body cannot tell the difference between embryos fertilized in the body or in the IVF laboratory.

A more detailed explanation is spelled out on the following pages. To understand IVF, it is first helpful to review the normal 28-day menstrual cycle.

Menstrual Cycle Review

FOLLICULAR PHASE: DAYS 1-14 OF THE CYCLE

Baseline: What we call the condition at the beginning of your period.

- Hormones (estrogen, progesterone and LH) are all at the lowest they will at any point during the cycle. (Estrogen is < 75, Progesterone < 2.0, LH < 10)
- Uterine lining is sloughing off so it can start fresh. At this point the lining measures < 6-7mm.
- Ovaries do not have any significant follicle measuring over 12mm
- As ovulation approaches, estrogen level increases and uterine lining thickens.
- One of the ovaries produces a dominant follicle, the fluid-filled sac that contains an egg. As the follicle grows from less than 10mm to about 20mm, the egg inside is maturing, getting ready for ovulation.

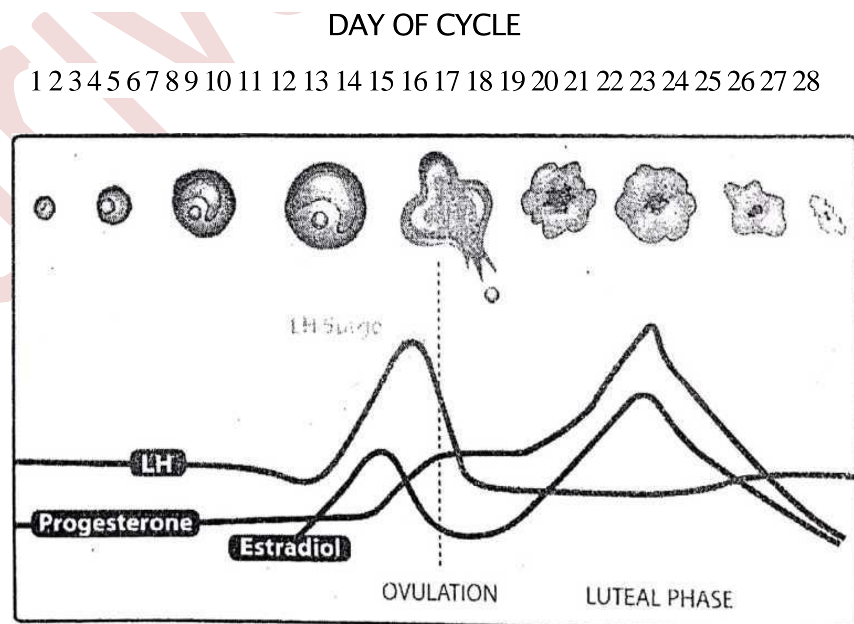
OVULATION OCCURS WHEN

- The follicle reaches maturity, approximately 20mm in size.
- The LH level rises dramatically and briefly.
- Estrogen levels taper off
- The egg inside the follicle matures and loosens from the follicle wall. The follicle itself bursts and the egg is expelled, floating down the fallopian tube, where it will survive approximately 24 hours.

NOTE THE DIAGRAM TO THE RIGHT: Ovulation is the midpoint of the cycle, dividing the cycle into two halves:

THE FIRST HALF {the follicular phase) is what happens from the onset of the period up/ until the moment ovulation occurs.

THE SECOND HALF of the cycle (the luteal phase) includes what hap pens after ovulation until pregnancy is established or another period begins.



LUTEAL PHASE: DAYS 15-28 OF THE CYCLE

- The egg leaves the ovary and travels down the fallopian tube,
- The estrogen level dips down and the progesterone hormone begins to rise.
- Progesterone is vital to the uterus; specifically the lining of the uterus called the "endometrium" This lining has been growing thicker with the help of estrogen; however, the addition of progesterone is required to produce the right chemical combination for implantation and growth of an embryo. .
- The endometrial lining must provide a hospitable environment for an embryo to nestle in and begin to grow. Estrogen and progesterone are the hormones that make this possible. In very simple terms, estrogen makes the endometrial lining "fluffy''; progesterone makes it "sticky."

PREGNANCY

- If the egg meets sperm on the way down the fallopian tube and is successfully fertilized, the newly created embryo will reach the endometrium a few days later andb egin to implant.
- The corpus luteum (what had been the follicle containing the egg and is now a cyst) continues the production of progesterone to keep the endometrium thick and healthy.
- The newly implanted embryo will begin to produce another hormone, beta hCG (human chorionic gonadotropin).This is the hormone of pregnancy.
- The raised progesterone level and presence of hCG will keep the lining from sloughing off, thereby delaying the onset of another period.

If no fertilization or implantation occurs, the body will stop production of progesterone. The rapid decrease in progesterone levels is what causes another period to begin. The cycle starts all over again with the onset of the period.

Keeping the model of the normal menstrual cycle in mind, we can now begin to understand how an IVF cycle works.

IVF Cycle

SUPPRESSION

The first few days of a menstrual cycle is considered "baseline." Rather than waiting for the onset of your next period and starting then, the baseline state is often induced by a combination of drugs such as birth control pills and/or Lupron. This produces a more predictable response and enables us to manipulate hormone levels more effectively. Everyone who undergoes IVF will take at least one of the suppression drugs (Lupron, microdose Lupron, Synarel, Antagon or Cetrotide). Suppression drugs not only help bring about the beginning, or baseline stage, they also prevent you from ovulating on your own once the stimulation phase begins. In an IVF cycle, it is important that you do not ovulate for two reasons: First, if the eggs leave the ovary, the doctor will not be able to retrieve them. Second, if you do ovulate, there will likely be multiple eggs exposed to sperm in the fallopian tube, therefore putting you at risk for a high-order multiple-gestation if you have sexual intercourse.

BASELINE

It is very important to have a proper baseline. The parameters for a proper baseline evaluation are as follows:

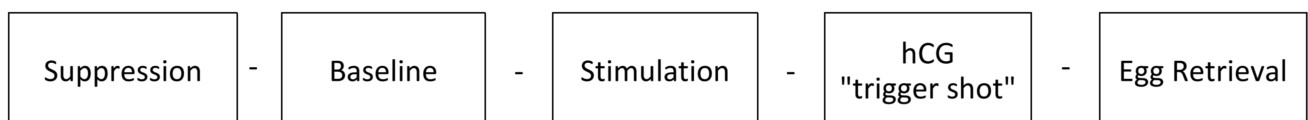
- Neither ovary has any large, cysts.
- Hormone levels of estrogen (e2), progesterone, LH are all, low.
- Uterine lining is thin, all sloughed off and ready to begin anew.

Your own menstrual cycle has to be 'suppressed' in order to bring about a baseline.
Baseline is the starting point of an IVF cycle.
Your first day of morning monitoring is your 'baseline' assessment.
If all baseline parameters are met, the doctor will order the cycle to begin, and your nurse will call you with instructions.

If there is a cyst on the ovary, elevated hormone levels or a thickened endometrium, IVF treatment may be less successful and therefore should not begin. For this reason, one of the first types of medication you will take is a suppression drug, which acts to induce a period and keep your cycle from progressing towards ovulation. You may experience menopausal-like symptoms on the suppression drugs, such as headaches or hot flashes. This is due to the estrogen levels being suppressed by the medication. To maximize the chances of a proper baseline starting point, patients are often asked to take birth control pills in the preceding menstrual cycle and may overlap the birth control pill and a suppression medication.

Pari

IVF is a step-by-step process. One step cannot begin until the previous step is complete



PROGRESSING TOWARD EGG RETRIEVAL

To encourage growth of multiple follicles on both ovaries, injectable gonadotropin medications are used to stimulate the ovaries to produce more follicles than would be produced in a normal menstrual cycle. Gonadotropins, often referred to as "FSH" or "stimulation drugs," are given to help ovaries to develop multiple follicles over 7-14 days.

During this time, our team of doctors, nurses and sonographers will monitor your response to these medications by using ultrasound pictures and hormone testing.

The doctors evaluate the size and quantity of the follicles on your ovaries as well as your estrogen level to determine the most appropriate dose of medications. During IVF treatment, a typical estrogen level will be less than 50 at the time of baseline evaluation and may get as high as 2,000 - 4,000. (In a normal menstrual cycle the estrogen level starts out less than 50 and peaks at about 250-350.)

Gonadotropins are drugs that stimulate multiple ovarian follicles to grow; thereby increasing egg production. These drugs are also called 'stimulation' drugs and include Gonal-F, Repronex, Menopur, Follistim, Bravelle and others.

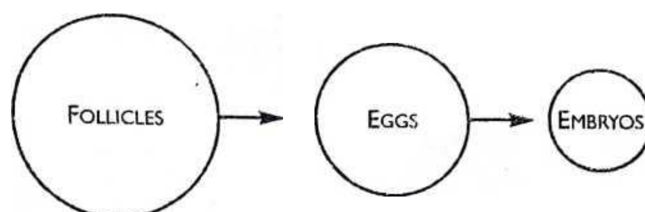
Once most of the follicles are in the mature range (16-22mm) your doctor will decide when to discontinue stimulation drugs and plan the egg retrieval. For a normal menstrual cycle, the first half of the cycle ends with ovulation. In an IVF cycle, it ends with an egg retrieval.

The medication used to simulate an LH surge is hCG. You may recall that this is the hormone of pregnancy. The hCG will cause the final maturation of the eggs and loosen them from the inside of the follicle wails, much the same way as an LH surge functions in a natural menstrual cycle, it will also cause you to ovulate in 36 hours. For this reason, we prescribe a precise time for you to take the hCG and we schedule your egg retrieval 35 hours later. This gives you the maximum benefit of the hCG while stopping just prior to ovulation.

EGG RETRIEVAL

It may be helpful to think of egg retrieval as assisted ovulation. During the egg retrieval you are sedated and sleeping comfortably while the doctor withdraws the fluid contents of each follicle, using an ultrasound-guided needle. The fluid is passed in a syringe to the embryologist, who then examines liquid to see if an egg is present By the time you leave the clinic that day, you will know how many eggs were retrieved. The next day you will know how many of the eggs fertilized into embryos. In the days that follow we will monitor those embryos to see if they continue to divide and grow.

It is important to remember that a follicle is not the same as an egg. When you are monitored during your IVF cycle, we use ultrasound technology to measure and count how many follicles are in the ovary; however, we cannot see the eggs inside. Although we hope that each follicle contains on egg, we know that this is not the case. Not every follicle has an egg; not every egg is alive, not every live egg is mature, not every mature egg fertilizes and not every fertilized egg (embryo) continues to cleave until the day of embryo transfer.



EMBRYO TRANSFER

Typically, three to five days after egg retrieval, embryos are put back into the uterus in a procedure called embryo transfer. This procedure feels similar to a PAP smear exam. It is not painful; therefore, patients usually are not sedated. The final decision regarding how many embryos to transfer and what to do with the remaining embryos is made on the day of transfer. The decision is made collaboratively among you, your partner, the doctor and the embryologist.

DAY 3 TRANSFER VS DAY 5 (BLASTOCYST) TRANSFER

In many IVF cycles, the doctor may recommend a day 5 or "blastocyst" transfer. If the embryo(s) survives in the IVF lab for five days after the egg retrieval, it is likely that it will have reached the blastocyst stage. At this stage we are able to transfer just two embryos to achieve the same pregnancy rate as transferring three embryos on day 3. This all but eliminates the instances of triplets. Twin pregnancies, however, are more likely with a blastocyst transfer. Also, some data suggest that pregnancy rates are slightly higher with blastocyst transfers.

The drawback to having a transfer on day 5 is that not all embryos survive that long. The possibility of having nothing to transfer is much greater when planning a day 5 transfer. The embryos that do not survive to day 5 in the lab probably would not have created a pregnancy had they been transferred on day 3, but there is no way to know this for certain. Although the decision about how to proceed cannot be finalized until we know how many embryos we have to work with, the discussion about your preferences and the doctor's recommendation in your specific case should be made well in advance. Our general guideline for deciding day 3 vs. day 5 is that you should have at least 5 or 6 embryos on the day after egg retrieval to consider a day 5 transfer. You may decide to draw the line higher or lower than this. This is a discussion that should take place well before the egg retrieval, so that you have time to thoroughly weigh the pros and cons, discuss it with your partner and your doctor, and even do research on your own if you like.

