



## **INTRAUTERINE INSEMINATION**

Intrauterine insemination (IUI) is a form of therapeutic insemination (TI) using the husband or donor's sperm. Therapeutic insemination has been used as treatment for infertile couples for many years. More recently, IUI has become an option for many couples prior to considering more complicated and expensive assisted reproductive treatment such as in vitro fertilization (IVF).

IUI involves bypassing the cervical mucus barrier and depositing a concentrated population of motile spermatozoa, washed free of seminal plasma, directly into the uterus. This is performed as close to the time of ovulation as possible. Many different sperm washing techniques can be used, e.g., Percoll separation, chymotrypsin treatment, buffered wash, "soft" wash, etc. The choice of technique will depend on the quality of semen to be processed.

### **INDICATIONS FOR IUI:**

IUI is now being used in infertile couples demonstrating abnormal male or female factors, or both.

### **MALE FACTOR: INDICATIONS**

- Decreased sperm counts.
- Decreased sperm motility when sperm processing appears to correct the defect.
- Decreased sperm quality, e.g., clumping or hyperviscosity.
- Disorders of sperm function, e.g., defective egg penetrating ability as determined by laboratory testing (hamster egg penetration test), where increasing sperm concentration or special processing of the sperm (Percoll separation) appears beneficial.
- Defects of the penis, e.g., hypospadias or severe penile curvature.
- Retrograde ejaculation or other forms of ejaculatory dysfunction, e.g., spinal cord injury patients who need electroejaculation.

### **FEMALE FACTOR: INDICATIONS**

- Scant or unreceptive mucus
- Persistent cervicitis
- Cervical stenosis

## **UNEXPLAINED INFERTILITY**

### **DONOR INSEMINATION**

Since government guidelines recommend the use of only frozen sperm for insemination, infertility specialists must act accordingly. Frozen sperm are stored for 6 months, and the donor is tested for HIV. If the donor tests negative, the frozen sperm are released for use in artificial insemination. In addition, IUI results in an increased pregnancy rate and requires fewer sperm per insemination compared to cervical insemination.

### **SUCCESS RATE**

Data from several programs has indicated success rates for IUI with husband's sperm ranging from 5% to 40%. There should be a period of at least 6 months with documented ovulation and accurately timed IUI before treatment is considered a failure and an alternate therapy considered. IUI with donor sperm has a range of success from 40% to 70%.

### **SPERM PROCESSING**

- The goal of sperm processing is to select a fraction of highly motile, morphologically normal sperm, as free of inflammatory cells (white blood cells), debris, and seminal fluid as possible.
- Several methods exist for processing spermatozoa from the ejaculate, e.g., swim-up, buffered washing and Percoll gradient separation.
- Seminal plasma contains prostaglandins and other substances that may cause uterine cramping when placed directly into the uterus; processing markedly decreases these contaminants.
- The method for processing the sperm will be decided by your doctor prior to the time of insemination.

### **TESTING**

Certain testing is required for patients undergoing both husband insemination and donor insemination. Some physicians require that all couples have an HIV test before insemination can begin. This can be done in the office. For donor insemination, there will be other tests performed.

### **SCHEDULING SEMEN PROCESSING AND IUI**

Accurate timing of ovulation is crucial to achieving a pregnancy with IUI. Several methods can be used to determine the time of ovulation: basal body temperature monitoring (BBT), ovulation predictor kits (e.g., Ovuphone), and follicular ultrasounds. It is highly recommended to use follicular ultrasounds and an additional "at home" method to help determine the time of ovulation. Your gynecologist most commonly will decide how ovarian monitoring will take place.

The physician will ask you to call the office at the beginning of your menstrual cycle to schedule an IUI. Ultrasounds and a tentative date for the IUI will be scheduled. Depending on the ultrasound reports, the IUI may need to be rescheduled within a

day or so of the tentative date. Working closely with your health care provider will help alleviate any misunderstanding and allow for accurate timing of the insemination.

Semen processing takes at least one hour. Due to the fact that several couples may need IUIs on the same day, it is essential to be as prompt as possible and to keep your scheduled time for processing and IUI unless otherwise prearranged.

The semen specimen is collected in a sterile container at home or in the office. If you need to transport the specimen, it should be kept warm (e.g., in your pocket) and transported as quickly as possible (within an hour). Sterile containers can be obtained from your provider's office.

## **THE PROCEDURE**

A doctor or nurse performs the IUI. It usually is simple, painless, and quick.

After the specimen has been processed, it will be placed directly into the uterus using a small catheter that passes through the cervical canal. A special sponge may be placed in the vagina to be removed by you after 5 hours. Some providers do not use the sponge since it does not necessarily improve success rates. You will remain in the procedure room on your back for about 15 minutes; you will then be able to leave and resume normal activity. It is recommended that you do not perform high-impact aerobic activities or heavy lifting until pregnancy has been determined.

On rare occasions, slight bleeding and some abdominal cramping may occur after IUI. Very rarely, infections or allergic reactions may result from an IUI. Allergic reactions in response to insemination, although exceedingly infrequent, may range from vaginal itching to generalized anaphylaxis.

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