

IUI (Intrauterine insemination)

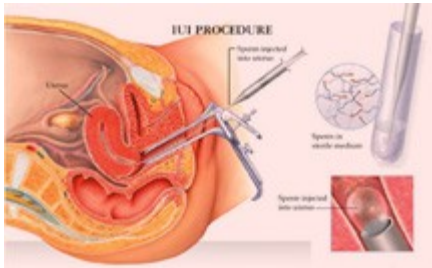
Intrauterine insemination:

The placement of sperm in the uterus for the purpose of enhancing the chance for pregnancy. Also known as intrauterine insemination, artificial insemination, IUI, human intrauterine insemination, artificial insemination by husband, AIH.

Intracervical insemination

The placement of sperm in the cervical canal for the purpose of enhancing the chance for pregnancy. Also known as cervical insemination, ICI, human intracervical insemination.

IUI Procedure- Timing of IUI



Timing is more important for IUI than it is for intercourse. The reason is that, during intercourse, sperm travels through the cervical canal. There are glands and mucous in the cervix that sustains the sperm and acts as a reservoir that releases sperm into the uterus slowly over several days.

During an intrauterine insemination, the sperm are released into the uterus. The sperm do not remain viable for as long a period of time. Consequently, the sperm must be inseminated close to

the time of ovulation.

One method to time an IUI is with an ovulation predictor kit. The kit measure a woman's LH surge. The surge peaks about 12-24 hours before the egg is released. A woman will test her urin in the morning. If the test is positive, she whould have the intrauterine insemination the next day.

Another method for timing an insemination is to artificially trigger ovulation. A medication called hCG can be injected by a woman when ultrasound determines that the egg or eggs developing in her ovaries are mature enough to be released. Ovulation will occur approximately 36 hours later. The hCG trigger injection is given in the evening and the IUI can be performed two morning later.

Sperm collection for IUI

It is not necessary to abstain from intercourse before doing an IUI. Sperm counts vary in all men. The frequency of ejaculation does not have any consistent effect on sperm numbers. sometimes there will be more sperm on a second or third ejaculate and sometimes there will be less sperm. Our recommendation is to have intercourse on the day that an ovulation kit turns positive or on the day that an hCG trigger injection is given. The IUI is then timed as indicated above.

The semen sample is collected through ejaculation into a sterile collection cup that we provide in the office. The specimen is usually collected in the office in a specially designated private room. The man's partner may be in the room to help him collect. On occasion, a man will for various reasons, be unable to collect a sperm specimen in the office. In those situations, we will let him collect at home and bring the sepcimen in. It is important to get the specimen to the office within a half hour or so and it should be kept warm. It is also possible to use a specialized nontoxic collection condom. Important! Ordinary condoms cannot be used for IUI.

We will schedule the male for collection approximately one hour before we schedule the woman for the IUI. This allows time for the sperm to liquefy in our incubator and time for preparation for the

IUI.

Sperm wash for IUI

Before sperm can be placed into a woman's uterus, it must first be prepared. When a man ejaculates, the fluid that is emitted is composed of two main components: seminal fluid and sperm. Seminal fluid contains many types of hormones and chemicals. One group of chemicals in particular can cause problems and are known as prostaglandins.

Prostaglandins are responsible for many bodily functions. If high levels of certain types of prostaglandins are placed directly into the uterus, they can cause a woman to become very sick. The symptoms of prostaglandin absorption during intrauterine insemination - IUI, are nausea and vomiting, fever, diarrhea and cramping. The symptoms usually begin within a few minutes of performing the IUI.

Preparation for an IUI involves separation of the sperm from the seminal fluid and is known as a sperm wash. Sperm wash for IUI is actually a bad term because the sperm are not actually being washed or cleaned. There are several methods for performing a sperm wash for an intrauterine insemination. The medical literature does not clearly indicate that any method is any better than any other. It is therefore up to the personal preference of the physician performing the IUI.

