

Infertility investigations

The woman and her partner should be present at the initial evaluation for infertility. The doctor will obtain a full clinical history from the couple and then proceed on to a physical examination. The initial investigations that need to be performed will be based on these assessments. Sometimes, the cause of the infertility may be found at this visit. Further evaluation and clinic visits may be necessary for other couples. It may take several weeks. This is because some of the tests may have to be repeated for verification at different specific times in her menstrual cycle. The initial workup of a man usually can be done faster, because men have no monthly cycles and because there are fewer tests for men.

COMMON INVESTIGATIONS IN FEMALE

Ultrasound scan of the pelvic organs

Ultrasound is used to detect abnormalities in the uterus (such as fibroids, polyps, abnormal shape) or the ovaries (such as cysts). The ultrasound is usually done vaginally as this gives a better image quality and more sensitive in picking up abnormalities. Antral follicle count may be done using the ultrasound scan and this assessment can be helpful in predicting the likely response to the various treatment options. It is a measurement of the number of egg-containing follicles that are developing in the ovaries. A high numbers of antral follicles count indicates a greater ovarian reserve and more likely to respond better to ovarian stimulation.

Hormone tests

Laboratory blood studies to measure certain hormones that play a role in fertility is not routinely done if the woman has a regular menstrual cycle. Indications will depend on the woman's menstrual pattern, her age, and other clinical features that may suggest an endocrine abnormality. The tests include luteinizing hormone (LH), follicle-stimulating hormone (FSH), oestradiol, Anti-Mullerian hormone (AMH), prolactin, thyroid and male hormones (such as testosterone). The Anti-Mullerian hormone (AMH) is a test to assess ovarian reserve.

Health screening

This should include screening for infections such as syphilis, hepatitis B and C, human immunodeficiency virus (HIV) and cervical cancer (with test such as Pap smear/Thin prep or test to detect Human Papilloma virus). A full blood count is also important to exclude thalassemia and other blood disorders.

Hysterosalpingogram (HSG)

Hysterosalpingogram (HSG) is an x-ray examination that is used to evaluate the uterine cavity and to check for patency of the fallopian tubes (whether the tubes are blocked). It is done just after a woman's menstrual period, so there is no danger of her being pregnant and thereby exposing the fertilized egg or embryo to radiation. A dye (technically called a contrast medium) is injected through the cervix. It spreads into the uterus and the fallopian tubes, allowing them to be visualized on x-ray. X-rays are taken during the injection of dye. There may be some cramping or discomfort felt as the dye is injected. You may be asked to change positions for different x-ray views. The x-rays will show the outline of the uterus and fallopian tubes as the dye fills them and spills into the abdominal cavity. Conditions detected by the hysterosalpingogram may require further testing for confirmation; this may include a laparoscopy or hysteroscopy (use of a small lighted telescope to view internal organs).

Saline Infusion sonohysterography (SIS)

Saline infusion sonohysterography (SIS) is also sometimes called saline infusion hysteroogram (SHG). It is an investigative procedure to assess the uterus cavity to ascertain the shape and look for any abnormalities within it. It incorporates an ultrasound scan and instillation of sterile fluid into the uterus to show the uterine cavity and endometrial layers. With the use of an ultrasound scan, the uterine wall and the ovaries can be visualized as well.

Hysteroscopy

The hysteroscope is a small-lighted telescope used for visual examination of the cervix and the uterus to help diagnose and treat abnormalities in the cervical canal or the uterine cavity. Saline fluid is used to distend (expand)

the uterine cavity to improve visualization and allow any operative manipulations to be achieved. Video monitoring is often used at the same time. It is sometimes performed in combination with a laparoscopy. Hysteroscopy can be used for the removal of intrauterine growths (such as endometrial polyps or fibroids), a biopsy of the endometrium, removal of the lining or separation of adhesions.

Laparoscopy and tubal patency test

Laparoscopy is a procedure that allows visual examination and treatments of the pelvic and abdominal organs. The procedure is performed with a laparoscope, which is a small-lighted telescope. This is performed under general anesthesia. It is often necessary to place an instrument on the cervix and uterus in order to help move the uterus around. A small incision is made in or below the patient's navel. A needle is inserted to inflate the abdomen with carbon dioxide. Following this, the laparoscope is inserted and used to examine the abdomen visually. It is connected to a high intensity light and a high-resolution television camera so that the doctor can see what is happening inside of you. Instruments are inserted through additional tiny incisions in the abdomen if necessary and are used to treat pelvic abnormalities. A colored solution (usually blue dye) is injected into the uterus via the cervix to assess whether the fallopian tubes are blocked.

Investigations that are not necessary anymore

- Basal body temperature:
- Post-coital test:

COMMON INVESTIGATIONS IN MALE

Semen analysis

It is almost always the first test done on men and may be repeated several times. After abstaining from intercourse for about 3 – 5 days, the man collects a semen sample via masturbation, into a clean container that is provided by the laboratory. The sample is microscopically examined to determine the number, activity and shape of individual spermatozoa (sperm cells) and the characteristics of the fluid part of the semen. A normal and healthy ejaculate typically contains more than 2 ml of semen, and each ml will contain an average of 20 million sperm that look to be of normal size, shape and behavior. If the specimen markedly differs on any of these factors, further tests may be done.

Hormone tests

The commonest hormone tests include measurements of luteinizing hormone (LH), follicle-stimulating hormone (FSH) and testosterone levels. However, this is not routinely done unless there is abnormalities of the semen analysis or positive physical findings.

Health screening

This should include screening for infections such as syphilis, hepatitis B and C, human immunodeficiency virus (HIV).

Testicular biopsy

This is a minor operation—performed with a local or general anaesthetic—in which a small amount of tissue from the testes is removed for laboratory studies. This test is done only when the semen analysis does not show any sperm at all.

Disclaimer

This is for informational purposes only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. It is important for readers to seek proper medical advice when necessary.

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