

## ICSI

**What is ICSI?** Intracytoplasmic sperm injection (ICSI) is a micromanipulation technique used in conjunction with in vitro fertilization (IVF) for the treatment of male infertility. ICSI allows a single sperm to be injected directly into the cytoplasm (inside) of an egg. For men with severe "male factor" sperm problems, this procedure has revolutionized the treatment of infertility.

**How is ICSI done?** With ICSI, the woman first must undergo an IVF stimulation cycle in order to collect several eggs for the procedure. After retrieval of the eggs, the man produces a sperm sample, or in some cases, has a small surgical procedure to collect sperm. Using an extremely fine needle (called a micropipette) under a powerful robotics operating microscope, one sperm is isolated and then injected through the capsule into the cytoplasm of an egg. Fertilized eggs (called embryos) will begin to divide in a similar fashion to regular IVF embryos.

**What are the indications for ICSI?** The list of problems that ICSI can be applied to is growing rapidly. Failure of previous fertilization at IVF was the first indication. ICSI is now used routinely in the first IVF cycle for men with very low sperm counts, low motility, or abnormal morphology (normal shaped sperm). Other indications include the presence of anti-sperm antibodies, failed vasectomy reversal, and other congenital or acquired obstructive problems of the male system.

**How successful is ICSI?** Programs with experience with this procedure are achieving fertilization and pregnancy rates with ICSI which equal those of other IVF patients. This technique makes pregnancy possible for couples who have previously failed in IVF, or who would have been excluded in the past because of unsatisfactory sperm characteristics. Men who were previously classified as permanently sterile have attained pregnancies with ICSI, including some with only nonmotile or immature sperm.

**Is ICSI our only option for treatment?** Other options for the treatment of male infertility problems may include male fertility drugs, surgery, sperm washing with intrauterine insemination (IUI), donor insemination, and adoption. If these options are not acceptable or have not been successful, ICSI is often the only option which allows use of the sperm from a man with abnormal sperm numbers or function.

**Is ICSI an expensive procedure?** Unfortunately, ICSI adds an additional 10-20% to the cost of a regular IVF cycle at most fertility centers. Fortunately, The Fertility Center of Oregon does not charge an additional fee for this service. The equipment for ICSI is highly specialized and costly. Each egg must be carefully stabilized and individually injected by an embryologist in a very labor-intensive and time-consuming process. Like many of the high tech advances in medicine, ICSI can achieve miracles but is not an inexpensive option.