

Wales Fertility Institute has two Andrology laboratories, one located in the University Hospital of Wales, Cardiff and the other in Singleton Hospital, Swansea. Both laboratories provide diagnostic semen analysis (fertility assessment), post-vasectomy semen analysis and assessment of urine for suspected retrograde ejaculation.

The service is one of the few in the UK to hold ISO 15189 accreditation. This is provided on the NHS to patients in the Cardiff and Vale and Swansea Bay University Health Boards and to self-funding patients. In addition, the laboratory in Cardiff offers sperm cryopreservation. We are the only Unit in South Wales to provide NHS funded sperm cryopreservation for both oncology and transgender patients. We can also provide self-funded sperm storage prior to surgery for vasectomy and social storage for fertility preservation.

Diagnostic Semen Analysis

Approximately 1 in 6 couples has difficulty in conceiving and in up to 25% of these cases, it may be due to a sperm problem. Sperm problems can range from the complete absence of sperm to having low numbers or poor sperm quality. Currently, the only reliable method we have for detecting these is semen analysis. Semen analysis is the microscopic examination of the semen to see how many sperms there are and whether they function correctly. The result of all the semen analysis tests will indicate whether a male factor is involved and so aid decisions about appropriate treatment.

The causes of male infertility are largely unknown and may be genetic (inherited) although the following are known risk factors:

- Previous testicular injury or disturbance e.g. torsion
- Previous testicular surgery e.g. undescended testicle
- Previous disease/surgery
- Hormonal imbalance Drugs especially anabolic steroids, chemotherapy
- Very hot and long baths (as opposed to showers)
- Spinal injury

In addition, febrile illness such as flu or glandular fever can cause temporary disruption of sperm production, which may not become apparent until 2-3 months later.

Some men may produce sperm but may have a functional problem such as a blockage, which prevents the sperm from reaching the ejaculate.

When we assess your sample, we look at many factors that give an indication of your sperms fertility potential:

- **General appearance.**
- **Volume** - determined by weight, as it is the most accurate way of measuring viscous liquids. WFI provide the correct pre-weighed, non-toxic containers for sample collection.
- **pH** - an indicator of the age of the sample.
- **Motility** - how well your sperm swim.
- **Concentration** - the number of sperm present in your sample.

- **Morphology** - an assessment of the overall shape of the sperm.
- **Anti-sperm antibodies** - these may be present in your sample and can affect motility.
- **Vitality** - the numbers of live sperm, only used if >60% are non-motile.

Post-vasectomy Semen Analysis

Vasectomies are a very successful method of contraception and have a low failure rate. A post-vasectomy semen analysis ensures that your operation has been successful. Your follow up analysis must be at least 12 weeks after your surgery, your surgeon may recommend up to 16 weeks, and you should have had a minimum of 20 ejaculations within this period (approx. 2/week). Some patients may require further analysis and should this be required you will be instructed how to do this.

Please note it is the responsibility of the doctor to provide feedback on the results of your post vasectomy analysis. The laboratory is unable to assist with this.

Making an appointment

Appointments are available Monday to Friday in both Cardiff and Singleton. When you telephone to make your appointment, you will be allocated the next available appointment. If this is not suitable, please let the member of staff booking the appointment know and they will try to find a more convenient appointment for you. If you attend the laboratory without an appointment, your sample will not be processed.

If you need to change your appointment, please contact the secretary to cancel your original appointment and arrange another. Should you wish to have your partner (or someone else delivers your sample) please ensure that they can inform us whether the whole sample was collected and that they know of your current general health.

Providing your sample

Before producing your sample, you must:

- Abstain from intercourse or ejaculations for a minimum of 48 hours and a maximum of 7 days.
- You must also be hygienic, washing your hands and genital area with soap and water, ensure complete removal of all soap residues and dry thoroughly.
- For post-vasectomy samples, the first sample must be at least 16 weeks after the operation and ideally after a minimum of 24 ejaculations.
- Samples should be produced by masturbation into the container provided. Withdrawal (coitus interruptus) is not recommended because it is too easy to lose part of the sample making the test useless. Do not use lubricants such as K-Y jelly. Condoms should not be used because they contain spermicide that kills the sperm.