PREGNANCY

Fourteen days after egg retrieval, a blood test is performed to determine if a pregnancy resulted from this process. If the test is positive, we will monitor the level over the following days/weeks to confirm things are progressing as they should. If the pregnancy test is positive, you may have your blood tested one, two, three or more times. Most women are not symptomatic of pregnancy this early, so don't be alarmed if you don't feel pregnant, even if you've been pregnant before. Spotting (sometimes even heavy bleeding) can occur even if you are pregnant.

Please remember that the progesterone medication you are taking is vital to the pregnancy and should not be stopped or interrupted unless you are specifically told to do so by a doctor a nurse.

Do's and Don'ts for IVF

It is important that you refill this medication before you run out of it, because it can't always be found at a corner drugstore and you may need a day or two to order it from a specialty pharmacy. Refills are available directly from the pharmacy. The doctor will advise you to stay on the progesterone supplementation until either a negative blood pregnancy test or until your tenth week of pregnancy (eight weeks after your egg retrieval). By your tenth week, the placenta will have taken over production of progesterone and will not need any assistance. Once you have reached 10 weeks gestation, it is fine to stop 'cold turkey'. There is no need to taper off.

Until or unless we know otherwise, assume you are pregnant from the time of embryo transfer. Here are a few do's and don'ts:

Over the counter medications that are generally considered safe to take in pregnancy: Tylenol, Benadryl, Tunis, Plain Sudafed, Peri Colace, Colace, Robitussin(plain), Baby Aspirin, Preparation-H

There is no magic formula for success. It is fine to go about your activites of daily life, including having sex, going to work, doing chores, running errands, travelling, holding or lifting a small child etc.

DO:

Avoid alcohol and drugs.

Eat a balanced diet.

Rest often and well.

Exercise in moderation.

Stay hydrated.

Keep taking your medications, including the progesterone and the prenatal vitamin. If your doctor prescribed low-dose aspirin, please continue to take it. Your Ob-Gyn will advise you to discontinue this at about 36 weeks gestation.

Call us if you have any questions, problems or concerns.

DON'T:

Start or stop your medication without specifically being advised to do so.

Take herbal supplements without the direction of your PARIVAAR IVF physician.

Let yourself run out of medication Refills are available at the pharmacy that provided your medication. Refill prescriptions BEFORE you run out.

Forget you have a lot of people pulling for you, including your doctors, nurses, and counsellors, so call us if you need to vent, cry, laugh or ask questions. That's what we're here for.

Try to avoid any unnecessary medications. If you are symptomatic with a cold, flu or headache, etc., there are medications you can take. Whenever possible, try to avoid them. The rule of thumb is that if your symptoms interfere with your major functioning (such as breathing, eating, sleeping, having bowel movements, being pain-free and fever-free) then there is a good reason to take medicine for them. However, if you simply have the sniffles or are just a little uncomfortable and can get by without the medicine, go without it or use palliative alternatives such as ice-chips or Popsicles for a sore throat, bran cereal for constipation, peppermint tea for upset stomach, etc. Some medicines that are generally considered safe in pregnancy are :Tylenol, Benadryl, Tums, Sudafed, baby aspirin, Preparation-H and Robitussin (plain).

Most antibiotics are considered safe in pregnancy. Simply advise your prescribing doctor or dentist that you are or may be pregnant.

If you are significantly constipated, (three or more days without a bowel movement), you can use Colace, or Pericolace, which includes a stool softener. No drug is guaranteed safe.

Male Factor Infertility

Just because one partner is diagnosed with a problem doesn't mean the other partner doesn't have his or her own diagnosis. Among infertile couples, either partner may contribute to the failure to conceive. It is estimated that 30-40% of infertility is due to female abnormalities, another 20% to a combination of various factors, and about 30-40% to problems with the male.

An important component in the treatment of men with infertility is establishing the correct diagnosis. PARIVAAR IVF medical specialists conduct a thorough clinical evaluation of each couple. State-of-the-art semen analysis and specialized sperm function testing are available. An appropriate individualized treatment plan is then implemented.

In addition to providing sample for testing, a specimen will be needed for an IVF cycle. While a fresh sample is always the ideal choice, alternatives for collection are also available. Please alert your physician, nurse or laboratory staff if you are having difficulty in collecting a specimen. With advance notice, we canprepare for the necessary alternatives regarding semen collection.

SEMEN COLLECTION

The usual parameter for evaluating a male's fertility potential is a semen analysis on a fresh semen sample. To maintain proper sample temperature and avoid undue delays in the evaluation process, physicians have generally relied upon the understanding and cooperation of the patient to provide the semen sample at the laboratory. However, our staff is sensitive to the stress that may be imposed on a man when asked to provide a specimen in the laboratory. If desired, there are acceptable alternatives for collecting a sample.

It is quite common for men to be anxious or self-conscious about giving a sperm specimen, the staff at PARIVAAR IVF andrology labs understands this and wishes to remind all of our patients that we take our job as medical professionals seriously; you can trust us to be professional at all times. It is our mission to provide a comfortable atmosphere in which sperm specimens can be collected and dropped off without embarrassment or uneasiness. Your questions are always welcome and your privacy is strictly guarded. Please feel free to contact the andrology laboratory prior to your visits to address any questions or concerns you have.

THE DIFFERENCE BETWEEN IVF AND ICSI (Intracytoplasmic Sperm Injection)

Intracytoplasmic sperm injection (ICSI) is the direct injection of sperm into eggs obtained for IVF. ICSI frequently permits the establishment of pregnancy in even the most difficult types of male infertility, including men who have fewer than 100 sperm in their semen sample.

THE ICSI PROCESS

•A glass pipette holds the egg in place during the injection
•A single sperm is picked up in a micro-needle
•The needle is gently pushed through the shell of the egg into the cytoplasm
•The sperm is deposited deep inside the egg and the needle is withdrawn

ICSI has been used for over ten years. The procedure is no longer considered new and has been used at our clinics and many others for well over ten years. It is the standard of care for male factor infertility. Many studies have been performed on the safety of the procedure. The American Society for Reproductive Medicine considers it a safe and effective procedure that has helped thousands of men who otherwise would have had to use donor sperm to become a father. If you have questions or concerns about ICSI, please let your doctor or nurse know so that we can discuss it with you.
The difference between IVF and ICSI is in how the sperm meets the egg. With traditional IVF, the sperm is “poured” on the egg. That is to say that the sperm is put into the petri dish that the eggs are in and fertilization takes place in the dish the same way it would in the fallopian tubes. Millions of sperm fight to fertilize each egg.
With ICSI, an individual sperm is injected into a single egg. ICSI is used when there is a problem with the sperm; thereby the likelihood of fertilization is increased if we inject the sperm directly into the egg. ICSI does not guarantee that fertilization takes place, but it does ensure that sperm meets egg. With traditional IVF, the sperm may never pass through the outer zona of the egg. Your doctor will advise you if ICSI is recommended for you based on the results of the semen testing and a few other risk factors.

Non-surgical sperm aspiration (NSA)

Non-surgical sperm aspiration (NSA) is the procedure whereby the doctor removes the sperm directly from the testicle. An NSA is utilized in men who have no sperm in their ejaculate .The procedure is performed in our clinic under sedation and allows us to easily and quickly obtain adequate numbers of sperm for ICSI. Although most men do not require this procedure, it can benefit those with following diagnosis:

- Vasectomy or other causes of blocked ducts
- Erectile dysfunction, inability to ejaculate
- Spinal Cord injury
- Non-obstructive azoospermia

Because the NSA procedure is performed under sedation, it is painless and rapid. A tiny needle is used to extract sperm directly from the testes.

If you are using NSA, we strongly recommend that you consider having back up donor sperm available on Egg Retrieval Day in case NSA docs not vield viable

NSA must be done with ICSI because testicular sperm cannot enter eggs by themselves and also because of the low number of sperm obtained in NSA procedure. A normal ejaculate contains millions of sperm while an NSA specimen often contains less than one hundred sperm.

It should be noted that for some men a single NSA procedure may yield enough sperm to permit sperm freezing for several subsequent ICSI attempts. It is also possible that the NSA will not yield any viable sperm. Because this procedure is
done on the same day as the egg retrieval, it is possible that the IVF cycle could be successful, yielding multiple eggs, and yet have to be cancelled because there no sperm obtained from the NSA. It is highly recommended that you and your spouse discuss the option of having back-up donor sperm available in order to be sure that there will be sperm available on the day of egg retrieval. There is no right or wrong answer to the question of whether to use backup donor sperm; however, it should not be addressed for the first time on the day retrieval. Please take the time to consider this option while you are not under pressure to make a decision right away. This way neither the decision to use donor sperm nor the choice of a particular donor is a rushed decision. If you choose to utilize backup donor sperm it should be done well in advance of egg retrieval day so that there will be plenty of time to choose an appropriate sperm donor and have a sample shipped to PARIVAAR IVF andrology lab in advance of egg retrieval day.

Step-by-Step

THE PHASE APPROACH TO IVF TREATMENT

In order to ensure that your experience at PARIVAAR IVF is as smooth as possible, we have broken down the IVF process into five steps, or phases. The phase approach will help you to better understand your care, the order in which things must occur and what comes next. Following are the five phases of IVF treatment at Parivaar IVF Centre.

Phase One: Initial Consult & Diagnostic Evaluation

Phase one begins with a consult with a reproductive endocrinologist at PARIVAAR IVF. Based on your history, age and how aggressively you wish to pursue treatment, your doctor will order a number of diagnostic tests to evaluate both partners. The results of these tests will assist your doctor in formulating the type of procedure that will provide you with the optimal chances of achieving a successful pregnancy.
In addition to the diagnostic tests listed in the following pages, there are several steps we recommend to better prepare your body for a healthy pregnancy and delivery:
• Quit smoking
• Eat a balanced diet ,
• Take a prescription pre-natal vitamin daily
• Get regular exercise
• Investigate ways that work for you to decrease stress in daily life (meditation, counselling, massage, acupuncture, support groups, regular exercise, hobbies, etc.).

Day One of your Menstrual Cycle, is the first day you experience "full flow" by 5:00 pm.

Spotting for a day or two is not considered the start of a cycle. A cycle starts with onset of free flow menses.

If the flow begins after 5:00 pm, then the next day is considered "day one.

Routine testing is done during this time to evaluate the most important aspects of fertility; eggs, sperm, structures such as fallopian tubes and the uterus, as well as hormone levels on one or both partners.
Phase One begins with the initial consult and ends when you schedule a second, or "follow up," appointment with your doctor. This phase can last a week or a month, sometimes more, depending on your menstrual cycle, availability for appointments and your desire to move slowly or quickly. Frequently, couples want to move forward as quickly as possible, but sometimes they prefer to delay. If you let us know the speed at which you would like to proceed we can help you make arrangements accordingly.

HOW TO COUNT MENSTRUAL CYCLE DAYS

Note that many of the tests and appointments you will have revolve around certain days of your menstrual cycle. To count what day of your cycle you are in, consider day one to be the first day you have a full-flow menstrual period (defined as having to wear a tampon or pad) before 5:00 pm. If you spot for a day or two we do not consider this to be a start of a cycle until the onset of full-flow menses. If the flow begins after 5:00 pm, then the next day is considered "day one."

Common Testing Phase One

Most diagnostic tests are done at specific points during your menstrual cycle. Call your primary; nurse at the onset of your period to plan for your diagnostic testing.

