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Assisted Reproductive Technologies at IGO

Intrauterine Insemination of Washed Sperm

Intrauterine insemination of washed sperm is often used as a treatment option when the male partner has a low sperm count, poor sperm motility, poor sperm morphology or antisperm antibodies attached to the sperm. It is also used when the female has poor cervical mucus, antisperm antibodies or, in some cases, where both partners have been completely evaluated medically and no explanation for the infertility has been found. It requires that ovulation occur (either naturally or following ovarian stimulation with fertility medications), that at least one of the woman's fallopian tubes is open and functioning properly, and that the male have at least some motile sperm in the ejaculate.

In the ART laboratory, the semen specimen is specially processed prior to insemination. After an initial sperm count and microscopic analysis of the specimen, it is carefully layered on a protein density gradient and centrifuged to yield an enriched sperm pellet in the bottom of the tube. After a second centrifugation step, the sperm pellet is resuspended in a very small volume of media. A final sperm count is done by microscopic analysis to document the total number of motile sperm available for insemination. These special gradients of viscous media solutions are used to help remove debris and non-motile sperm from the sperm specimen. The media containing the concentrated, washed sperm is drawn up into a special catheter and delivered to the physician for the insemination procedure. The catheter (a tiny, flexible tube attached to a syringe) is placed through the woman's cervix during a pelvic exam and the sperm are deposited high in the uterus.

This sperm washing procedure concentrates the sperm into a volume that will fit into and be retained by the woman's uterine cavity at a site much closer (than that with natural intercourse) to where fertilization will occur. It also removes the seminal fluid leaving the sperm free of substances that might cause cramping if injected directly into the uterus. In addition, the actual washing procedure may initiate the capacitation process for the sperm which must occur in order for the sperm to be capable of penetrating and fertilizing the egg.

The intrauterine insemination procedure is done once or twice during each cycle as close as possible to the time of ovulation. For this reason, egg maturation and ovulation is monitored by hormone measurements and/or ultrasound studies.