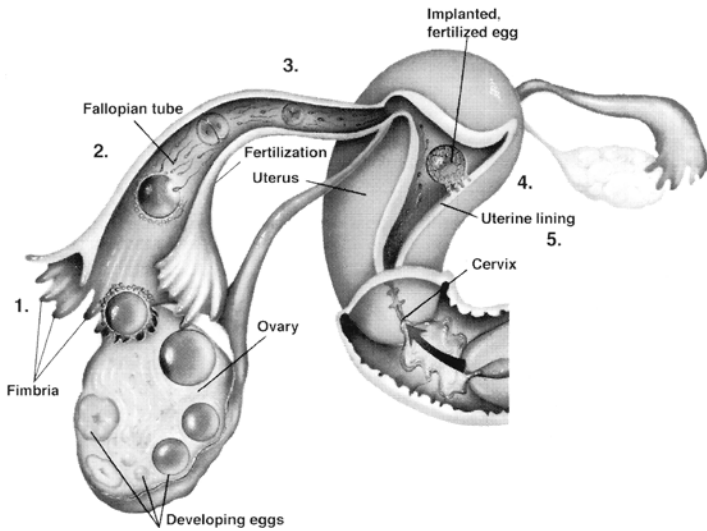


SPONTANEOUS CONCEPTION

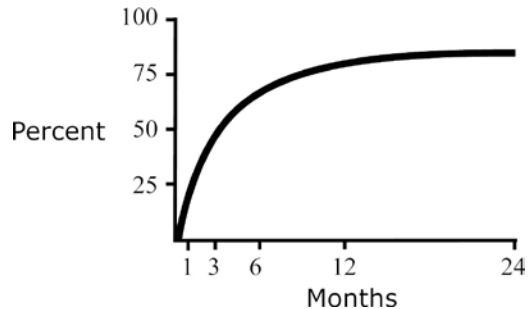


1. Fourteen days prior to the beginning of a new cycle, an ovarian follicle releases a microscopic egg.
2. Sperm, which can wait in the Fallopian tubes for several days, must fertilize the egg within 12 to 16 hours of ovulation.
3. The fertilized egg (embryo) moves through the Fallopian tube and starts to divide the day after fertilization. In two days, it has 4 cells, in three days, 8 cells and in six days it has over 100 cells.
4. Female hormones estrogen and progesterone, produced by the ovulating follicle, prepare the lining of the uterus for implantation.
5. Six to eight days after fertilization, the embryo hatches out and implants into the lining of the uterus and starts to produce the pregnancy hormone (hCG).

INFERTILITY

Infertility is defined as no ongoing pregnancy after 6-12 months of sexual activity without contraception.

A. Speed of conception in the general population:



Monthly pregnancy probability:

- 1st month: 20-25%
- 13th month: 1.5%
- 25th month: 0.1%

B. There are three groups of causes of infertility:

1. Male Factor: Sperm production and sperm fertilizing capacity
2. Ovulation: Egg production, egg quality and preparation of uterine lining for implantation
3. Passage: The joining of sperm and egg in the Fallopian tubes and transport of the fertilized egg

C. Female age and fertility:



Loss of female fertility:

The decrease in female fertility potential is due to the loss of high quality eggs. The receptivity of the uterus is not decreased. This age-related loss of fertility magnifies the impact of any other infertility factor(s) present.



AGING AND FEMALE FERTILITY POTENTIAL

Of the three primary factors playing a role in human conception (egg quality, sperm quality and the function of Fallopian tubes), egg quality is the most crucial in determining the probability of a live birth. It is the quality of eggs within the ovaries, rather than the receptivity of the uterus, that determines female fertility potential.

Female fertility begins to decline many years prior to menopause despite continued regular menstrual cycles. The probability of a live birth decreases 3-5% per year after the age of 30 and at an even faster rate after the age of 40. Unfortunately, as women age they also have a higher miscarriage rate.

The decreased probability of a pregnancy is due to the normal changes which occur in the woman's ovaries with aging. Most women have about 600,000 eggs in their ovaries at puberty. For each egg that matures and ovulates during a menstrual cycle, at least 500 to 1000 do not fully mature and are reabsorbed by the body.