HYSTEROSONOGRAM

This is a test to evaluate the cavity of the uterus. We want to confirm that the uterine cavity is free from polyps, fibroids or adhesions; anything that would impede implantation or growth of an embryo. Your nurse will help to arrange this appointment for you or you can call (+91) 01812231740 at your convenience. It should be done between days 5-10 of your menstrual cycle. This procedure can be done at PARIVAAR IVF or at any radiological facility. If you are from out of town, you should be able to take the order for this test to any radiological facility where you might go for a mammogram. Your Ob-Gyn may be able to perform the test for you.

HYSTEROSALPINGOGRAM

This is a test to determine the patency of the fallopian tubes and the uterus. Dye is injected through the cervix, into the uterus and up the fallopian tubes and an X-ray is taken. The X-ray will show the area to be open to the flow of dye, or blocked at some point, indicating an obstruction that could curtail conception, implantation or growth of an embryo.

CLOMID CHALLENGE TEST

Egg quality can be evaluated by a test called a clomiphene citrate-Clomid challenge test (ccct). (The brand name for clomiphene is Clomid; the terms are often used interchangeably). The Clomid challenge test is designed to see how efficiently the ovaries are working. A healthy ovary will only require a small level of follicle stimulating hormone (FSH) to produce an egg; whereas, if the ovary is not functioning as well, it will require substantially higher levels of FSH to produce an egg. High levels of FSH are usually a negative indicator of fertility; however, a normal FSH doesn't guarantee egg quality. In essence, an elevated FSH is a poor indicator while a normal FSH is neutral.

The following analogy is sometimes used to explain a Clomid challenge test: A person sitting comfortably in a chair should have a low “resting” heart rate. If she were to run around a track a few times, her heart rate would increase as the body adjusts to the increased need for oxygen. If our runner is healthy, when she stops running her heart rate should return to the low resting level relatively quickly. If she is out of shape, she will be struggling to catch her breath and her heart will be beating rapidly for an extended period of time after she stops running.

The Clomid challenge test illustrates roughly the same principle: We should begin with a low “resting” FSH level on day 3. Next, 100 mg of Clomid is taken from days 5-9 of the menstrual cycle. This is the phase of the test that is similar to our runner circling the track, as the Clomid is causing the ovaries to work harder than they normally would. After taking the last dose of Clomid, the FSH level should return to a normal level by the next day - menstrual cycle day 10. If the ovaries are not functioning normally, the FSH level will still be elevated by the time we draw the blood on day 10. So just as with the example of the runner, the optimum result is a low level before the body is asked to perform at a higher level, and it should

resume to a low level very soon after stopping the stressful activity. An important distinction in this analogy is that the runner can get her heart muscle into shape after a period of training; however, the ovaries do not respond to conditioning, and there is no medicine that will make them function at a healthy level once the FSH has increased beyond the normal level. We prefer both the day 3 and the day 10 FSH levels to be below 10.

Semen testing results take up to two weeks to come back, our recommendation is semen testing be done early in Phase One.

The test consists of three parts:
1. Blood draw on day 3 of menstrual cycle. (FSH level is measured)
2. Take 100mg of clomiphene citrate in the morning during cycle days 5-9.
3. Blood draw on day 10. (FSH level is repeated)
Please call your nurse at the onset of your period to arrange for these blood tests. Call (+91) 0181 2231740.

PROGESTERONE - DAY 21

The hormone progesterone is the hormone associated with the second half of the menstrual cycle, called the “luteal” phase of the cycle. After ovulation occurs midway through the menstrual cycle, progesterone levels will rise from less than 2 to over 10. An increased progesterone level indicates that ovulation did take place. Conversely, a progesterone level that has not increased by day 21 indicates that ovulation did not occur.

SEMEN ANALYSIS

Your partner should arrange this appointment at the earliest. (Test results can take two weeks or longer.) Sperm can be evaluated on several parameters:

- Quantity, or the number of sperm in a single ejaculate,
- Morphology, or the percentage of normally shaped sperm in an ejaculate,
- Motility, the number of moving sperm,
- Progression, which measures the quality of motion; that is, the number of sperm able to travel in a single direction (not around in circles) and do so at a quick pace.
- Gonorrhoea and Chlamydia cultures

The results of your diagnostic testing will be reviewed with you by your physician at your follow-up appointment.

GENETIC COUNSELING

You may discuss any genetic disease concerns you have with a PARIVAAR IVF genetic counsellor who is an expert in genetic disease risk. They may also discuss the details of Pre-Implantation Genetic Diagnosis (PGD) if the doctor has recommended this option for you.

Phase Two: Pre-Cycle

PLANNING YOUR IVF CYCLE

Once you have completed all of your diagnostic testing, your physician will develop a treatment protocol specifically designed to meet your needs. Your nurse will guide you through this phase, which may require numerous details and planning. The following is the order of steps after you and your doctor agree on a treatment plan.

You should have your medications with you at the time of the pre-cycle appointment.

All of this happens in Phase Two:

• Arrange for payment of cycle, as payment is required prior to the start of any treatment cycle

• Await your next menstrual period. Call your primary nurse when period starts.

• Your nurse will plan and provide you with your cycle calendar, which includes dates and instructions for initial medications and monitoring visits.

• Your nurse will order your medications from a specialty pharmacy for delivery to your home or office.

• Attend IVF class to learn how to mix and administer injectable medications. If you live out of town, you should arrange to learn this from a local doctor's office or clinic, or we will send you an instructional video.

• Meet with your nurse for your pre-cycle appointment to review logistical details of upcoming cycle. Your nurse will review the treatment cycle so that you can be comfortable and know what to expect in the coming weeks. This appointment can be in person or over the phone, but either way you should have your medications with you at the time of the appointment. This is an excellent time to ask questions, get clarification, or simply confirm final details prior to the start of the cycle.

There are many logistical details involved in planning an IVF cycle. Your primary nurse will guide you every step of the way.

• Discuss and plan treatment options such as IVF vs. ICSI and Day 3 vs. Day 5 embryo transfer. If you have not spoken to your doctor about these choices, please do so at this time.

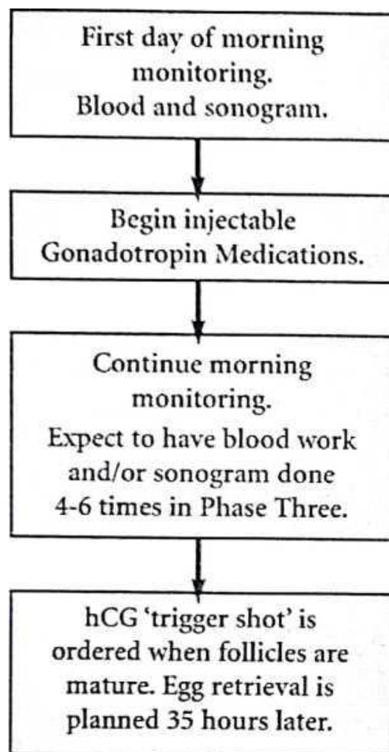
• You may begin injectable medications in Phase Two, depending on your specific protocol.

• Phase Two begins with your follow-up appointment and ends as you walk in the door for your first day of monitoring. This can take days, weeks or months, depending on your circumstances and schedule.

Phase Three : In-Cycle

MONITORING

This phase begins with your first day of monitoring (blood work and ultrasound).



To make sure your body is responding to the medications properly, it is necessary to monitor your progress on a regular basis. During the IVF cycle, it is usual to have blood work and an ultrasound approximately 4-6 times throughout the roughly two-week period. Blood is drawn to measure your hormone levels, specifically estradiol and progesterone. Sonograms evaluate your ovaries and uterus. With ultrasound technology we can measure and count the follicles growing in the ovaries. This helps the physician determine how much medication to prescribe and when to plan egg retrieval. Ultrasound is also utilized to evaluate and measure the lining of the uterus, where the embryo will implant and grow if pregnancy occurs. Once your physician has determined that your stimulation medication has accomplished the optimum results, meaning the most mature follicles possible, you will be instructed to administer your hCG injection. Do not proceed with hCG until you are instructed by your nurse.

Please keep in mind, however, that every cycle is different. Your treatment will depend on how your body is responding to the medications during this particular cycle and is based only on the most up-to-date monitoring results. The nursing staff will often estimate egg retrieval dates based on a patient's history, diagnosis, age and current pace of response. **However, the actual retrieval date is not firm until the physician orders hCG, making egg retrieval two days later**. For example, on any given Monday we will know who is scheduled for retrieval on Wednesday, but we will have only a general idea about who may be ready on Thursday or Friday. We realize this makes planning for work absences, travel arrangements and child care challenging; however, there is no alternative. Your flexibility is not only appreciated, but vital to planning a cycle.

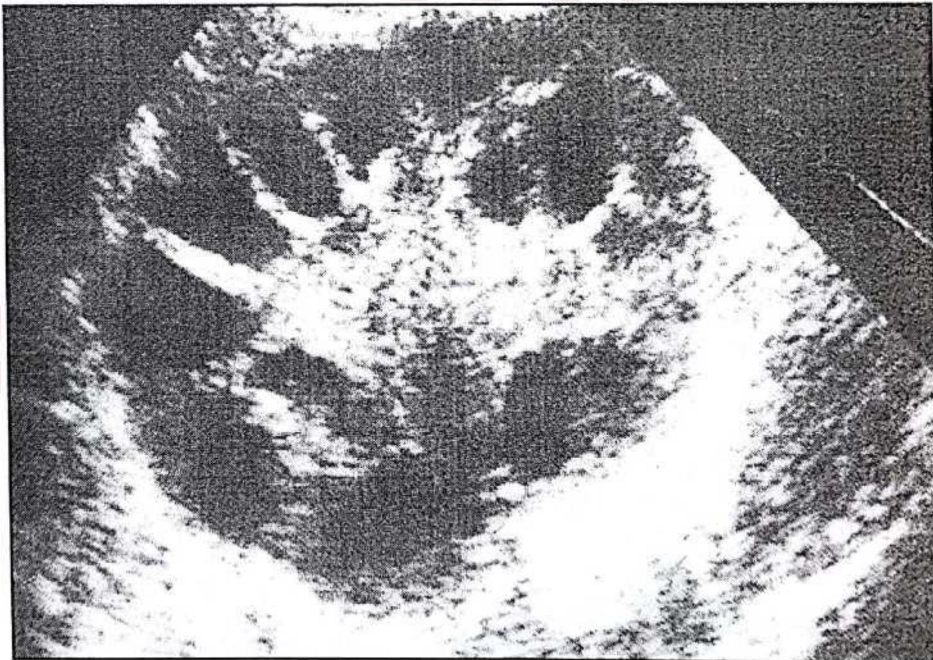
What to Expect

Medication is ordered prior to the start of your cycle. Because these medications are so expensive, your nurse will order fairly conservatively. Your initial order may need to be supplemented with refills. With most pharmacies, you can simply call and request a refill.

Phase Three takes approximately two weeks and involves:

- Morning monitoring (blood work and ultrasounds). This will be done 4-6 times over roughly a two-week period,
- Injectable medications (usually 2 or 3 shots a day).
- Refilling the medications as needed. Keep an eye on your medication supply and refill before running out. You can always ask a nurse if you are unsure if you'll need more.
- Speaking with the doctors and nurses regarding your progress, planning for egg retrieval.

Please take the opportunity to meet with all of the physicians during morning monitoring. Because it is not known well in advance what days your egg retrieval and embryo transfer will occur, the physician performing these procedures may not be your primary PARIVAAR IVF physician. Each morning, one of the physicians will be available during monitoring to discuss your cycle and progress. If you are in the office for monitoring and have not met the doctor covering that day, please ask to meet him/her at that time.
Phase Three begins with your first day of monitoring and ends when you take your last injection, which is the hCG medication. This takes about two weeks.



This is a photo of an ovary that has been stimulated with FSH medication for approximately 10 days. The dark areas arc the follicles that contain an egg.

