Dallas Fertility Center
Assisted Reproductive Technologies Services (ARTS)

Laboratory Orientation

Telephone: (214)692-4500

Laboratory Director/Embryologist	Oscar Perez, Ph.D., HCLD, ELD
Embryologists	Hannalie Adriaanse, BS, TS, Lab Supervisor Gabriella Navarrete, BS Breanna Tilley, MS Ankita Patel, BS Linda Lay, BS
Nurses	Kristin Kent, RN, Surgical Nurse Manager Suzanne Davidson Cristy Bennett
Reception	Jacqueline Nutting Sydney Jenkins
Andrology/Endocrinology	Lucillle Little, BS Ashkan Jebelli

Oocyte Retrieval:

You will be monitored for follicular growth during your treatment cycle. Your physician will then determine when your follicles are mature and your oocytes (eggs) are ready for retrieval. You will be instructed to take hCG approximately 36 hours prior to oocyte retrieval. This injection will usually be in the evening.

Sperm Specimen:

In the majority of cases, we recommend that the husband collect the semen sample at the Dallas Fertility Center laboratory on the morning of the egg retrieval. If collecting the sample at the Dallas Fertility Center laboratory is not feasible, please make arrangements with the laboratory prior to the egg retrieval.

Overview of Lab Schedule

Day of Retrieval: The day of egg retrieval is called day 0. The husband needs to provide the laboratory with a semen sample. The husband will be directed around the time of oocyte retrieval to collect the semen sample. Routine in vitro insemination or Intracytoplasmic Sperm Injection (ICSI) will be performed about six hours after the egg retrieval – the sperm and the eggs are now being placed together.

Day One: Fertilization of the eggs is assessed 12 to 19 hours after in vitro insemination/ICSI (early in the morning). Normally, fertilized embryos will exhibit two pronuclei. Abnormal fertilized embryos are discarded. Non-fertilized embryos are kept separate for one or two more days to confirm the fact that they did not fertilize. In general, the laboratory will call with fertilization results before 2:00 p.m. A day two-embryo transfer may be scheduled at this time.

Day Two: The Laboratory may or may not call with growth status of the day-2 embryos, depending on the number of fertilized embryos. The embryologist will advise you on whether or not to expect a phone call on day 2. The embryos are expected to be between the two- and four-cell stages. A transfer is possible today if extended culture will not assist in embryo selection, meaning the number of embryos available for transfer is equal to or less than the number of embryos desired for transfer. A day-3 embryo transfer may be scheduled at this time.

Day Three: The laboratory will call with growth status of the day-3 embryos. The embryos are expected to be between the six and ten-cell stages. Embryo transfer is possible if the quality of embryos now available for transfer equals or are less than the number desired for transfer. A day-5 embryo transfer may be scheduled at this time. In general, the laboratory will call with a day-3 update by 2:00pm.

Day Four: Embryos are not evaluated on day four because: 1) embryo grading is difficult and inaccurate, 2) No clinical decisions are made on day four, 3) no culture media changes are necessary and 4) embryos are better off if they do not have to be disturbed (temperature, light and pH fluctuations). The embryos are expected to be at the morula stage. The laboratory does not call with an embryo report on day 4, as the embryos are not being taken out of the incubators.

Day Five : Day 5 is a possible day for embryo transfer. Ten to 20% of normal-fertilized embryos on day 1 (day of fertilization check) will make good quality blastocysts. One can distinguish between the inner cell mass (baby) and the trophoblast (placenta) at this stage. This enables accurate selection of the best embryos, allowing the transfer of the smallest number of embryos with uncompromised pregnancy rates. Embryos can be frozen (cryopreserved) on day 5 if they have reached the expanded blastocyst stage with clear baby and placental differentiation. The patient needs to be at the laboratory 30-45 minutes prior to the scheduled embryo transfer time. The embryos are not evaluated before patient arrival and, therefore, no updates are possible until the time of transfer. Prior to transfer the patient, patient's spouse, laboratory and physician will discuss the embryo quality and the desired number of

embryos to transfer. This approach allows for minimal disturbance and disrupting of the fragile incubator environment. If any embryos meet freeze criteria at this time, the patient will be informed. However, a last telephone call will be made on day-6 to confirm the final disposition of all embryos, whether any were cryopreserved or not.

Day Six: In exceptional cases, embryo transfer is postponed to day six to allow confirmation of embryo viability or to improve the ability to select viable embryos. Most embryo cryopreservation takes place on day-6. Approximately 30% of patients will have additional embryos to cryopreserve.

Security:

During the time your gametes and embryos are at Dallas Fertility Center, we ensure positive identification of sperm, eggs, embryos and patients every step of the way. In addition to maintaining positive identification throughout every procedure, automated, computerized systems are in place, which constantly monitor embryo culture conditions. A minimum of two laboratory personnel are always on standby should they be informed of an alarm condition.