As a woman ages, the remaining eggs in her ovaries also age, rendering them less capable of fertilization and of being able to develop into normal embryos. In addition, fertilization of these eggs is associated with a higher risk of genetic disorders. Fortunately, the vast majority of genetically abnormal pregnancies end very early, often resembling a normal menstrual period.

It is now possible to genetically test early embryos (PGD: Pre-implantation Genetic Diagnosis) as a part of In Vitro Fertilization treatment and minimize the likelihood of transferring genetically abnormal embryos into the uterus.

Risk of Chromosomal Abnormality in Newborns by Maternal Age

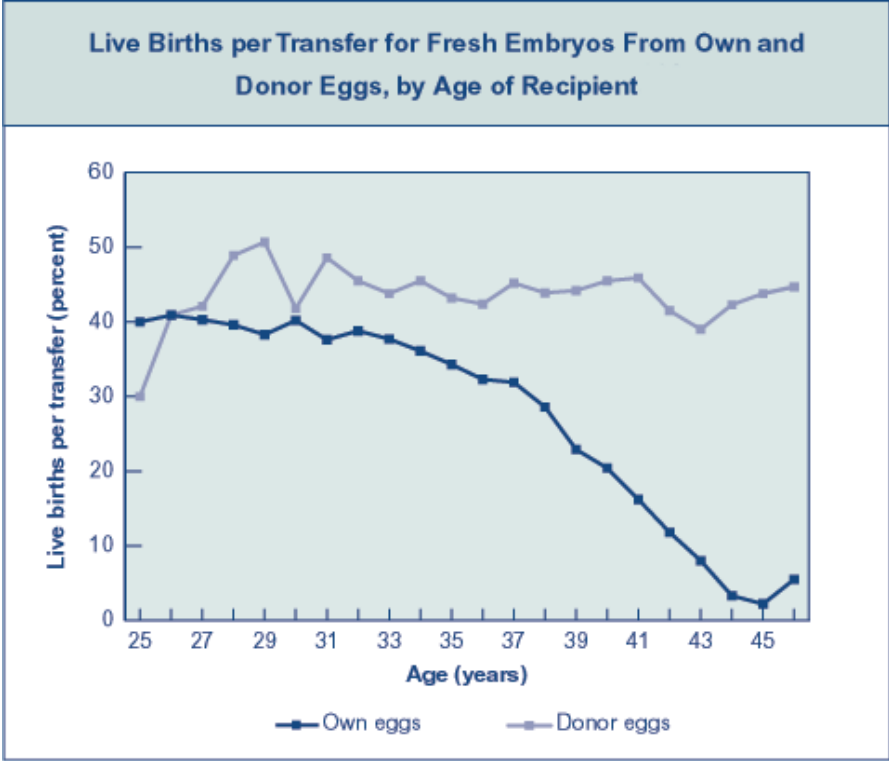
Maternal Age (years)	Risk of Chromosomal Abnormalities
20	1/526
25	1/476
30	1/385
35	1/192
40	1/66
41	1/53
42	1/42
43	1/33
44	1/26
45	1/21

Even with advanced infertility treatments, such as In Vitro Fertilization which is among the most powerful techniques to help infertile couples conceive, fertility decreases and the chance of miscarriage increases with advancing female age.