Phase Four: IVF Procedures

EGG RETRIEVAL & EMBRYO TRANSFER

What to expect on the day of egg retrieval:

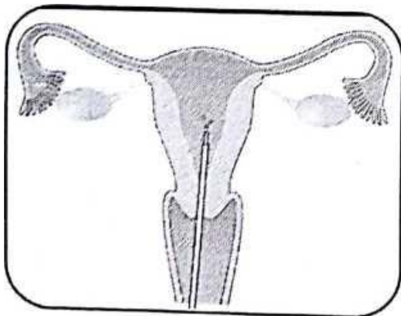
On the day of egg retrieval you will be instructed to arrive at PARIVAAR IVF one hour prior to your procedure. It is very important that you have had nothing to eat or drink that morning; this includes water, coffee, vitamins or medications taken orally. The anaesthesiologists will be unable to sedate you for the procedure and the egg retrieval will be cancelled if you have eaten or had anything to drink.

It is a good idea to bring a thick, comfortable pair of socks to wear and shoes that are easy to walk in.

During the hour you are here prior to the egg retrieval, you will be instructed to change into a hospital gown. A nurse will start your IV and you will consult with both the doctor who will be performing your procedure and the anaesthesiologist. They will review the procedure and answer any questions you may have.

At this time you will be given medication instructions regarding your progesterone and antibiotic.

The egg retrieval begins once you are sedated, sleeping comfortably on the exam table. Similar to the sonogram during morning monitoring, an ultrasound probe is inserted vaginally so the physician can visualize the ovaries. In the egg retrieval, a needle is attached to the ultrasound probe and is inserted (under ultrasound guidance) through the back of the vaginal wall so that it is right next to the ovary. Imagine the ovaries at this point as a bunch of grapes, with each grape representing a follicle. The doctor will puncture each follicle and withdraw the fluid from inside it. Ideally, the fluid will contain an egg.



Embryo transfer

After the procedure is finished you will be assisted as you walk back to your recovery room. A nurse will monitor your vital signs. As soon as you are able to eat a little, drink a little and urinate, you will be discharged to go home. This is usually about one hour after your egg retrieval is completed. The doctor will inform you of the outcome of the procedure prior to your discharge.

Remember, you will not be able to drive a car or go back to work on the day of an egg retrieval or an embryo transfer

Instructions for Retrieval Day

1) Begin your progesterone supplementation this evening. You have the choice of using ONE of these three types of progesterone:

a. Crinone gel: Administer one applicator vaginally. Repeat: every twelve hours. Please recline for ten minutes after administering this medication. You may want to wear a panty liner because it will likely cause discharge. Do not be alarmed if some gel remains in the applicator or is expelled through your vagina.

b. Injectable progesterone: Administer 1ml of progesterone (50mg) intra-muscularly this evening. Continue once daily.

c. Prometrium tablets: Insert one tablet into your vagina using your fingers. Repeat every 8 hours. Please recline for ten minutes after administering this medication. You may want to wear a panty liner because it will likely cause discharge.

You will not be able to drive on Egg Retrieval Day.

Please plan on resting when you go home after egg retrieval.

2) Begin taking your Doxycycline this evening. Take one tablet every twelve hours. Your last dose is on the evening of embryo transfer (3-5 days from now).

3) A physician will speak with you and/or your partner as soon as possible after your procedure to discuss the outcome of the egg retrieval.

4) Plan to rest comfortably in your recovery room for about an hour following the procedure. We will discharge you when you are alert, able to drink, walk and urinate.

5) You will need to have someone available to drive you home. The sedation medication will be in your system for several hours after your procedure. A responsible adult should remain with you until you are fully alert and all effects of the medications are gone. You may be sleepy through the remainder of the day and we recommend you arrange for childcare if necessary.

6) You will receive a call tomorrow (by early afternoon) to inform you about the fertilization of the eggs.

7) It is not unusual to have mild discomfort, spotting or nausea after the procedure. You will likely receive medication through your IV to help with any cramping you may experience. We recommend you take extra strength Tylenol as directed on the packaging for further discomfort you may experience at home.

If you feel any severe cramping, shortness of breath, or fever >100.5° please call nursing at +91 9814022276.

Egg Retrieval Day
On this day we know how many eggs have been obtained through the IVF cycle.

↓

One day after retrieval
On this day the eggs are observed to determine how many of them have fertilized into embryos. You will be called by the doctor or nurse with the information (usually before noon). Eggs can: fertilize normally; fertilize abnormally; or remain unfertilized. Based on the information you receive, you will decide to plan an embryo transfer on day 3 or day 5.

↓

Two days after retrieval
Embryos are not routinely observed on this day. There is no report given this day. In some cases, however, embryo transfer may take place on this day.

↓

Three days after egg retrieval
Embryos should have continued to divide or "cleave". Optimally, they should be at the 6-8 cell stage by this point. Embryo transfer may take place on this day or we will plan for a transfer on day 5. You will be given an embryo update on this day.

↓

Four days after retrieval
There is no report given this day.

↓

Five days after egg retrieval
The embryos should have reached the blastocyst stage by now. There are too many cells to count. Embryos are transferred and the remainder are cryopreserved on this day. (or possibly held for continued growth on day 6).

Instructions for the Day of Embryo Transfer

Embryo Transfer Day is an exciting day. This is not a painful procedure; it feels much the same as a PAP smear or intra-uterine insemination. You will be asked to arrive with a full bladder (4-5 glasses of water should do it.) The full bladder does two things: First, the bladder is very close to the uterus, so when it is full the cervix is straightened slightly, enabling a smooth navigation by the catheter, which is less disruptive to the uterine lining. Because the embryo transfer is done under ultrasound guidance, the full bladder enables the physician to better visualize the uterus.

You will speak with the physician immediately prior to the procedure to discuss the latest embryo news and decide how many embryos to transfer, freeze or discard. Although your spouse is not required to be here this day, it is recommended if at all possible.

1) Once home, please maintain bed rest until the next morning. We recommend that you remain reclined, getting up only to eat your meals or to use the restroom.

2) Tomorrow you may begin normal activities. However, you may wish to follow several conservative instructions for an additional four days following bed rest. These include refraining from sexual intercourse, douching, tub bathing, swimming, heavy lifting, and strenuous exercise. It is fine to go to work, travel home or lift and carry a small child. Just treat yourself gently during these few days.

We believe that if implantation of an embryo occurs,it will happen during the four days following embryo transfer.

3) If you live out of town, you may travel back home the day following the transfer. Travel by car, plane or train is considered safe following an embryo transfer.

4) Take your last dose of antibiotic (Doxycycline) the night of embryo transfer. Please discard any leftover antibiotics.

5) Continue your progesterone as directed until you are specifically instructed by a nurse or physician to stop taking it. Normally, with a positive blood pregnancy test, progesterone supplementation will continue through the beginning of the 10th week of pregnancy. If you have any symptoms that cause you concern, please call nursing at +91 9814022276. DO NOT STOP THE MEDICATIONS UNTIL YOUR PHYSICIAN OR NURSE ADVISES YOU TO DO SO.

6) Please return for a serum pregnancy test during morning monitoring fourteen days after the egg retrieval. Everyone who has an embryo transfer is required to have a blood pregnancy test. Please do not assume you are not pregnant, even if you experience spotting, cramping or even heavy bleeding.

If you live out of town, please have your results mailed to drsurjeet@parivaarivf.com. Let us know if you need prescriptions for your blood draws.

Other Considerations

CRYOPROSERVATION

You may choose to freeze (cryopreserve) the embryos that will not be used in your current cycle. Cryopreserving embryos allows you to potentially achieve an additional pregnancy from your original fresh IVF cycle. If a pregnancy does not occur, you may return at a later date for transfer of the remaining embryos. Depending on the stage at which embryos are frozen, approximately 75% will survive the thawing process. The choice of whether to cryopreserve embryos is entirely yours. The doctor and embryologist will make recommendations regarding which embryos are appropriate for freezing. There is an additional charge to cryopreserve embryos, however the cost of going through a frozen embryo transfer cycle is significantly less than repeating a fresh IVF cycle.

Some amount of bloating and vague discomfort is normal in an IVF cycle, including the days and weeks following embryo transfer. It is ***NOT*** *normal to be so sick that you cannot go about your activities of daily life (such as eating, sleeping, walking, etc.)*

OVARIAN HYPER-STIMULATION SYNDROME

Ovarian hyper-stimulation syndrome (OHSS) is a complication from IVF that occurs in less than 1-2% of patients. Symptoms include nausea, vomiting, diarrhoea, extreme bloatedness, rapid weight gain, difficulty breathing, and being uncomfortable to the point where walking, sleeping and activities of daily living are impeded. It is important not to confuse OHSS with a normal stimulation response. By definition, IVF “hyper- stimulates” the ovaries, meaning that it causes the ovaries to produce more follicles than they would during a regular menstrual cycle. IVF treatment will likely cause some degree of bloating, feeling full and perhaps gaining a couple of pounds due to fluid retention. Feeling a little tired, bloated or vaguely nauseated is normal. Feeling sick to the point of not being able to go about your daily activities is not normal and should be brought to the attention of your doctor right away. OHSS most often presents in the days after embryo transfer, sometimes days or weeks after your last injection of gonadotropins.

The treatment for OHSS is a procedure called a “culdocentesis”. This procedure is very similar to egg retrieval and is done in the same way. Instead of retrieving eggs, the doctor will retrieve the fluid that has accumulated in the culdesac, (the space behind the uterus). After a culdocentesis, symptoms are markedly reduced and the patient feels much better. It is common that the fluid will re-accumulate and will have to be taken out multiple times. The syndrome will eventually resolve, but can take weeks of treatment in the meantime. **Assess how you feel each morning. Before you have anything to eat or drink, take stock of how uncomfortable you are. The rule of thumb is that if you feel well enough to go to work (or drive a car or do whatever your normal daily routine may be) then you don’t have to come in to be seen. But if you feel too sick to go to work, then you should come in to be evaluated. Please remember not to have anything to eat or drink prior to a culdocentesis. You should refrain from eating or drinking after midnight until you are sure you will not be having a culdocentesis on that day**. If you’re not sure how you feel, come in to be checked. Don’t be shy! It is much better to be sent home after an ultrasound shows minimal fluid accumulation than to be brave and stay at home and be uncomfortable for another day. If you wait and call us in the afternoon, we may have to wait until the next day to do the culdocentesis. For your own comfort, please make the determination of how you feel before 10:00 am.

Phase Five: Pregnancy Test and Beyond

INFORMATION FOLLOWING YOUR IVF CYCLE

Two weeks from the date of your egg retrieval, you will have a blood pregnancy test.
If your blood pregnancy test is negative, you will discontinue all of your medications. Your menstrual cycle may take several days to start and it may be slightly heavier than normal. If a period does not begin one week after discontinuing your medication, please call your nurse. Progesterone may delay your period, even if you are not pregnant. A "cycle review" appointment will be scheduled with your physician so that you may ask questions about this cycle and determine your next step.

Please remember to send us a birth announcement!

If your pregnancy test is positive, it should be repeated in 3-7 days to help assess the quality of your pregnancy. You will be asked to continue on your progesterone until 10 weeks gestation (8 weeks from the date of egg retrieval), so please monitor your supply of progesterone and refill your prescription as needed.

Make sure that you are established as a patient with an Ob-Gyn. Most Ob-Gyns will want to see you for an initial evaluation around the 8 to 10 week gestation timeframe.
We will conduct an ultrasound at six weeks gestation. The physician will determine if the pregnancy is in the uterus and is the appropriate size. After the physician confirms that the pregnancy is in the uterus and growing appropriately, you will be referred to your Ob-Gyn for pre-natal care.

"For me and my husband, but especially for me, the Institute was a personal, welcoming, straight forward place. Our doctor was direct and easy to understand...the nurses were fabulous. They remembered us from one visit to the next. For me the Institute set the standard for great medical care delivered by a professional, caring staff"
Manjinder, Punjab

Obtaining Medications

Your nurse will help you order your IVF medications for. IVF medications are no small part of the cost of doing an IVF cycle; a typical pharmacy bill can be in excess of $3000 for these medications.

