Artificial insemination with donor sperm
Artificial insemination with donor sperm is an assisted reproduction technique (ART) that is indicated for:

- Couples with a serious or irreversible sperm disorder.
- Couples in which the male partner is at risk of transmitting a disease to his descendants.
- Women without a male partner who desire pregnancy.

The selection of sperm donors is the responsibility of sperm banks. Before donors are accepted, they undergo rigorous examination to prevent any possible transmission of diseases to descendants. This examination includes, in addition to a semen analysis, a genetic study (Karyotype) and a study of infectious diseases (Hepatitis, Syphilis, AIDS, etc.).

The pregnancy rate is between 20 and 25% per treatment cycle. Most pregnancies occur in the first three cycles of insemination, although factors like the woman’s age and the possible existence of other causes that can affect fertility may delay the success of treatment a little longer.

Generally, up to six cycles of insemination are performed. When a cycle is unsuccessful, it is important to review it and make the changes necessary to achieve maximum efficacy in the next cycle. However, if pregnancy still is not achieved, the existence of other anomalies and/or the possibility of resorting to another ART may be contemplated.
In some cases it is advisable to use ovulation stimulation treatments with oral tablets or subcutaneous injections. These treatments are designed to ensure that ovulation occurs correctly in order to increase the possibilities of achieving pregnancy. However, these treatments entail certain risks (see complications).

**Previous requirements for insemination**

- Complete gynecological examination.
- Complementary study to rule out associated pathology that makes pregnancy difficult or impossible to achieve.
- Identification of the donor who best coincides with the physical characteristics (phenotype, eye color, skin, hair and blood group) of the couple or the patient herself.

**What does insemination involve?**

Insemination consists of depositing sperm inside the uterus (intrauterine insemination). It is a simple, quick technique (taking just a few minutes). It is practically painless. It is an office procedure, so patients do not require admission to the clinic or anesthesia.

A single insemination per cycle is sufficient if performed at the proper time, that is, at the moment of ovulation. To do this, a series of **ovulation controls** are needed with ultrasound.
Ovulation

Fertilization and implantation

Insemination
and urine and blood tests to determine the day of ovulation as exactly as possible.

On the day of insemination, the sperm sample is thawed and specially processed in the Andrology Laboratory (Reproductive Medicine Department). After this process is complete, the spermatozoa can be deposited inside the uterus. After insemination, the patient rests for 10-15 minutes. That day we recommend some rest, avoiding immersion baths and sexual relations. The next day she can resume her normal life, although she should avoid overexerting herself. In the days after insemination, a little spotting or mild abdominal pain sometimes occurs. This is not important as long as it is mild.

**What does ovulation control involve?**

The aim of ovulation control is to exactly determine the day of ovulation.

How?

**Vaginal ultrasonography**: used to examine the ovaries and to check the size and rate of growth of the ovarian follicle (the follicle contains the oocyte). The follicle increases in size as it matures. It is considered mature or prepared to ovulate when its diameter reaches at least 18 millimeters.
Urine analysis: serves to detect the rise in LH hormone, a hormone that increases abruptly 24 hours before ovulation.

Blood tests: serve to know the level of estrogens (estradiol), a hormone that is produced by the ovaries and increases as the ovule matures inside the follicle. It can be useful for evaluating response when ovarian stimulation treatment is given.

The first control is made 2 to 3 days before hypothetical ovulation. At each control, the date of the next control is set (every day when follicular size reaches 18 mm).

An average of 3 to 4 controls per cycle are usually made. The time from the first control to the day of insemination is usually 3 to 8 days.

If stimulation treatment is given, the control days and necessary doses are guided by the response observed in the ovaries.

Complications

Artificial insemination is not a risk-free technique, although all of the risks are generally controllable. Infection and allergic reactions to sperm components are exceptional complications.

This type of insemination has a 15% risk of miscarriage and 1% risk of extrauterine or ectopic pregnancy (implantation of the embryo outside the uterus).
With regard to the ovarian stimulation treatments that are used in some cases, there is no scientific evidence that they have long-term side effects on a woman’s health. Nevertheless, there are two important short-term risks: the most frequent of them is multiple pregnancy (15-20%); excess stimulation or ovarian hyperstimulation is less frequent (1%). The controls made during the treatment cycle (ultrasonography, tests, etc.) help to reduce complications, but do not stop them from occurring.

Once pregnancy is achieved, the possible risks to the mother or fetus are the same as in any spontaneous pregnancy, with the exception of the complications derived from a possible multiple pregnancy, such as preterm delivery or low birth weight newborns.
Instructions for scheduling a cycle of artificial insemination with donor sperm

At the beginning of your menstruation, please contact the International Department by calling (+34) 93 227 47 00, to communicate the date of the first day of your period. We will program then the insemination cycle and provide you with all the detailed instructions to follow.

If you have to undergo stimulation treatment:

- On days .............. of the cycle you will take/be administered ......................... of................ (the first day of the cycle is the first day of your period).

- The date of the first control will be on ....................

On that day you will have to perform the following test (they can be done in your country):

- **Vaginal ultrasound**: this does not require any special preparation.

- **Blood tests**: to check the blood level of estradiol.

We will need you to contact us on the same control day to inform us about these results. We will confirm you then how to continue and about the date of the next control.
It is very important that you contact the International Department every time you start an insemination cycle to tell us the date of the first day of your period. This gives us sufficient time to order sperm samples from the sperm bank.

Samples will be paid for on the day of insemination.