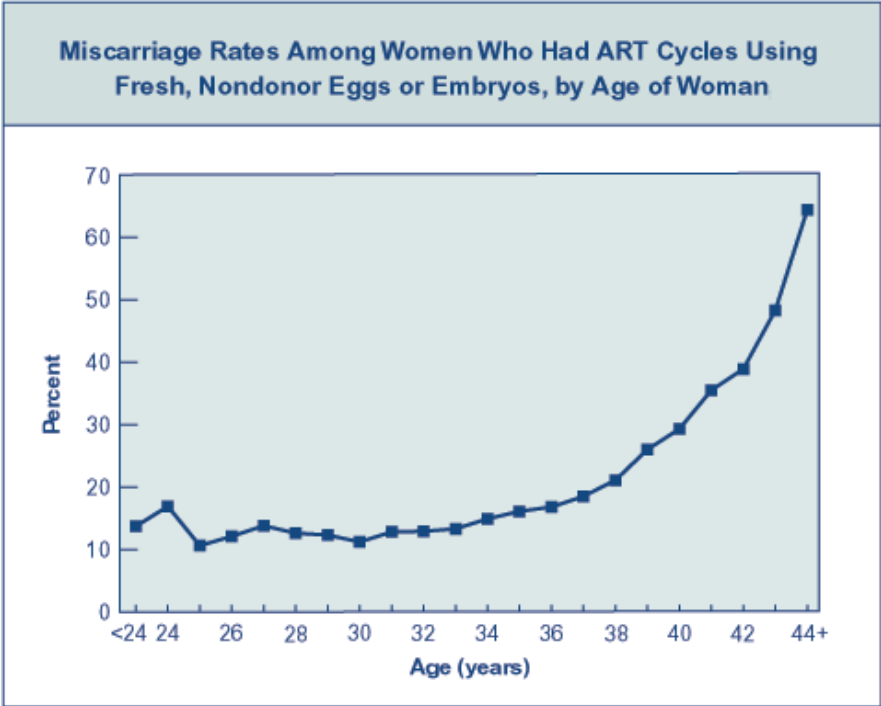
The following illustrations, from the Center for Disease Control (CDC) compilation of national IVF and oocyte donation data, show the impact of female age on the female fertility potential.

Please note that these graphs represent the nation-wide statistic; the live birth probabilities at Nova are higher.

Many infertility specialists recommend that women over the age of approximately 38 years, who are trying to conceive, should have aggressive treatment and proceed to In Vitro Fertilization quickly before their remaining fertility potential is lost.



IVF live birth rates begin to decline in the early thirties and are very low in the early forties. The likelihood of a fertilized egg implanting is related to the age of the woman who produced the egg and not to the receptivity of the uterus. Egg donors are typically in their twenties, thus the live birth rate for egg donation treatment varies only slightly across all age groups of the recipients.



This graph shows that a woman’s age also affects her risk for miscarriage. The rates begin to increase among women in their mid-to-late thirties and continue to increase with age, reaching 43% at age 42 years. The miscarriage rates observed among women undergoing ART (Assisted Reproductive Technologies, i.e. IVF) procedures appear to be no higher than in pregnancies conceived through intercourse.



N o v a I n V i t r o F e r t i l i z a t i o n

Treatment Protocol Intrauterine Insemination (IUI)

Intrauterine inseminations (IUI) have been used to treat infertility at Nova IVF since 1987. The partner's or donor's semen can be used for the IUI.

This treatment is most appropriate for couples without a significant oocyte (egg) quality factor, with patent Fallopian tubes and no history of male factor infertility. IUI is commonly used as a less expensive alternative to more advanced infertility treatments should be considered (i.e. *in vitro* fertilization).

IUI should not be used for couples with a history of long-standing infertility (longer than 18 months) or if the female partner is 40 years or older. At this age, the remaining reproductive time has become too valuable and treatments with a higher chance of success (i.e. *in vitro* fertilization).

It is important to remember that the intrauterine insemination is NOT a treatment for male factor infertility. In fact, with the presence of male factor infertility there is no higher probability of conception with artificial insemination than there is with intercourse. Couples with male factor infertility will need to consider *in vitro* fertilization treatment.

Since IUI success increases when combined with ovarian stimulation, with either oral or injectable medications, many couples undergoing intrauterine inseminations at Nova IVF will have ovarian stimulation as a part of their treatment

The intrauterine insemination is timed to your ovulation. If the IUI is done without stimulation, you will have one or more ultrasound examination of the ovaries for precise IUI timing. You may also be asked to do home ovulation predictor urine testing.

If the IUI is done in conjunction with ovarian stimulation, the response of your ovaries will determine the timing of the insemination.

The morning of the IUI, the male partner collects a semen sample either at home or at Nova. The embryologists will prepare the sperm for the insemination. This multi-staged process of retrieving the highest quality sperm from the semen sample will take approximately two hours. The sperm are then loaded into an IUI catheter.

The intrauterine insemination is done by passing the soft, thin catheter through cervical canal into the endometrial cavity. The catheter is advanced to within 5mm of the top of the uterus and the sperm are gently released. The insemination usually takes only a few seconds and you may not even feel the catheter being passed.