Once the semen is collected it must sit for a while to allow it to liquefy. The consistency of the semen will still be thick at this point. Next the semen is mixed with a chemical solution called sperm wash media. This solution is specially designed to not harm sperm. The semen and the media are thoroughly mixed. Next, the semen and media mixture is placed into an instrument called a centrifuge. The centrifuge will rapidly spin the test tube containing the mixture. This causes the sperm to settle at the bottom in a small pellet. The fluid above the pellet contains the seminal fluid and can be poured out.

Finally, the sperm pellet is dissolved by adding some fresh sperm wash media and mixing thoroughly. The specimen is now ready for insemination.

IUI Procedure

When the woman arrives at the office, she is taken to a procedure room and she undresses from the waist down. She will lie down on an examination table and cover herself with a drape sheet. She will place her legs in stirrups and a speculum is inserted into the vagina. This is the same process she would go through if she were having a pap smear.

The physician draws the washed sperm specimen into a catheter attached to a syringe. The catheter tip is threaded through the vagina and cervix and into the uterus. The plunger on the syringe is pressed and this causes the sperm specimen to flow through the catheter into the uterus. The catheter is then withdrawn and the speculum removed. The patient removes her legs from the stirrups and relaxes for about 5 minutes.

After the intrauterine insemination is completed, the patient can get dressed and resume any activities that she likes for the rest of that day. There is no advantage to bed rest in the IUI procedure.

Difficult IUI Procedures

Sometimes, it will be difficult to pass the IUI catheter all the way into the uterus. There are several

ways that this problem can be dealt with.

First, there are IUI catheters that contain a flexible wire inside. This wire allows the physician to bend the catheter into a shape that will follow the path of the cervix more easily. It also gives a little bit more rigidity to the catheter which is normally very soft and floppy. Often this is all that will be needed to allow the IUI catheter into the uterus.

In other cases, an instrument called a tenaculum can be used to grab a hold of the cervix. The physician performing the insemination can tug on the cervix and thus straighten the angle between the cervix and uterus. This will also make it easier to pass the IUI catheter. Having the patient fill her bladder before the procedure can also help straighten the angle.

Finally, ultrasound can be used to help the physician guide the catheter into the uterine cavity. Usually, an IUI does not cause much discomfort for a woman. Most women say that it is about the same as having a pap smear. There can be some cramping afterward, but most of what is felt is probably due to ovulation rather than from the IUI itself.

Instructions for after the IUI

As indicated above, there is little that a woman might do after an IUI that will influence the chance for achieving pregnancy. She can return to work or exercise if she likes.

It is o.k. for a couple to have intercourse at any point after an IUI is performed. In fact, for men who have very low sperm counts, having intercourse in addition to the IUI will increase the total amount of sperm in the uterus and may improve the chance for pregnancy.

It is possible that a woman may feel some fluid leaking out of the vagina after an IUI. Sometimes some of the fluid inseminated into the uterus will leak back out through the cervix. This is called reflux. Reflux may also occur because the uterus can contract a little bit causing some of the fluid inside to get squeezed out. In most cases, there will still be plenty of sperm that stayed in the uterus to produce pregnancy. Again, lying down will not make a difference and is not necessary.

IUI Success

There are many factors that determine how successful an IUI procedure will be. Some of these are the same factors that apply to any fertility treatment: age of the female, ovarian function, fallopian tube blockage, pelvic adhesions and other additional causes of infertility, whether fertility medications were also used etc.

One important factor that is specific to intrauterine insemination is the amount of motile sperm that is inserted into the uterus. Several studies have indicated that if a man has a low number of progressively motile sperm after the sperm wash, that the chance for pregnancy is lowered. The lower the number, the lower the chances for pregnancy.

If a man has a high percentage of abnormal appearing sperm on a semen test, that will also lower the chances for success.

Timing of the intrauterine insemination is also very important. In order to maximize the chance for pregnancy, sperm must be inseminated on the same day as ovulation. Performing the IUI the day before or day after will lower the chance for IUI success. This is an important point, it is not acceptable for a provider of intrauterine inseminations to tell a patient who is ovulating on a Sunday, that she must wait until Monday when the office is open. This will severely compromise the chances for success.

On the other hand, there does not seem to be any advantage to performing an intrauterine

insemination twice. Several well done studies comparing the pregnancy rates between couples having a single insemination to those having two inseminations have found no significant difference in the pregnancy rates.