

Babies In Davis

The California IVF Family Newsletter



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What's Next for IVF? New Technology and Assisted Conception

IVF has seen remarkable changes since 1978 and molecular and genetic science is starting to revolutionize the field a step further, allowing for testing of embryos to determine their capability to create a healthy pregnancy.

Over the past 30 years, new medication protocols have helped increase the number of eggs collected at one time. Ultrasound monitoring have allowed for accurate observations about the progress of the developing eggs and follicles before egg collection, as well as accurate placement of the embryos into the uterus of the intended mother. Intracytoplasmic sperm injection (ICSI) has brought hope to couples with male infertility by allowing embryologists to inject a single sperm into an egg. Prior to this development, male infertility couples faced little chance of conceiving. Improvements in embryo culture techniques now allow for embryos to be observed for 5 to 6 days after fertilization, so that specialists are able to select embryos that may have a slight advantage in the struggle to achieve a successful pregnancy.

In early 2010, California IVF: Davis Fertility Center, Inc. introduced comprehensive genetic testing procedures for embryos before implantation. Prior to this new technology, genetic testing procedures only tested 8-12 of the 23 pairs of chromosomes that are present in human cells, by removing and testing a single cell

from the embryo on day 3 after fertilization. With new comprehensive testing we were able to test for all 23 pairs of chromosomes and rule out problems such as uniparental disomy, Down Syndrome, and determine the gender of the embryo.

Due to several limitations of the day 3 biopsy, California IVF has acquired a laser system that will allow for laser assisted hatching, and day 5 biopsy of the embryos. While still offering the same genetic results of the day 3 testing, preliminary research has shown an 85-90% success rate using a single embryo for transfer. While this high degree of success seems to be an important milestone in the technological evolution of IVF, additional scientific developments are underway.

Additional advancements in genetic testing, such as microchip arrays, will allow us to screen embryos for a broad range of genetic abnormalities with one test. Scientists have already begun tedious work to develop testing that can measure the competence of an embryo without having to perform a biopsy on the embryo. This science, known as proteomics and metabolomics, may hold the key to the next big advancement in reproductive medicine. Considering how far we have come since the first IVF procedure, the future looks very hopeful for couples having difficulty becoming pregnant.



"As we work in the lab, I like to think of California IVF as your child's first baby sitter"

- Deborah Johnson



Conception Options for Female Couples and Single Women

Lesbian couples and single women can choose between using donated sperm from a cryobank or a known donor. Treatment options include intrauterine insemination and IVF as well as donor eggs and donated embryos.

During an intrauterine insemination, donor sperm is drawn into a thin plastic tube and placed through the cervix, directly into the uterus, around the time of ovulation. Oftentimes a fertility medication is used to enhance fertility or ensure more regular ovulation. Pregnancy rates with this procedure average approximately 15% per try (one month or cycle).

With IVF, eggs can be harvested and fertilized with donor sperm, with resulting embryos transferred into the uterus to establish a pregnancy. A variation on this technology is "co-mothering". Eggs from one female partner can be harvested and fertilized with donor sperm and the resulting embryos then be transferred into the

prepared uterus of the other female partner. This allows one partner to be the birthing mother and the other partner to be the genetic mother. Any remaining embryos of good quality can be cryopreserved for future use by either partner. Pregnancy rates for co-mothering with IVF can be as high as 50-60%, depending on the age of the partner providing the eggs.

For older women, or women with egg quality issues, eggs from an anonymous or known donor can be harvested and fertilized with donor sperm and transferred to the intended parent.

Alternatively, embryos created for another patient or couple can be donated and used by another patient or couple. Embryo donation can be a more cost effective option. California IVF offers a refund program for certain donated embryos through its California Conceptions program. Pregnancy rates for donated embryos can be more than 80%.

