

The James Cook University Hospital
Department of Reproductive Medicine

Intra-uterine insemination (IUI)

Intra-uterine insemination with husband's or partner's sperm (IUI) is a form of fertility treatment. The aim is to ensure, in so far as possible, that motile sperm come into contact with one or more eggs in circumstances favorable to conception.

Indications

IUI may be used when there is delay in conception due to a variety of reasons such as mild endometriosis, some ovulation problems, milder sperm problems, or advancing female age. Often it is used when a combination of the above factors prevails, or when there is no apparent explanation for the couple's failure to conceive readily in the natural way. It should not be contemplated until natural conception has been tried for a reasonable period of time, usually about two years, although this time will vary with circumstances. It is not suitable for women with severe endometriosis or tubal disease, or where there are very severe sperm problems.

The need for fertility drugs

Except in certain very specialized situations it is usually necessary to treat the woman with fertility drugs prior to the insemination.

The most serious hazard associated with fertility drugs is multiple pregnancy. This will usually mean a twin pregnancy although uncommonly triplets or even higher order multiple pregnancies may occur. However, even twin pregnancies are high risk pregnancies. The problem is that multiple pregnancies are likely to deliver very prematurely. In this event the babies may live or may die. Those that are born very prematurely and live may suffer from disability. For this reason any baby that is a twin is about five times more likely to die during the pregnancy or during the first month after birth. Problems such as cerebral palsy are much more common in twins, although we do not know precisely how much more common.

You should also be aware that a multiple pregnancy can complicate screening for Down's syndrome. This is particularly relevant for women beyond about age 35. The effectiveness of the serum (blood test) screening procedures remains uncertain in women with multiple pregnancies, and women beyond about age 35 may need to consider amniocentesis for this purpose. Amniocentesis involves passing a fine needle into the uterus to aspirate fluid from around the babies, and may involve a greater degree of hazard (predominantly of miscarriage) in a woman with a multiple pregnancy.

Hyperstimulation syndrome is very uncommon but when it does occur is unlikely to be serious. Rarely, it may cause the formation of ovarian cysts. Such cysts are not normally of a serious nature, and can be expected to resolve spontaneously following withdrawal of the drug.

However, fertility drugs not uncommonly do give rise to minor side effects such as hot flushes, increased pain or discomfort at or around the time of ovulation, and an exaggeration of any

premenstrual symptoms such as irritability. Less frequently they may cause significant depressive symptoms, or headaches. Such symptoms can be expected to resolve spontaneously upon cessation of treatment. If you experience a severe headache or blurred vision whilst taking clomiphene you should discontinue the treatment and contact us.

The question has been asked whether fertility drugs predispose towards ovarian cancer later in life. At present there is no convincing evidence that they do, but there is a theoretical possibility that they may. Those conditions which prevent ovulation are protective against ovarian cancer. Taking the oral contraceptive pill for about five years just about halves the risk of developing ovarian cancer for many years subsequently, as will five or six pregnancies carried to term. If these conditions which prevent ovulation are protective against ovarian cancer the question arises whether the use of fertility drugs to increase ovulation may increase the subsequent risk. At present the evidence is reassuring. Additionally, if the use of fertility drugs results in a pregnancy, that pregnancy will reduce the subsequent risk.

How and when is the insemination done?

Often we time the insemination with urinary LH detection sticks which you dip in your urine each day at about the time of the month that we expect you to be ovulating. They are relatively simple to use, and you will receive more detailed instructions about them. Alternatively we may give you an injection of a hormone called human chorionic gonadotrophin (hCG) to trigger ovulation.

Normally we do just one carefully timed intra-uterine insemination. The sperm are specially prepared for this by washing off the other constituents of the seminal fluid prior to the insemination. A speculum is then inserted into the vagina, just as when taking a cervical smear, and a fine cannula is fed in through the cervix. Usually the procedure is entirely painless, and takes no more than a few minutes. You can go home again or back to work a few minutes later.

In a small proportion of women it can be quite difficult to cannulate the cervix, and in these cases a little discomfort may be experienced, but this is usually still very slight. We will not hurt you.

What are the hazards of intra-uterine insemination itself?

In itself intra-uterine insemination appears to be fairly safe. The main hazards appear to be those related to the use of fertility drugs and referred to above. IUI does not increase the risk of an abnormal baby. There are however some potential hazards:

Infection. This is at least a possible hazard. It is not possible to sterilize either the sperm or the cervix. Any form of infection within the seminal fluid of the man or the cervix of the woman may therefore be transmitted directly to the uterus or fallopian tubes of the woman. This could possibly result in sterility by damaging the fallopian tubes. More seriously, the HIV virus or hepatitis B might be transmitted in this way and could cause death. In practice, infection has not generally been found to be a problem.

Antisperm antibodies. It is conceivable that when very large numbers of sperm are introduced directly into the female genital tract in this way the woman might react to the sperm as she would to any other invading organism such as a germ - by forming antibodies. The development of such antibodies might then further impair fertility. Research work to date suggests that anti-sperm antibodies do not develop following IUI, unless they are already present prior to treatment.

Ectopic pregnancy. There is no reason why IUI might cause ectopic pregnancies, except that some women undergoing treatment with IUI may have damaged fallopian tubes. The fact that the fallopian tubes may have looked normal at a previous laparoscopy cannot entirely exclude the possibility that the tubes may not function normally, and one might therefore expect ectopic pregnancy (within the fallopian tube) to be more common after IUI than following spontaneous conception. It should be less common, however, than the 2% ectopic pregnancy rate that occurs in IVF pregnancies.

Miscarriage. You are no more likely to miscarry after IUI than after conceiving in any other way, except that multiple pregnancies are more likely to miscarry. In general IUIH pregnancies can miscarry just the same as any other pregnancy. Of those women who have a positive pregnancy test just two weeks after IUIH 15% will lose the pregnancy within the next three months. Of those women in whom we can see a baby's heart beating on ultrasound scan four weeks after IUIH, 90% will achieve a live birth.

What if you are not happy with the service?

If there is anything about the service that we offer, or the way that we treat you, that you feel could be improved, please do tell us - we need to know.

The HFEA requires that information sheets must name an individual to whom any complaints may be addressed. In the case of this centre any informal complaints may be addressed to the lead consultant, Mr F Mustafa. If you wish to make a formal complaint these may be addressed to the hospital's PALS team, and further information about them is available on our website.

Remember that if you are having difficulty deciding what to do counselling is available to you. Whatever you may decide, we wish you both good luck and all happiness in your future lives.