We recommend working with a pharmacy that specializes in fertility treatments and is well versed IVF cycle and procedures. There are several such pharmacies located all over the country, which operate using courier services for delivery of the medications. Your medications can be delivered to your home or office free of charge in 3-4 days. Though it sounds a little unusual to have your medications shipped rather than going to a pharmacy to pick them up, we highly recommend using a specialty pharmacy over a local grocery store or drugstore. Local chains are less likely to have the medications on hand, are less knowledgeable about the medications and often charge significantly more money than the specialty pharmacies.

THE GOLDEN RULE OF IVF MEDICATIONS

Do not start or stop using any medications unless specifically instructed to do so by a nurse or physician

Administering a (sub-Q) Injection

You may choose from three sites on your body to inject your medication.
1) The back of your upper arm
2) Your belly (2-3 inch radius around navel)
3) The top of your thigh

Most IVF medications are injectable, that is administered with a needle. You will be responsible for administering these medicines yourself.

Don't worry! We will help you along the way.

To administer an injection, draw up the desired amount of medication into the syringe and hold the syringe in your dominant hand as if using a pen to sign your name. With your non-dominant hand, choosing one of the three injection sites, gently pinch an inch or two of skin. In a quick, confident motion, pierce the skin with the needle. Keep your hand on the syringe, but let go of the skin, and use that hand to push down on the plunger, thereby injecting the medication into the fatty tissue. Withdraw the needle quickly. Apply gentle pressure to injection site with a gauze pad or cotton ball for ten seconds. Do not worry if a small amount of fluid or blood seeps from the injection site initially.

MEDICATION ADMINISTRATION & SAFETY PRECAUTIONS

Wash and dry your hands thoroughly using soap for 20-30 seconds prior to handling the medications.

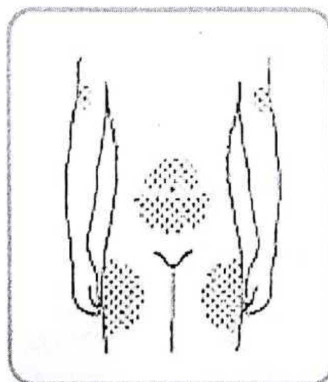
Choose a clean, flat surface for mixing the medications. Wipe the injection site with alcohol and let dry before injecting any medications.

UNDERSTANDING YOUR IVF MEDICATIONS

IVF CLASS: Local patients will be provided with full instructions on mixing and administering all medications prescribed for your IVF treatment. We request that all first time IVF patients attend class. (Anyone who wishes to attend as a refresher is more than welcome!) Your nurse will register you at an appropriate time that is convenient to you. Although we will provide written instructions and an instructional DVD, out of town patients will be responsible for learning injection technique.

MEDICATION ADMINISTRATION: All medications are to be injected subcutaneously (Sub-Q) unless otherwise instructed.

MEDICATION AND SUPPLY RE-ORDERING : Your medication prescription will likely need to be refilled during the course of your treatment. Once the original prescription has been called in by the doctor or nurse, you can call the pharmacy directly to refill your medications if you run low on supply. Please review with your nurse the ideal time to reorder so as to prevent this from happening.



Subcutaneous injection site diagram

Frequently Prescribed IVF Medications

• **BIRTH CONTROL PILLS**: Many, but not all, patients will use birth control pills. These pills are taken prior to the start of an IVF cycle to prepare the ovaries and the uterine lining. This helps to ensure that the ovaries and the lining of the uterus will be at an appropriate "baseline" point prior to starting IVF medications. The birth control pills also help us to coordinate dates and overcome logistical obstacles such as vacation plans or holidays. Please take your birth control pill once a day at approximately the same time every day.

• **PRESCRIPTION PRE-NATAL VITAMINS**: Any brand is appropriate as long as it contains at least 29mg of Iron and I mg of Folic Acid. This vitamin is taken to guard against certain types of birth defects called neural tube defects, including spina bifida and anencephaly. Take this any time of day, by mouth.

Gonadotropin medications such as Gonal-F, Repronex, Bravelle and Follistim should be taken between 6-9 pm.

• **DOXYCYCLINE 100MG TABLETS**: This is an antibiotic to be taken prophy-lactically to ward off infection after the egg retrieval. This drug has nothing to do with pregnancy outcome. It will be taken twice daily (morning and night) by mouth, starting on the evening of egg retrieval.

• **SUPPRESSION MEDICATION**: These drugs act to make sure that you do not ovulate on your own. All are administered by subcutaneous injection. You will only be on ONE of the following types of suppression drugs:
1. Lupron (taken in the morning)
2. Microdose Lupron (taken every 12 hours)
3. Ganirelix (Antagon) or Cetrotide (taken in the evening, only when advised)

You are likely to get a period while on Lupron.

• **GONADOTROPIN (STIMULATION) MEDICATION**: These drugs are designed to stimulate the ovaries into over-producing follicles. Normally you only produce one follicle per month. These drugs allow you to produce multiple follicles. All are administered by subcutaneous injection and should be taken in the evening between 6-9 pm. Depending on the medication protocol that your doctor orders, you may be on one or more of the following brands of gonadotropin medication:

I. Gonal-F 2. Repronex /Menopur
3. Follistim 4. Bravelle

• **hCG (HUMAN CHORIONIC GONADOTROPIN):** 10,000 iu This drug is taken at the end of the IVF cycle, right before egg retrieval. It causes the eggs to loosen from the follicular wall. The hCG is administered by subcutaneous injection. This is a timed injection! Please take only as instructed.

• **PROGESTERONE**: This is taken as a supplement to your own body's production of progesterone. It helps nourish the lining of the uterus, making implantation and growth of an embryo more likely. You will only be on ONE of the following
1. Crinone gel 8% progesterone (Inserted vaginally every 12 hours)
2. Progesterone in oil (intra-muscular injection, 50mg every 24 hours)
3. Prometrium (200mg inserted vaginally every 8 hours)

How to Administer Medications

HOW TO ADMINISTER LUPRON (LEUPROLIDE ACETATE)

There is no mixing involved.

To give this medication, remove the cap, and wipe off the rubber stopper with an alcohol pad.

Using the 0.5cc syringe with an orange cap that comes with the kit, pierce the rubber stopper with the needle and withdraw the desired amount (usually 5 or 10 units, as instructed).To do this, hold the bottle at eye level with the rubber stopper facing the floor. As you pull back on the plunger, the needle should be facing the ceiling to get the desired amount of Lupron into the syringe. The top of the plunger should be flush with the line of the desired amount.

HOW TO ADMINISTER FOLLISTIM

Follistim is administered by a "pen" that is loaded with medication cartridges. Each evening "dial" your dose on the pen and inject the medication following the instructions that come with the pen. Please check the window on the dial to be sure the full dosage has been spent, i.e. the number is "zero'. If there is a non-zero number in the window, please load a new medication cartridge, put on a new needle and inject again. (You do not have to re-dial the dosage; the pen "remembers" what the remaining dosage is.)

If you are adding Repronex/Menopur, this injection must be given separately.

Please see intructions for that injection on page 34.

HOW TO COMBINE GONAL-F AND REPRONEX (MENOPUR)

1) Begin with Gonal-F multidose 450 IU vial - this medication comes packaged with a pre-filled glass syringe of sterile water.

2) First remove the wrapping that covers the Gonal-F and the syringe and set both the syringe and the bottle on the table.

3) Remove the cap from the vial of Gonal-F powder.

4) Remove the grey rubber cap from the syringe.

5) Insert the needle through the rubber stopper on the Gonal-F vial.

6) Inject the entire contents of the syringe of water into the vial of Gonal-F powder.

7) Discard the empty glass syringe.

8) Look in the box for additional syringes. These syringes are plastic and are measured in increments of 75. Remove one of these syringes from the box.

9) Remove the cap from the plastic syringe and insert the needle into the bottle of Gonal-F.

10) Turn the bottle upside down so that the rubber stopper faces the floor and the tip of your needle is facing the ceiling. Hold at eye level so that you can see clearly.

I I) Pull back on the plunger of the syringe and draw your prescribed dosage.
The top of the plunger should be aligned with the desired number of units on the syringe.

12) Once you are sure you have the correct amount of Gonal-F in the syringe, take the needle out of the bottle.
(Whatever is left in the Gonal-F bottle can be used the next few days as long as you refrigerate it.)

13) Inject the contents of the syringe into ONE vial of Menopur (Repronex)
powder. The medicines mix on contact; simply inject the Gonal-F fluid into the Menopur bottle. ,

14) Immediately draw back the mixture into the same syringe. Be sure to withdraw as much of the mixture as possible. It is impossible to get every drop of liquid from the bottle, however the bottle should not have any "puddles" of fluid left in it.

15) Now the syringe should contain the prescribed dosage of Gonal-F plus 75 units of Menopur - do not be concerned with how many units the liquid is measuring on the syringe at this point. It will probably measure less than the original amount you withdrew from the Gonal-F bottle; this is due to absorption of the powder and minimal loss of fluid in the mixing process.

HOW TO ADMINISTER REPRONEX (MENOPUR)

(When you are not combining it in the syringe with another drug)

You'll need:
1) One 3cc syringe with a 1.5 inch needle attached to it
2) One "sub Q" needle (a needle that is 5/8" or smaller)
3) Alcohol swab and cotton ball or gauze pad
4) Repronex medication and diluent (sterile water)

Directions:
1) Remove the caps of the desired amount of Repronex powder using the butt of your thumb. Remove the cap of ONE vial of sterile water that comes with the Repronex. You will only need one vial of water no matter how many vials of powder you are mixing.
2) Unwrap the 3cc syringe with the long 1.5 inch needle. Make sure the needle is securely twisted onto the syringe, then remove the cap of the needle.
3) Take the vial of sterile liquid and insert the needle through the middle of the rubber stopper. Turn upside down and hold at eye level. (The needle should be facing the ceiling and the rubber stopper should be facing the floor.)
4) Adjust the needle in the bottle so it is resting where the liquid lies, not above it. Pull back on the plunger of the syringe until you have filled the syringe with approximately 1cc of sterile water. Note that one cc is the same as one ml (1 cc= I ml).
5) Withdraw the needle from the bottle of sterile water and insert it through the rubber stopper at the top of a bottle of Repronex powder. Inject the sterile water into the Repronex powder.

Repronex and Menopur are the same medication. The terms are used interchangeably

*One vial of Repron**c**x (M**c**nopur) is 75 units*

6) Turn the bottle upside down and withdraw all of the liquid. You may have to manipulate the needle a little to get it all out: Try pulling the needle most of the way out of the bottle, leaving just the tip inside. Tilt the bottle at an angle to let the liquid pool, which makes it easier to withdraw. Twist the syringe around to try different positions. You won't be able to get every drop out of the bottle, but you should be able to get most of it. There shouldn't be a "puddle" left in the bottle.
7) If you are mixing just one bottle of Repronex (75 units), proceed to step 8. If you were instructed to mix more than 75 units of Repronex, inject the contents of the syringe into another bottle of Repronex, and so on until you have the desired amount. (Each vial of powder is 75 units of medicine)
8) Once the mixed Repronex is in the syringe, carefully re-cap the needle and remove it from the syringe by using a twisting motion.
9) Unwrap the small "sub-Q" needle and twist it onto the syringe. Remove the cap.
10) Inject into an area of pinched up skin. You may choose a site on the top of the thigh, the back of the upper arm, or the belly. The skin should be wiped with alcohol prior to injection.

HOW TO ADMINISTER HCG (human chorionic gonadotropin)

Some of the brand names for this medication are Novarel, Profasi, Pregnyl
1) Open the box of hCG and see that there are two bottles: one contains sterile water (or saline solution) the other contains the hCG powder. You will use only I cc of the liquid to mix all of the powder.
2) Pop the caps off the bottles using the butt of your thumb.
3) Using a 3cc syringe with a I inch needle, draw up 1cc of the sterile water and inject that into the bottle of hCG powder.
4) Immediately withdraw the mixture into the same syringe. Be careful to get as much of the mixture out of the bottle as possible. (To do this, hold the bottle upside-down so the rubber stopper faces the floor. Hold the needle up towards the ceiling when putting the needle in the bottle. Only a small part of the needle needs to get through the rubber stopper to sit in the liquid. If the needle is all the way in the bottle it will not be resting in the liquid and you will be unable to draw back the liquid into the syringe.)
5) Once the hCG mixture is drawn up into the syringe, carefully re-cap the needle.
6) Unscrew the needle from the syringe using a twisting motion.
7) Attach a sub-Q needle (a needle that is 5/8 inch or less in length) to the syringe using a twisting motion. Twist on tightly.
8) Tap the syringe firmly to expel bubbles and push the liquid to the top of the syringe so it's just about to come out of the needle.
9) Inject into a sub-Q site (upper arm, abdomen or top of thigh).

