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MY LAB

THE ANDROLOGY LABORATORY

Specialist Biomedical Scientist **Laura Kiely** gives a tour of her lab in a reproductive medicine unit in Manchester.



he andrology laboratory is based in the reproductive medicine unit at Saint Mary's Hospital, which is part of Manchester University NHS Foundation Trust. The Department of Reproductive Medicine at Saint Mary's

Hospital was established in 1982 and was the first fully NHS-funded IVF unit in the UK providing the complete range of infertility services to the North West of England. We are proud to have achieved UKAS accreditation, confirming we adhere with ISO 15189:2012 standards.

Andrology's team of 14 staff includes administrative support, biomedical support workers, associate practitioners and biomedical scientists, with Genette Lloyd as our Chief Biomedical Scientist. We work closely with the clinical embryologists and provide a diverse range of specialised services, including diagnostic semen and post-vasectomy analysis, sperm preparations for assisted conception, and sperm banking. We also provide the reproductive science proficiency testing scheme.

Semen samples provided for infertility investigations must be examined within an hour of production to avoid deterioration. We have private rooms for patients to produce samples on site, or they can bring their sample from home if they live close enough. Post-vasectomy samples are processed confirming the presence or absence of sperm.

My team assesses the main parameters, sperm concentration, motility and morphology according to WHO



guidelines. The appropriate treatment type is suggested for the patient's results based on parameters set by the clinical embryologists.

Treatment types include intrauterine insemination, *in vitro* fertilisation and intracytoplasmic sperm injection. We perform sperm preparations under aseptic clean room conditions (EU GMP classification) by passing 1 ml of semen through a gradient (via centrifugation) to concentrate any sperm into a pellet. This pellet is then washed and the final preparation is assessed before the relevant treatment is performed.

We hold one of the largest long-term sperm banks for cancer patients in the UK. Senior biomedical scientists complete the relevant Human Fertilisation and Embryology Authority (HFEA) consent forms for storage of sperm for patients who have been diagnosed with premature infertility, such as cancer patients, whose treatment may render them infertile. The sample is frozen in liquid nitrogen (vapour) for the agreed number of years.

More recently we have become one of Europe's largest holding units for donor sperm imported from Fairfax Cryobank in the US. There are over 100 donors who are all HFEA compliant for screening, confidentiality and traceability. Donor sperm for assisted reproductive treatment is available for purchase by local CCGs or individuals via a fee-paying option.

We house the National External Quality Assessment Service (UK NEQAS) for reproductive science. All members of staff are involved in this proficiency testing scheme, but there are dedicated UK NEQAS staff responsible for achieving UKAS accreditation and compliance with the ISO standards 17043. We are proud to achieve this status.

The andrology laboratory is home to a strong and dedicated team of people who work well together to deliver an excellent service to all users, and particularly the patients, and I am extremely proud to be part of it.