Day 5 Genetic Testing May Improve Pregnancy Rates to 90%

Pre-implantation genetic diagnosis (PGD) and screening (PGS) have been evolving rapidly over the last 5 years. These techniques allow for the testing of an embryo for genetic abnormalities before the embryo is put back into the uterus, during an in vitro fertilization (IVF) treatment. Until recently, a single cell was removed from an embryo 3 days after fertilization. The test results returned within 2 days, allowing for a day 5 transfer. Day 5 embryo biopsies take a small portion of cells from the outer portion of the embryo known as the trophoblast cells. Trophoblast

biopsy is thought to have less effect on the development of the embryo and therefore less potential for inconsistencies within the cells of the embryo that are biopsied. Initial studies with day 5 biopsies have resulted in pregnancy rates as high as 85-90% using one embryo. California IVF has been performing embryo biopsies and pre-implantation genetic diagnosis since early 2006 and now performs day 5 biopsy on most PGD cases. PGD can be used to test for aneuploidy, single-gene disorders as well as gender for family balancing.

New Laser Speeds Up Assisted Hatching Process

California IVF recently acquired a laser system that will allow for rapid and accurate removal of a small portion of the zona pellucida when performing assisted hatching. The laser system avoids the use of chemicals and reduces setup time for the procedure. Assisted hatching is the procedure used in an embryology laboratory to create an opening in the outer shell that will allow the embryo to hatch without difficulty. Some data suggests that assisted hatching will improve

pregnancy rates, but this is one of the more debated topics in the fertility community.

California IVF uses assisted hatching in the following situations:

- Patients age 39 and above
- Patients with prior failed IVF
- Embryos with thick outer shells
- Day 5 embryos without normal thinning of the outer shell, which appeared normal on day 3



"Our goal is to help patients build their families in a friendly and relaxed environment!"
– Dr. Ernest Zeringue

Family-Building Options for Men

Male couples and single men wishing to build a family will need to find a gestational surrogate to help them have a baby. In California, legal paperwork is filed so that the intended parent name(s) are listed on the birth certificate, rather than the name of the gestational carrier.

While California IVF does not maintain its own list of potential gestational surrogates, we can refer patients to lawyers and agencies who will help them to find a surrogate.

In an IVF cycle with a gestational surrogate, eggs are provided by either a known or anonymous donor and fertilized with the sperm of the intended father. Resulting embryos are then transferred to the uterus of a gestational carrier.

As in traditional IVF cycles, remaining embryos of good quality can be cryopreserved and used in the future with the same or different gestational carrier. Pregnancy rates using an egg donor and gestational surrogate are approximately 80%.

Males with infertility issues may elect to use donated sperm from a cryobank or pursue building their families using donated embryos. California IVF has experience working with male couples and single men. We are happy to guide patients through the process of obtaining legal contracts, selecting a donor, and coordinating treatments.



"One of my favorite parts of being a physician at California IVF is holding new members of our patient family" – Dr. Laurie Lovely

California IVF Family Reunion 2010 Photos Now Available Online



Visit the "Photo Gallery" at BabiesinDavis.com to view all of the babies and bellies



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IMQ Accredits California IVF

California IVF is proud to announce its three year accreditation by the Institute of Medical Quality. IMQ, a San Francisco based non-profit organization dedicated to improving the quality of patient care, recently completed a thorough on-site inspection of our local Sacramento area fertility clinic.

During the review, the quality of infertility treatment options provided by our local fertility doctors were reviewed and our facility including the in vitro fertilization (IVF) laboratory was inspected as part of our fertility center's commitment to providing a high-level of patient satisfaction to couples struggling to get pregnant and trying to conceive.

Learn About Embryo "Adoption"

Since launching our newest program in October, the California Conceptions Donated Embryo program has received over 100 recipient profiles and hundreds of inquiries from all over the world.

For current and prospective patients who have failed IVF and may be considering donor eggs or traditional adoption, the California Conceptions program offers an excellent chance of pregnancy with the option of a full refund.

For more information about embryo donation, please visit:
www.californiaconceptions.com

Review Our Physicians

Dr. Lovely and Dr. Zeringue love reading reviews and comments about their services online.

To add a review, search for your doctor by last name on web sites like:

www.vitals.com

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Please email if we've left off your favorite "rate your doctor" site.



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