HOW TO ADMINISTER PROGESTERONE SUPPLEMENTATION

You should have only ONE of the following progesterone supplements:

CRINONE GEL 8%: This is a vaginal suppository applied twice a day. Blood levels of progesterone are lower with this form; however, since the progesterone is being absorbed through the vagina, a high level of progesterone reaches the lining of the uterus.

1) Take the applicator out of the package.
2) Twist off plastic tip.
3) Insert it just like a tampon.
4) Squeeze air pocket to insert gel.
5) Lie down for 10 - 15 minutes after each application to allow time for absorption.
6) White to grey discharge can be expected and a pad will be helpful to protect your undergarments

PROMETRIUM 200MG TABLETS: These capsules contain micronized progesterone suspended in peanut oil. Patients who are allergic to peanuts should not use Prometrium.

1) Insert capsule vaginally three times a day just like a tampon.
2) Lie down for 15 minutes to allow time for absorption and to decrease discharge.
3) Pink tinged discharge can be expected and a pad will be helpful to protect your undergarments.

Please keep a close eye on your medication supply and order your refills before you run out. You will take these medications at least through the first pregnancy test and, if positive, for the first 10 weeks of pregnancy. REMEMBER: Please don't start or stop using any medications unless instructed by a nurse or physician.

PROGESTERONE IN SESAME OIL 50MG/CC: This medication comes in 10mL vials and is an intramuscular injection.

•To decrease soreness at the injection site and promote absorption of the medication into the muscle, the following techniques may be useful: ice the site before injection, massage the site, apply warm towel or heating pad, take warm baths, and exercise the muscle after injection (i.e. walking).

• Always clean the rubber stopper of the vial as well as the site on your skin with an alcohol pad. Draw back 1cc of the medication using a 3 cc syringe with an 18 gauge 1.5 inch needle attached.

•The usual site for the progesterone injection is usually the gluteus-maximus muscle, the large muscle of the buttock. The actual site is in the upper outer quadrant of the hip and buttock. If you are giving yourself the injection, the easiest site to use is the upper third portion of your thigh in the centre. Please refer to a nurse for further instructions on selecting the right site for you and the injection.

You may find it helpful to track your medication dosages and stimulation progress.

Cycle Day														
Date														
Estradiol (e2)														
FSH dosage														
Endo lining														
Follicle count														

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

An FET Cycle

After an initial IVF cycle, there are often more embryos created than we recommend transferring. Any embryos that are not transferred can be cryopreserved for future use in case the fresh IVF cycle is not successful or the couple wane to return after delivery of a child and attempt another pregnancy. A frozen c/de is much less difficult and expensive than a fresh cycle, though with somewhat decreased odds of success.

An FET can occur with a "natural” cycle or a "controlled” cycle. Younger patients with regular cycles are potential candidates for natural FET cycles. No medications are given: rather, the patient is monitored frequently using blood tests and ultrasounds to detect the onset of ovulation. Once detected, the transfer is scheduled up to five days later, depending on the age of the embryos at the time of cryopreservation.

The controlled cycle is the most common form of a frozen embryo transfer cycle. A controlled cycle is fairly straight forward, however, a natural cycle may be preferred by some patients. After speaking with a physician and updating a few tests (uterine evaluation and infectious disease testing on both partners) your doctor will help you decide between a natural and controlled cycle.

Your nurse will provide you with a schedule of dates for the steps involved.

PHASES OF AN FET CYCLE

1. Down-regulation
2. Endometrial development
3. Embryo Transfer

The down-regulation phase usually takes four weeks. It begins with the onset of your period, at which time you should contact your nurse. She will instruct you to begin the birth control pill at a specific point within the next seven days. Lupron injections (TEN units daily) are started two weeks after the Pill. After one week of Lupron injections, the Pill is stopped. Soon, another period begins. One week after you take your last birth control pill, you will come in for your first morning monitoring appointment for a "down-regulation” check.
If you are sufficiently down-regulated at or about your 14th day of Lupron, the doctor will instruct you to begin estrogen therapy to build up the lining of the uterus, preparing it to receive the embryos. This takes 7-21 days, depending on how quickly your uterus responds to the estrogen. During this time we will monitor your progress and adjust your dosage accordingly. You will also stay on Lupron injections daily to ensure you do not ovulate on your own.

Once the uterine lining is sufficiently thickened, the doctor will advise that you start progesterone supplementation. At this time you will be instructed to stop your Lupron injections (however, you will stay on the estrogen). Embryo transfer will take place days after your progesterone begins, depending upon the stage at which the embryos were frozen.

Medications Used in a Frozen Embryo Transfer

1. **PRESCRIPTION PRENATAL VITAMINS**
Used to help prevent birth defects and keep you from becoming anaemic during pregnancy. It is important to stay on this vitamin any time you are trying to get pregnant, you are pregnant or nursing a baby.
2. **LUPRON (LEUPROLIDE ACETATE)**
Used to lower your estrogen and progesterone levels so that we can later manipulate the levels at a controlled pace in order to optimize conditions for implantation of an embryo. It is very likely that you will get a period after being on this drug for a week or two. This drug will keep you from ovulating on your own, which is essential to the treatment cycle. This is an injectable medication and is stopped prior to the embryo transfer.
3. **ESTRACE (ESTRADIOL)**
Used to thicken the lining of the uterus (endometrium). Taken by mouth. This drug is continued until the 10th week of pregnancy or until a negative blood test.
4. **CRINONE GEL**
A progesterone gel that is inserted vaginally twice daily. Used around the time of transfer to prepare the uterine lining for implantation of an embryo. This drug is continued until the 10th week of pregnancy or until a negative blood test. (You may choose to use injectable Progesterone if you wish.)
5. **DOXYCYCLINE**
An antibiotic used to guard against infection. It is only taken for a few days around the time of transfer.
6. **BABY ASPIRIN**
Often used in conjunction with this type of cycle. Acts to thin the blood and therefore may increase blood flow to the uterus, creating a better uterine lining.

Important Information for Out of Town Patients

BLOOD AND ULTRASOUND MONITORING
Prior to your arrival at PARIVAAR IVF, you will need to find a local doctor or clinic that is able to perform transvaginal ultrasounds, draw your blood and get same-day results for:

- Estradiol
- Progesterone
- LH
- Beta hCG
- Transvaginal ultrasound to evaluate the ovaries and uterus. We require a measurement of the endometrial lining as well as having the follicles on the ovaries counted and measured.

Not every test has to be done every day. In fact, on most visits we simply require the estradiol test and an ultrasound. Still, the local doctor should have the capacity to do all of these tests and have results sent to us the same day if our doctor orders them. This is of the utmost importance because your medications may need to be adjusted based on the results of your blood work and/or sonogram. We must have your results sent to our office by 3:00 pm the same day for us to determine if your medication should be adjusted. If we do not receive your results by 3:00 pm, we will not be able to make the adjustment and you will be instructed to maintain your current dosage until we get results. We ask that you take an active role in this and contact your monitoring facility to assure that your results have been sent each day.
If you are not able to find a doctor or clinic that is able to perform these tests and fax your results to us on the same day, you may arrange to have your blood shipped to PARIVAAR IVF via courier services for next day processing. This option may be less expensive: however, it does involve a one-day delay in receiving results, which is not optimal. Also, the specimen will have to be spun down and shipped frozen.
Your local doctor or clinic will require a doctor's order to do any testing.
Your nurse will provide you with blank forms to be used as needed.

OUT OF COUNTRY PATIENTS
We have many people plan and originate their IVF cycle from countries other than India. The most challenging aspect of this is the medications. In most cases, pharmacies cannot deliver to you from the India, and your local pharmacies will require the prescriptions to come from a local physician, not a Indian physician. You will need a local physician to help you obtain the necessary medications. We will provide a list of needed medications for you.
Of course, you will need to be monitored with sonograms and blood testing prior to your arrival to the India. We will provide you with the orders for these tests, however, it is your responsibility to find a doctor or clinic that can provide these services for you and send the results of the testing to PARIVAAR IVF the same day.

THREE OPTIONS FOR TRAVEL PLANS

1) Come to Jalandhar and stay here for the duration of your cycle for two weeks or perhaps

longer.
2) We recommend that you come to our clinic in Jalandhar, Punjab for monitoring after you have taken gonadotropin stimulation for seven nights. This is so that we can monitor your progress and determine the optimal time for egg retrieval based on our own evaluation. We believe this will provide a better outcome.
It also makes travel arrangements more structured and easier for you to plan. (Keep in mind, however, that every cycle is different and all instructions are based on your individual response to the medications; therefore, you may be asked to arrive earlier or later than this.)
3) We realize that for various reasons it may be extremely difficult or even impossible for you to be here in Jalandhar prior to the day of your egg retrieval, although we recommend that you come if you can. It is of the utmost importance that we have your results from monitoring each day no later than 3 pm so the physician can review them and the nurse can give you instructions. This option allows you to stay at home longer, but requires flexibility with regard to your travel plans. If you plan on staying home for the duration of your monitoring, you must be able to travel with one day's notice.
You must be under the care of a local Ob-Gyn, even if he/she is not involved in your IVF treatment. There may be circumstances other than your IVF treatment in which you may need to be monitored by a local physician. Please make arrangements now to have a physician available to monitor you after embryo transfer in case you have any complications or in the event that you become pregnant.
Take an active role in monitoring your medication supply. At the onset of your cycle we will order enough medication to get you through a 10-day period of the original dosage of medication. Your dosage may be increased or you may need to stay on the medication for longer than ten days. In short, your supply of medication is something that you will have to keep an eye on. You are responsible for ordering more medications if you need them. Please make sure you do not run out of medication, as it is difficult to obtain these specialized medications at the last minute. If you are not sure if you need more, inform your nurse that you are running low and ask if she recommends you refill the prescription. Refills are available at the pharmacy the medications came from. All that is required to obtain more medication is for you to contact the pharmacy and request a refill. The pharmacy is already authorized by our office to provide refills and will only require payment from you prior to dispensing the medications.

• Please do not start or stop using any medications unless specifically instructed to do so by a nurse or physician.
• Please see the our website http://parivaarivf.com for hotel, transportation and other information that will facilitate your travel to the Jalandhar area

Logistical Information for Out-of-Town Patients

We would like your stay in the Jalandhar area to be as pleasant as possible. We will do everything we can to assist you and to minimize your time away from home. Although you will need to come to Parivaar IVF centre for morning monitoring and for your procedures, you should have ample free time to explore and relax. If you are a donor egg recipient or are in a frozen embryo transfer cycle, you will generally need to be in this region for only about three days; for an IVF, ICSI or PGD cycle with fresh embryo transfer you will generally be here for about one week.

Please let us know if we can be of further assistance. We hope you enjoy your visit!

Please visit our website at http://parivaarivf.com for a complete listing of hotels, restaurants and areas of interest in the Jalandhar region.

TRANSPORTATION

Airports

1. Sri Guru Ram Das Jee International Airport (ATQ), Amritsar
2. Chandigarh International Airport (IXC), Chandigarh
   (The above are both approximately 2 hours by car from the Institute.)
3. Indira Gandhi International Airport (DEL) is an alternative but is 5-6 hours from the Institute.

Coping with Infertility

TO ALL OF OUR PARIVAAR IVF PATIENTS

If you are one of the many people diagnosed with infertility, you are not alone.