Producing the sample:

- Use only the container provided – other containers are not acceptable as they may kill sperm.

- Ensure that the whole sample is collected. If you fail to collect the whole sample, you must inform the Andrologist as this could result in the incorrect interpretation of your results.
- Make sure that the screw cap is firmly attached (after producing the sample into it) before placing it in the plastic bag provided.
- Please ensure that your full name and date of birth are written on the container.
- The request form **must** have the name and location of the requesting doctor, without this they will not receive the report, and your full name, date of birth and address.
- Keep the sample close to the body whilst travelling (as sperm are sensitive to extremes of temperature). Do not place it in the outside pocket of a jacket, a bag or near the heater outlet in the car.
- Deliver the sample to the laboratory **within one hour** of production.
- Ensure you arrive no later than your scheduled appointment time. Failure to arrive at your allocated appointment time may result in your sample being rejected. Please note, at a certain times of the day, traffic and parking restriction may result in it taking longer than you expect to arrive at the laboratory. Please take this into consideration when planning your journey.
- If you think that you may have a problem delivering the sample to the laboratory within one hour, there is a room available in the unit that you can use to produce the sample.
- Never use a public toilet to produce your sample in; you may potentially be engaging in illegal activity.
- If you wish to use one of the rooms at the laboratory to produce your sample, please ensure that you arrive at least 15 minutes before your booked appointment time so that you will have the opportunity to produce your sample in time for your scheduled appointment slot.

Failure to follow the collection guidance can seriously alter semen analysis results. If you have not followed the recommendations exactly, contact the laboratory and cancel your test. We will try and offer you a new appointment as soon as possible.

Delivery of the sample

- Deliver the sample and completed form to the Andrology Laboratory **within one hour** of collection.
- Please keep the sample warm by carrying it under clothing near the body, especially if the weather is cold. Do not place it in the outside pocket of a jacket, a bag or near the heater outlet in the car.
- When delivering the sample to the Unit, please refrain from any strong-smelling perfume or aftershave, as this may potentially damage any embryos or gametes in the Unit.
- The Andrology laboratory, WFI Cardiff is on the C1 Link Corridor. A map of the hospital can be found on the [UHW webpages](#).
- The Andrology Laboratory, WFI Swansea is on Level 3, Women and Children's Health Block, Singleton Hospital. A map of the Hospital can be found on the [ABMU webpages](#).
- When you arrive at the laboratory, you will be instructed to take a seating in the waiting area until an Andrologist is available to see you.

- As soon as the Andrologist is free to see you, you will be either shown to one of our sample production rooms, in which to produce your sample if you have not done so previously, or to a private room to accept your sample.
- When you give your sample to the Andrologist, you will be asked to complete a form and will be required to answer a few questions about the sample, when it was collected and your general health. It is important that you answer these questions fully and honestly, you will be asked to sign the form to confirm this information is correct. This information is used to ensure that your results are interpreted correctly.

Results

Results of the test will be sent directly back to the requesting doctor. Please allow 7 - 10 working days for these to reach your doctor. **The laboratory cannot give results directly to patients.**

You may be requested to provide a second sample, the most common reasons for this are failure collect the whole sample, excessive delay in transporting the sample to the laboratory or not complying with the required abstinence period. The laboratory will always recommend that a second sample is assessed if no sperm are detected in the first sample. In addition it is not always possible to obtain sufficient information from a single sample and therefore an additional sample may be requested.

In line with the progressive service that we are offering the laboratory now operates the "SAMI" Computer Assisted Semen Analysis (CASA) from Pro Creative Diagnostics. This semi-automated system uses digital imaging and computer software to provide assessments of sperm concentration and motility; in addition the system is able to provide average progressive velocity for the sperm.

The CASA enables fast, accurate and reproducible semen analysis.

Assurance of quality

The Andrology laboratory is accredited by UKAS to ISO 15189:2012.

As part of the quality processes, the laboratory has determined the uncertainty of measurement for the assessment of semen parameters. All members of Andrology staff have been trained and have annual competency assessments. In addition they are required to participate in the ESHRE external quality assurance distributions as well as the laboratories own internal quality control.