If you wish, you can rest afterwards but resting is not a requirement at Nova. Your pregnancy test will be scheduled 2 weeks after the insemination.



N o v a I n V i t r o F e r t i l i z a t i o n

Prerequisites Intrauterine Insemination - IUI

There are very few prerequisites needed. You could complete them within a couple of weeks and be ready to start your treatment cycle.

It may be possible to reduce the cost of your prerequisites by combining two or more prerequisites into a single office visit at Nova IVF. The prerequisites are usually considered a diagnostic part of the treatment and many times your insurance company may cover a portion or most of the cost. Some prerequisites can be done by your regular OB/GYN.

Once you have had your initial consultation, you will need to complete the following prerequisites:

Physical Examination

A brief physical examination is done together with a pelvic ultrasound. These are ideally done at the time of the initial consultation to reduce treatment cost.

Pathogen Testing

This testing is required by the State of California. The male partner must be tested for Hepatitis B-Surface Antigen, Hepatitis C-Antibody, HIV I&II, HTLV I&II and RPR. If any of these tests were done within the last 12 months, they do not need to be repeated.

Ovarian Reserve Testing

Oocyte (egg) quality is one of the determining factors of a successful treatment. We use reproductive hormone assay (RHA) to assess the likelihood that normal eggs can be produced.

Follicle stimulating hormone (FSH) and estrogen blood levels are measured in the RHA. FSH stimulates the ovaries to produce eggs. If the ovaries cannot produce normal eggs, the FSH level increases. Estrogen production by the ovaries influences the FSH secretion and is also related to the quality of the eggs.

Most women will have a normal reproductive hormone assay result. An abnormal result does not mean absolutely that you cannot get pregnant with your own eggs and we typically recommend repeating the test up to three times.

Semen Evaluation

The male partner will need to have a semen test done at Nova IVF *prior* to the beginning of treatment to determine the best laboratory method of preparing sperm for intrauterine inseminations.

If you need any clarification or additional information, please give us a call or email us.

Treatment Fee Intrauterine Insemination-IUI

Our intrauterine insemination treatment fee structure was designed to maximize the affordability of IUI.

Having more than one cycle of IUI can significantly increase the likelihood of a successful pregnancy. Most couples will have up to 3 to 9 cycles of IUI.

One cycle of IUI at Nova IVF is \$885. This fee includes the following services:

- All in-cycle office visit(s) and physician ultrasound examination(s)
- Preparation of semen for intra-uterine insemination
- Intra-uterine insemination
- Serum pregnancy test(s)
- Pregnancy ultrasound(s)

The treatment fee does not include the cost of pre-treatment evaluation and the state-mandated prerequisites (PDF).

Please see additional information on Nova Treatments and Fees page. If you wish, you can request an initial appointment for intrauterine insemination with one of the Nova physicians.

Fees are subject to change without notice.

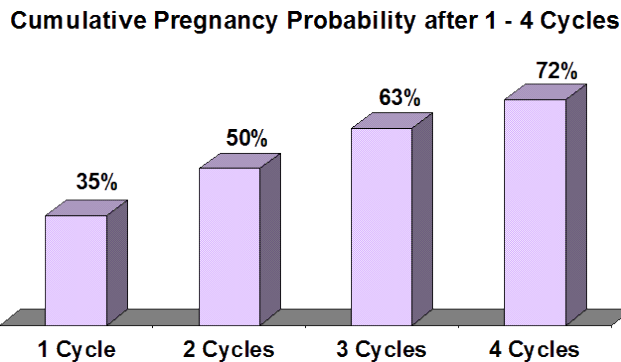


MAXIMIZING PREGNANCY PROBABILITY

You can significantly contribute to the successful outcome of your infertility treatment. Optimizing your health and selecting a treatment plan of two or more treatment cycles can have a considerable impact on the probability of a successful pregnancy.

Multiple Treatment Cycles

Having more than one cycle of treatment can substantially increase the likelihood of having a baby. The following graph illustrates the increase in live birth probability if you decide to have more than one cycle of treatment. In this example, we used an arbitrary 35% live birth probability per treatment. Your actual likelihood of a live birth could be higher or lower.



NOVA provides a diverse selection of very competitive multiple cycle treatment fee plans which can significantly reduce your per cycle cost.