It is a very widespread issue and surprisingly one in every 7-8 couples are affected by it. The good news is that with the proper medical treatment, more than 70% of people diagnosed with infertility can conceive. Nonetheless, dealing with infertility can be one of the most trying experiences of your life. Often, infertility is unexpected and you find yourself going down new and never imagined paths. While medical treatment options continue to improve, the choices and decisions one faces are frequently very difficult to make. Infertility can impact you, your social life, family life, finances, relationships, marriage and work. Infertility can be stressful. And it often changes your image of how and when you will have a child. Knowing that you are not alone is important in reducing stress and anxiety as you navigate through the medical testing, procedures and decisions.

While stress does not cause infertility, it impacts your overall health. Sometimes prolonged stress leads to anxiety, depression, or even a sense of isolation and desperation. This type of stress has a negative impact on being able to keep medical processes in perspective. Having information to understand your options and treatment plan is critical and will add to your sense of control. PARIVAAR IVF recommends that you seek support before, during and after decisions and procedures to reduce the stress that can lead to depression and/or anxiety. For some people, joining a support group is an excellent way to share your experience and reduce your sense of isolation. If you are concerned about the impact infertility is having on you or your partner, or would like to learn about the resources available to help and support you during this time, contact us for a confidential meeting with an on-site counsellor. You are not alone in dealing with infertility and you don't have to suffer quietly.

Coping Strategies

UNDERSTAND YOUR TREATMENT

Knowledge often reduces the fear and anxiety that contribute to stress. Review this entire manual so that you are familiar with the tests and procedures you will have.
If you have questions, please be sure to ask your physician or nurse to explain anything you may not understand. We know that you are receiving a lot of information and that at times it may seem confusing. We are here to help.

PARTICIPATE IN YOUR TREATMENT
Write down any questions that you may have. Blank pages have been provided at the back of the binder for you to record your thoughts, concerns or observations. Also, take notes during your meetings with your medical team. Be sure to let us know how you are feeling throughout your treatment.

TRACK YOUR TREATMENT
Keep track of all information related to your care. Record your tests and procedures and the dates and fees associated with them. Record your medication dosage, frequency, and duration. Review your insurance information to be sure that you are receiving the maximum benefit allowable in your plan. Keep a journal to record this experience.

TAKE CARE OF YOURSELF
Be gentle and kind to yourself. Don't neglect your overall health; eat right, exercise and get enough sleep. Indulge yourself occasionally.

CONSIDER COUNSELING
The empathy and objectivity of a good counsellor can help you understand and deal with the intense emotions associated with infertility. Strength and perspective can also be gained by sharing your experiences and feelings with others in the same situation. It helps to know that you are not alone. We offer on-site counselling for those who are interested. Please see the PARIVAAR IVF website http://parivaarivf.com for details.

Frequently Asked Questions

If I have a cold, what medication can I take for it?
You may take Tylenol to help treat a fever. For other cold symptoms, you may take Robitussin and Sudafed as long as they do not have a suffix (ex. Robitussin-DM is not approved. Only take regular Robitussin). See comprehensive list under IVF Do's and Don'ts in the IVF 101 section.

What kind of exercise can I do while I am in a treatment cycle?
We recommend that you avoid excessive, strenuous exercise once you start the stimulation medication during a treatment cycle. You should avoid high impact aerobics. It is very important to stay well hydrated, but you can still be active. Some recommended activities include walking, swimming, using an elliptical machine, biking, hiking and yoga.

Why do you want me to take birth control pills?
Birth control pills have several functions. They help to regulate the menstrual cycle so that there is a steady hormone release. They help to thin the lining of the uterus to prepare you for an IVF or frozen treatment cycle. They also help to decrease the presence/size of cysts that may be left over from the previous month. Finally, they may help to synchronize the best group of follicles to lead into stimulation.

Are headaches and breakthrough bleeding normal while I am taking the birth control pill and/or Lupron?
Unfortunately, those are common side effects of both medications. For the headaches, you may take Extra Strength Tylenol every 4-6 hours as needed. If you have any dizziness or blurred vision, please call the nursing office. Lupron will cause your period to start.
Spotting or bleeding is normal while on Lupron.

What is the purpose of the baby aspirin?
One 81 mg baby aspirin is often recommended to help thin the blood, which may increase blood flow to the uterus to create a better uterine lining for implantation to occur Your doctor will advise you if this is recommended for you. If you are taking this medication,
please stay on ,t through your pregnancy. Your Ob-Gyn will advise you to discontinue around 36 week's gestation.

Is it okay if I take my stimulation medications a little late?
There is about a two-hour window in which to take your stimulation injection. It does not have to be at the exact same time each night but be consistent and try to keep it within a three-hour window. We recommend 6-9 pm.

Is it okay to take hCG shot later than instructed?
No! It is critical to take the shot at the time you are instructed by your nurse. The egg retrieval is timed precisely 35 hours after this injection.

Should l take my medication the day of the embryo transfer?
Yes! Continue all medications you are taking through the morning of the embryo transfer.

When you arrive for transfer, you will get new instructions regarding the antibiotic. The estrogen/progesterone supplement must be taken at least through the first pregnancy blood test.

Is it normal to have cramping and coloured discharge after my embryo transfer?
It is normal to have some minor cramping after transfer. It is also normal to have discharge that has a brown/red/grey appearance (especially if you are taking the Crinone Gel suppository).

Can you tell if l am pregnant with twins by the results of the hCG level?
There is no way to tell by the numbers alone if you could be pregnant with more than one foetus. We will do our best to suggest what the numbers might mean, but the only way to know for sure is when you have your gestational ultrasound (done I month after retrieval or about 2 weeks after your pregnancy test).

Why do my spouse and I need to have infectious disease testing updated for a frozen embryo transfer (FET) cycle?
This is for your protection and ours and is consistent with standard guidelines. We have to be able to document that both intended parents are free from infectious disease prior to embryo transfer. Even though we are not using a fresh sperm specimen, if the male partner were infected with HIV or hepatitis, he could transmit it to his wife and the foetus. If there is an infection, it must be documented and the patients counselled prior to embryo transfer.

Potential Risks of IVF

Over one million babies have been born worldwide through IVF since 1978. Many studies in the past have looked at pregnancy outcomes and have shown no increased risks in babies conceived with IVF.

However, recently some studies have suggested that babies born through IVF are more likely to have a lower birth weight and preterm delivery. Additionally, there have been some reports of a small increase in the risk of congenital (present at birth) abnormalities including cardiovascular defect, musculoskeletal defects, gastrointestinal defects, neural tube defects, urogenital defects and certain rare disorders such as Beckwith-Wiedemann syndrome, Angelman syndrome and retinoblastoma.

Other studies have disagreed with these findings. It is not clear whether these outcomes may be related to the IVF process itself or related to being infertile. Additionally, some of the studies have been criticized with regards to study design, if present, any added risk remains low. For further discussion, please speak to your physician.

PARIVAAR IVF Dictionary

AMA : Advanced Maternal Age. Any patient 35 years or older has this diagnosis. Also referred to as advanced reproductive age (ARA.).
AGONIST : aka GnRH Agonist. Medication that can initially stimulate ovaries ("flare"), but with use over time acts to suppress LH surge and control ovarian stimulation in FSH cycles. Example: Lupron, microdose Lupron and Synarel.
ANTAGONIST : aka GNRH ANTAGONIST Used to suppress LH surge, started after FSH has begun stimulating ovaries. Often used on patients who have responded poorly to long-term Lupron or who want to start quickly. Potentially fewer shots. Includes Ganirelix, (Antagon) and Cetrotide.
ANTAGON : Ganirelix. See Antagonist.
ANEUPLOIDY : "Incorrect pairing." Trisomy 21 is an example of aneuploidy. Can also include monosomy. When we use PGD to test for aneuploidy, we look at chromosomes 13, 15. 16, 18, 21, 22, X, Y.
ASA: Acetylsalicylic acid, also known as Aspirin.
ASSISTED HATCHING : One stage of embryo development requires the embryo to break through an outer shell (zona pellucida). If recommended by physician, an embryologist nicks the zona just before embryo transfer, thereby assisting the hatch. Assisted hatching may be indicated in cases of advanced maternal age, previous failed IVF cycles, or the appearance of a thickened zona.
AZOOSPERMIA : Absence of sperm in the ejaculate.
bHCG : beta Human Chorionic Gonadotropin. Also referred to as hCG. Pregnancy hormone produced by endometrium/placenta; acts to support corpus luteum (pregnancy depends on progesterone produced by corpus luteum until 7th week of pregnancy). At 14 days post start of progesterone (whether IVF or FET) we like to see hCG levels at about 50 mIU/ml. This number should double every two or three days until the 6th week of pregnancy.
BLASTOCYST: 5 day-old embryo which has many cells surrounding a cystic cavity.
CAV : Congenital Absence of the Vas Deferens. Often seen in male carriers of CF gene
CCCT : Clomiphene Citrate Challenge Test. Often part of initial infertility work-up to screen for low ovarian reserve (poor fertility potential/poor egg quality). As performed at PARIVAAR IVF, the patient has blood drawn for an FSH level. This is done any day between days 2 and 5 of her menstrual cycle, preferably during morning monitoring. On Days 5-9, she takes 100mg (two 50mg tabs) of Clomiphene Citrate by mouth in the morning. On Day 10 (MUST BE DAY 10), she repeats FSH level. The two levels are compared. A Day 10 FSH level above 10 is considered an indicator of low ovarian reserve. Note that while the CCCT is a good predic¬
tor of poor egg quality it is NOT a predictor of good egg quality; therefore a Day 10 FSH below 10 does not guarantee successful stimulation.
CED-FET : Controlled Endometrial Development Frozen Embryo Transfer. See FET.
CETROTIDE : see Antagonist. CLOMID see Clomiphene Citrate.
CLOMIPHENE CITRATE : (BRAND NAME CLOMID) Orally administered ovarian stimulant that acts by tricking the body into thinking there is insufficient estrogen present. The body responds by producing more FSH and LH.thus stimulating follicular growth. Note that Clomiphene Citrate can act as an anti-estrogenic in the uterus, causing thinner than expected linings.The doctor or nurse must be notified immediately if the patient reports

symptoms of visual disturbance - the medication may need to be stopped.

CYCLE REVIEW : A consult appointment that takes place after a failed IVF cycle. It is approximately 30 minutes with your physician. If you do not achieve pregnancy during your treatment, it will be necessary to review your previous cycle with your physician and discuss different options for proceeding prior to attempting another cycle. The Cycle review can be conducted over the phone or in person, whichever is preferable to you. There is no charge for this appointment.

ECTOPIC PREGNANCY : Pregnancy that occurs somewhere other than in the uterus (cervix, tubes, ovary, abdominal cavity, etc). Initially indicated by abnormally rising hCG levels which plateau. Upon ultrasound, an ectopic pregnancy may be confirmed by the absence of a gestational sac in the uterus. Ectopic pregnancy can be life-threatening and identified patients are advised to go to the ER immediately if they begin to experience severe single-sided pain and/or bleeding. At PARIVAAR IVF, patients identified as having ectopic pregnancy may be given methotrexate via an intramuscular injection(s) to stop cell division and arrest the pregnancy. Liver function tests and blood count levels are monitored in conjunction with this therapy. Patients who do not show decreased hCG levels within one week after the initial set of injections may receive a second set. The hCG levels must be monitored weekly until they are negative.

EGGS: OVA : The female gamete contained in a small sphere called a follicle, located in the ovary. Upon retrieval, classified as based on appearance and stage:

• Mature: usable in IVF, may be used for ICSI if also intact.
• Immature: IVF, not able to be used for ICSI unless mature within 2 hours.
• Post-mature: Suitable for IVF only, not able to be used for ICSI.
• Atretic: dead

ESTRADIOL : aka E2. Measured as pg/ml. In normal menstrual, IUI and IVF cycles, estrogen is produced by follicles, causing uterine lining to thicken. Egg quality is reflected in daily E2 levels — each good egg should produce 150-250 pg/ml of E2. In CED-FET
cycles, patients take oral estradiol to thicken lining. We prefer to see E2 levels of I50pg/ml or greater.

