

## Team Combats Male Infertility With Advanced Techniques For Inducing Ejaculation, Analyzing and Processing Sperm

New techniques of electro- or vibratory-induced ejaculation, combined with specialized sperm washing procedures, increase the chances of pregnancy in wives of men who have suffered a spinal-cord injury, have had testicular cancer and retroperitoneal lymph node resection, or have diabetes or multiple sclerosis with absence of ejaculatory response.

"With these technologies, approximately one third of such couples can achieve pregnancy. Without it, their chances for a biological pregnancy are basically zero," says Anthony J. Thomas Jr., M.D., head of the Section of Male Infertility in the Cleveland Clinic's Department of Urology.

Dr. Thomas collaborates closely with new Andrology Laboratory Director Ashok Agarwal, Ph.D., as well as reproductive gynecologists in the Clinic's comprehensive Infertility Program.

### Transrectal Stimulation

Men with spinal cord injuries may be candidates for electroejaculation or electrical transrectal stimulation.

To avoid discomfort in those patients with neurologic sensation, transrectal stimulation can be performed under general anesthesia in the O.R.; otherwise, it is performed in the office.

First, a probe is introduced into the rectum. The prostate and seminal vesicles are then stimulated by electrical current. "Within a few minutes, the patient will have an erection and ejaculate," Dr. Thomas says.

Blood pressure is continuously monitored during the procedure to check for autonomic dysreflexia.



*Drs. Ashok Agarwal and Anthony Thomas examine the semen quality of a patient's specimen.*

### Electrovibration Another Option

Another technique available for men with seminal emission problems is electrovibration. Performed on the day of the wife's ovulation, electrovibration directly stimulates the penis, often producing an ejaculation in several minutes.

"Our specially designed, high frequency electrovibrator is much more powerful than the hand-held vibrators that are widely available but rarely successful with these patients," says Dr. Thomas.

Following either procedure, the specimen is immediately sent to the Andrology Lab for processing. There, Dr. Agarwal supervises a Percoll sperm wash, one of two techniques he uses. "Washing removes seminal plasma or other harmful substances such as prostaglandins, and non motile sperm," he explains. "It concentrates the most motile, morphologically normal sperm to maximize the chances of fertilization."

Retrieved sperm are then used by reproductive gynecologists Robert Collins, M.D., or Jeffrey Goldberg, M.D., for outpatient intrauterine insemination of the patient's wife.

Timing and collaboration are essential, says Dr. Thomas: "We work as a team to maximize the couple's chances of success," he stresses.

### Comprehensive Services

The Clinic's infertility program offers comprehensive services for both men and women.

The Andrology Laboratory provides computerized semen analysis with multiple-exposure vidcomicrography; the Endtz test for leukocyte quantitation in semen; Kruger's strict classification for sperm morphology; and direct and indirect testing for antisperm antibodies in serum, cervical mucus or seminal plasma.

Semen fructose and acrosin testing; bovine mucus-penetration assays; hypo-osmotic swelling tests; and hamster egg penetration tests are also offered, along with therapeutic patient and anonymous donor sperm-banking services.

Sperm cryopreservation is available in the Sperm Bank for men scheduled for chemotherapy, radiation therapy, retroperitoneal lymph node dissection or vasectomy.

Dr. Thomas performs epididymal sperm aspiration for men with congenital absence of the vas deferens, and microsurgical reconstruction for obstructive problems and vasectomy reversal.

For women, the Infertility Program offers an *in vitro* fertilization program using standard and advanced techniques that have excellent success rates, as well as an anonymous oocyte donation program.

For more information or to refer men with suspected infertility, please call Dr. Thomas at 216/444-6340. To schedule appointments in the Andrology Lab or Sperm Bank, call 216/444-8182; to speak to Dr. Agarwal, please call 216/444-9485.