Optimizing Your Health

Your physical condition could make the difference between successfully achieving a live birth and going through years of frustration of unfulfilled dreams. We urge **both partners** to adhere to the following recommendations as closely as feasible and to start implementing them **as soon as possible**.

1. Optimize your body's acid-alkaline balance

The pH of our blood is slightly alkaline. If we eat acidic food, our bodies have to work extra hard to keep the blood in an alkaline state. This extra work stresses our body and can lead to decrease of our fertility potential.

The choices of foods that we eat affect this balance. The typical North American diet is highly acidic. The best way to maintain the proper blood pH balance is to avoid acid producing foods and increase consumption of alkaline foods. Try not to go out to eat; prepare your own food as much as possible.

A. Eliminate or minimize the intake of the following acid-forming foods:

- All grains including corn, oat and flour-based foods (**bread, pasta, pastry, dumplings, tortillas, chips...**) except buckwheat and white rice up to 1 cup (cooked) a day
- Dairy (**cheese**) except milk, buttermilk, kefir and yogurt up to 1 cup a day
- Alcohol
- Coffee except de-cafeinated up to 2 cups a day
- Cocoa (use carob products instead)
- Nuts (except hazelnuts)
- Beans/legumes except up to 1 cup (cooked) a day (not canned!)
- Cranberry
- **Processed meat** (salami, sausages, hotdogs, canned meat)

B. Increase intake of the following alkaline foods (organically grown if possible):

- Apples
- Apricots
- Artichoke
- Asparagus
- Avocado
- **Bananas**
- **Berries** (all)
- Beets
- Bell peppers
- Bok choy
- Broccoli
- Brussel sprouts
- Cabbage
- Cantaloupe
- Carrots
- Cauliflower
- Celery
- Chard
- **Coconut**
- Cucumber
- Dates
- Eggplant
- **Figs**
- Garlic
- Ginger
- Green peas
- Grapefruit
- Grapes
- **Kale**
- Kiwi
- Lemon
- Lettuce
- Mango
- Melons (all)
- Nectarine
- Olives
- Onions
- Orange
- Papaya
- Parsley
- Peach
- Pear
- Persimmon
- Pineapple
- Potatoes
- **Raisins**
- **Spinach**
- Salad mix
- String beans
- Sweet potatoes
- Tomatoes
- Zucchini

2. Consume an *abundance* of essential fatty acids:

- Deep-sea fish and fish oil from non-polluted sources (<http://novaivf.com/images/pdf/Best Fish for Your Health.pdf>)
- Flaxseed and pumpkin seed oils
- Broccoli, cauliflower, beets, carrots, kale, collards, cabbage and brussel sprouts
- Raw seeds
- Eggs (no more than one a day on average)

3. Eliminate or minimize intake of trans fatty acids (very important):

- Fried foods (if you must have occasional fried food, use coconut oil only)
- Vegetable shortening
- Margarine
- Lard
- Animal fat
- Hydrogenated vegetable oils
- Junk food

4. Vitamins

Take high-potency, high-quality natural multivitamins and mineral supplements (both partners-very important). Take a minimum of 1mg of Folic Acid daily.

5. Exercise

Unless you exercise regularly, several times a week, start daily walks (outdoors!) for a minimum of 45 minutes each.

6. Volatile Organic Compounds (VOC)

Many everyday products off-gas VOC's. It is very important to minimize your exposure (both partners) to VOC's:

- Petroleum products (avoid car exhaust fumes and solvents, use disposable gloves when filling up your car)
- Off-gassing from plastics and building materials (do not drive a new car when trying to conceive, do not remodel your home or buy a newly constructed house)
- No exposure to cigarette smoke (both partners)
- Eliminate or minimize use of perfumes and colognes (unscented deodorant is ok)
- Do not dry-clean your clothes
- Eliminate air fresheners at home and in your car(s)
- Consider purchasing a VOC-scrubbing air purifier for your bedroom if you sleep with the windows closed (search internet for "voc air purifier")

7. Stress

Get plenty of sleep and try to minimize your everyday stresses.

8. Acupuncture

It is ok to have acupuncture

9. Chinese medicine

It is ok to use Chinese herbs as long as they are for strengthening your health only and do not have any female hormone-like effect.