ESTROGEN : See Estradiol.

FET : Frozen Embryo Transfer cycle. Patient prepares uterus for transfer using one of the cycles outlined below.

NATURAL FET : In a normal menstrual cycle, the body develops a thickened uterine lining without using medication. We can monitor the menstrual cycle and transfer the embryos at the point of ovulation. The body does not discriminate between embryos that are introduced via embryo transfer and an embryo that is conceived in the fallopian tube.

CED FET : The lining of the uterus is thickened, using a combination of Lupron and Estradiol. When the lining is mature, progesterone is added and embryo transfer takes place days later. The entire cycle takes 4-6 weeks.

FIBROID : see myoma.

FISH : Flourescent In-SituHybridization. Used in PGD for aneuploidy, translocation and gender determination. Chromosomes labeled with colours ("probes") to count pairs. For example, if trisomy, will see 3 dots of same colour representing triploid chromosome.

FOLLOW-UP APPOINTMENT: approximately 30 minutes with your physician. A follow-up should be scheduled if you would like to spend time discussing your treatment in detail, if you feel that you need additional time to address your concerns.

FSH FOLLICLE STIMULATING HORMONE: Generated naturally in the anterior pituitary. In

normal menstrual cycle, signals ovaries to begin to recruit and grow follicle for monthly ovulation. Given to patients in injection form to stimulate growth of multiple follicles. Initial dosage determined by your doctor taking into consideration patient's history, age and past response to similar meds. Most FSH medications are administered in increments of 75IU. Some FSH formulations are made by recombinant RNA. Other formula¬tions may additionally contain LH derived from a human source. Brand names of FSH medications are: Gonal-F, Follistim, Bravelle, Repronex and Menopur.

GLUCOPHAGE : see Metformin.

GESTATIONAL AGE : Although this may sound confusing, you are considered two weeks pregnant on the day of egg retrieval. (This is due to the way gestational age is calculated, which is from the date of last menstrual period, not from conception.) Using the traditional calculations, conception is thought to take place 14 days from the last menstrual period. Because we know conception occurred on the day of egg retrieval, we plot your gestational age as "two weeks" at the point of egg retrieval. Your actual last menstrual period is not relevant because of the IVF treatment. You will be assigned a date to use as your "last menstrual period" in order to calculate your due date. This assigned last menstrual period is two weeks prior to the date of egg retrieval. Your due date will be 40 weeks from your assigned last menstrual period, which is 38 weeks from the day of retrieval.

HYSTEROSALPINGOGRAM (HSG): Diagnostic test of the uterus and fallopian tubes (salpinges) wherein radio-opaque dye is injected into the uterus and Xrays are taken to evaluate the uterine lining and to determine tubal patency.This procedure is not performed at PARIVAAR IVF, but at a radiological center. This procedure must be per¬formed between days 5-12 of the men-strual cycle or at any time while the patient is on birth control pills. Patients are instructed to take 600-800mg of Ibuprofen or 400mg Naproxen one hour prior to the procedure.

HYDROSALPINX : Accumulated fluid in one or both salpinges (fallopian tubes) that usually are bacteria-laden and contribute to infertility.

HYSTEROSONOGRAM (HYS) : aka Sonohysterogram. Ultrasound test of the uterus, often ordered for patients in the early stages of infertility diagnostics. Using a special catheter, saline solution is injected into the uterus. A transvaginal ultrasound probe is used to evaluate the uterine lining and walls, looking for abnormalities such as polyps or fibroids. This test does not evaluate the fallopian tubes (see Hysterosalpingogram).This procedure must be performed between days 5-12 of the menstrual cycle or at any time while the patient is on oral contraceptives. Patients are instructed to take 600-800mg of Ibuprofen or 400mg Naproxen one hour prior to the procedure. At PARIVAAR IVF, this procedure is performed by an MD/NP and a sonographer; nursing is usually not involved.

ICSI: Intracytoplasmic Sperm Injection. Sperm is directly injected into an egg using high-powered microscopes and very small instruments.

IVF : In-Vitro Fertilization (fertilization in the lab) as opposed to in-vivo fertilization (in the body). A method of assisted reproduction that involves surgically extracting eggs (oocytes) from the female and combining these eggs with sperm in a laboratory. If fertilization takes place, the resultant embryos grow for 3 to 5 days in the IVF laboratory prior to being transferred into the woman's uterus where, it is hoped, the embryos will implant and grow.

IUI : Intrauterine insemination. Process in which specially prepared/washed sperm is placed directly into the uterus using a catheter to bypass the cervix. Unwashed sperm MAY NOT be placed in the uterus as severe reactions to proteins in the seminal fluid will occur. Patients monitor for ovulation using Ovulation Predictor Kits (CC-IUI only) or blood work and

sonogram. Inseminations may be timed for 36 hours after a “trigger” shot of hCG (date determined by blood work) or by the OPK urine indicator. (Most often insemination will take place the morning after the surge is indicated.) At PARIVAAR IVF, lUI's may be performed by an MD or RN.

LDASA : Low dose acetylsalicylic acid - aspirin. Also known as LDA, Low dose Aspirin. 81 mg aspirin taken daily may improve perfusion of the uterus and thus improve lining quality.

LH : Luteinizing hormone. In the normal menstrual cycle, LH is released in small amounts by the pituitary, telling follicles to produce Estrogen. Later, rising LH (“surge”) stimulates the final maturation of eggs, follicular rupture and conversion of ruptured follicles into corpus luteum. In IVF cycles, we use Agonists and Antagonists to prevent LH surge. Some FSH medications contain small amounts of LH to promote follicular ripening (ex: Repronex).The “trigger shot” of hCG given at the end of all IVF cycles and many IUI cycles acts as an LH surge.

LUPRON : see Agonist. Administered sub-Q. Usual concentration I mg = 0.2ml.

METFORMIN : aka GLUCOPHAGE Oral antihyperglycemic used in the treatment of many PCOS (see PCOS) patients. When starting Metformin, most patients are instructed to increase their dose over the course cf several weeks (one 500mg tablet per day for a week, 2 tablets per day for a week and then 3 tablets per day). Nausea, diarrhoea and headache are common side effects. Patients should try eating several small meals per day, including a bedtime protein snack. Before starting Metformin, patients will have blood drawn for BUN, Creatinine. Patients taking Metformin who get pregnant are usually instructed to continue the med through the first trimester of pregnancy.

METHOTREXATE (MTX) : Anti¬cancer agent used to arrest embryonic cell division in cases of ectopic preg¬nancy. Methotrexate is injected intra¬muscularly in a divided dose by a nurse. Patients are asked to refrain from prenatal vitamins while receiving MTX treatment, as certain elements may reduce efficacy.

MICRODOSE LUPRON : Diluted form of Lupron.

MORNING MONITORING : Combination of blood work and or sonogram to evaluate patient’s hormones, ovaries and uterus in order to determine whether it is appropriate to start an 1VF cycle or to evaluate how the patient is responding to medications during an IVF cycle. On average, patients are monitored 5-6 times during the approximately 2 week time period that is the IVF cycle. Hours for monitoring are Monday through Friday from 7:00 am to 9:00 am, weekends and holidays from 7:30 am to 9:00 am. While monitoring visits are relatively quick, it is extremely important that you make every attempt to arrive at your scheduled time. In order to process all of the results for that day, to determine medication adjustments and to contact all of the patients, we must conclude monitoring by 9:00 am to ensure same day results.

MYOMA : (FIBROID) Benign growth in the uterine wall. Only fibroids approaching or encroaching upon the uterine cavity may need to be removed, as they may prevent implantation of an embryo.

NATURAL FET : see FET.

NEW INFERTILITY CONSULTATION : Approximately one hour with a physician

NSA : Non-Surgical Sperm Aspiration. Medicated procedure at PARIVAAR IVF in which needle and special vacuum tool are used to extract a sample of testicular tissue to obtain sperm for IVF/ICSI. Sometimes performed diagnostically. Used in cases of azoospermia, severe oligospermia, CAVD, para/quadriplegia. Occurs on same day as retrieval. If using female partner eggs (as opposed to donor eggs), couple must have arranged a ride, as they

will both be medicated.
OCP : Oral Contraceptive Product otherwise known as birth control pills.
OLIGOSPERMIA : Low sperm count.
OVARIAN HYPER¬STIMULATION SYNDROME (OHSS) : Potential serious side effect of ovarian stimulation, patients with OHSS may present with symptoms of severe abdominal bloating, weight gain, nausea, vomiting, diarrhoea, constipation, abdominal pain, shortness of breath (walking, talking), easier breathing in an upright position. Symptoms usually appear within a week after egg retrieval and are the result of a not- wholly understood third-space shift of fluid. OHSS occurs in 1-3% of IVF patients, OHSS is associated with large numbers of follicles and elevated E2's, thus close monitoring is a key to prevention. At PARIVAAR IVF, any patient who receives hCG with an E2 greater than 4000 will receive prophylactic treatment. These patients are encouraged to drink balanced fluids such as Gatorade and to eat additional protein for the next few weeks. Patients who present with symptoms are scanned for abdominal fluid. As determined by the MD, patients may then undergo transvaginal cufdocentesis. This is performed at PARIVAAR IVF. Non¬pregnant patients will usually recover within 7-10 days: pregnant patients may take up to 3 weeks for resolution. Please note that many other IVF practices will not perform the culdocentesis procedure. Out-of-town patients at risk are encouraged to monitor for symptoms and understand they may be hospitalized for treatment.
P4 : Progesterone.
PCOS (Polycystic Ovarian Syndrome) : A problem of persistent anovulation associated with large numbers of small ovarian follicles. May also be associated with other endocrine disorders.
PGD (Preimplantation Genetic Diagnosis) : A cell is removed from a three-day old embryo and analysed. Desired embryos would then be transferred on Day 5.
PHONE BACK : Approximately 15 minutes with your physician. A phone back should be scheduled when you merely want to touch base or if you have a specific question about your care.
POF (Premature Ovarian Failure) : Indicated by anovulation and poor CCCT outcome.
PROGESTERONE P4: In normal menstrual cycle, progesterone is produced by corpus luteum (and later placenta) to encourage vessel growth in the uterine lining, thus providing better nutrition to an implanting embryo. Progesterone may be supplemented in women demonstrating luteal phase defect. At PARIVAAR IVF all IVF/FET patients are placed on progesterone supplementation starting on the day of egg retrieval (IVF) or on the day the uterine lining is considered best developed (FET) for implantation.
As Medication: Progesterone vaginal suppositories may be made to order by pharmacists (strength required for order). IM progesterone in oil was the original form and is insisted upon by other IVF agencies as blood levels reflect adequacy of supplementation. Vaginal applications are now available: Prometrium capsules are inserted three times daily, Crinone 8% gel is administered twice daily using its packaged applicator. Patients may choose type of progesterone supplementation based on cost or lifestyle. We generally recommend Crinone gel, which is very easy to use and effective, but more expensive.
RE (REPRODUCTIVE ENDOCRINOLOGIST) : A doctor with advanced specialized training in all forms of advanced reproductive techniques.
SERIALTHAW : Thawing of embryos for FET cycle until indicated number of intact embryos is achieved. For example: "serial thaw to three" indicates to the cryo lab to thaw as many embryos as it takes to get 3 intact embryos. (Note: only 50% of original cells must survive

thaw for embryo to be considered “intact.”) Compare to Straight thaw.
SONOHYSTEROGRAM : see hys- terosonogram.
STRAIGHT THAW : Indicates to embryo cryo lab exact number of embryos to thaw for FET cycle. For example: “straight thaw of three” tells lab to thaw only three embryos even if fewer than three are intact after thaw. (Note: only 50% of original cells must survive thaw for embryo to be consid¬ered “intact”) Compare to Serial thaw.
SYNAREL : See Agonist. Administered nasally. Usual dose 2 puffs twice daily

Parivaar IVF

Parivaar IVF Centre

(A unit of

Holy Family Nursing Home & Maternity Hospital)

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