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**For Immediate Release**

**PGD Technology Offers More Than Designer Babies**

San Francisco, CA – March 2009 – Pacific Fertility Center is pleased to announce its 50th child delivered after using preimplantation genetic diagnosis (PGD) and preimplantation genetic screening (PGS). Recent media attention about “designer babies” mentioned PGD and PGS. The use of this science for such “futuristic” action should not diminish the value and purpose for which it is used today. Pacific Fertility Center is proud to have been a pioneer in the true science and beneficial use of PGD and PGS. The value of these tools, as a way to help families build healthy futures, should be at the forefront of our medical breakthroughs. PGD has enabled Pacific Fertility Center to extend its goal of building families, one healthy baby at a time.

Pacific Fertility Center is a leading San Francisco-based fertility practice, specializing in In Vitro Fertilization (IVF) and PGD. With the birth of Pacific Fertility Center’s 50<sup>th</sup> child using PGD, we mark the evolution of a major program in the diagnosis and prevention of genetic illness. Outstanding clinical pregnancy rates (over 50% clinical pregnancy rates in 2008) and a compassionate, caring staff has contributed to our success.

PGD is a technique used in conjunction with IVF where a cell is removed from an embryo prior to transfer back to the mother. The DNA in the cell can be analyzed for novel or inherited genetic errors such as Down syndrome or cystic fibrosis. Normal embryos, based on the genetic analysis, are chosen for transfer back to the mother’s uterus to achieve pregnancy.

PGD allows diagnosis prior to implantation—or transfer of the embryo. Prior to discovery of the PGD technique, patients at risk for certain genetic illnesses faced diagnosis during pregnancy after undergoing amniocentesis or chorionic villous sampling. An abnormal result would result in genetic counseling, and termination of the pregnancy was a common choice if an abnormality was found. PGD allows diagnosis before implantation, while the embryo is still in the

laboratory. Healthy embryos can be selected for transfer, well before the pregnancy is established.

Embryos that are tested using PGD are produced via conventional IVF techniques. For IVF, a woman is placed on fertility drugs to produce multiple eggs. When mature, the eggs are removed from the ovary with a needle, under anesthesia. The eggs are inseminated with sperm and the resulting embryos are cultured for several days in the IVF laboratory. For PGD, on the third day of embryo development, at the 6-8 cell stage, one or two cells are removed from the embryo. The cells are analyzed for chromosome count, specific DNA sequences, or markers linked to a specific inherited defect. After analysis, normal embryos are transferred directly into the uterus—the normal site for implantation—using a small catheter placed through the cervix. Embryo transfer is a simple procedure that requires a few minutes of office time.

For illnesses such as cystic fibrosis, sickle cell anemia, and other single gene defects where the DNA mutation is limited to a specific location on a gene, PGD can diagnose affected embryos. After the biopsy of one or two cells, polymerase chain reaction (PCR) is used to amplify the DNA sequence of interest. The normal and abnormal genetic sequences in the DNA can be amplified and tagged with specific probes, revealing which embryos are affected by the mutation. In circumstances where the specific mutation cannot be identified, genetic markers located near the mutation of interest can be used to identify affected embryos.

Using a technique known as Fluorescent In Situ Hybridization (FISH), PGD can also be used to count the chromosomes in the cell removed from an embryo. A normal cell has a complement of 23 pairs of chromosomes (22 pairs plus a pair of sex chromosomes: 2 X chromosomes for a female or an X and a Y for a male). Uniquely colored fluorescent probes attach, or hybridize, to specific chromosomes. A spot of color for each of the probes appears under fluorescent light, each color spot represents a chromosome under study. This analysis can show abnormal chromosome pairings such as three copies of chromosome 21, which indicates Down syndrome, or a single copy of the X chromosome which indicates Turner's syndrome.

Similar techniques have been used for chromosomal translocations, common in miscarriages, X-linked genetic illness; gender identification for family balancing; and for HLA typing for use in cancer therapy.

## **About Pacific Fertility Center**

Pacific Fertility Center is a fertility medical practice and egg donor agency located in San Francisco, California. Pacific Fertility Center physicians are all board certified by the American Board of Obstetrics and Gynecology in Reproductive Endocrinology and Infertility. The physicians at Pacific Fertility Center are members of the Society of Assisted Reproductive Technology (SART); Society of Reproductive Endocrinology and Infertility (SREI); and the American Society of Reproductive Medicine (ASRM). They each have many years of successful clinical, academic, and scientific experience. The onsite innovative laboratory at Pacific Fertility Center is operated by one the most experienced embryology teams in the nation. Pacific Fertility Center is highly regarded for its ability to offer technologically advanced solutions to the most resistant fertility challenges, while conveying warmth and compassion to their patients. Our goal is overcoming infertility, and building families, one healthy baby at a time. To learn more about Pacific Fertility Center and/or to schedule an interview with an infertility specialist, please contact Robb Mayberry at (888)834-3095 or by email at [mayberry@pacificfertility.com](mailto:mayberry@pacificfertility.com) .

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Source: Pacific Fertility Center