



# AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE

Formerly *The American Fertility Society*

1209 Montgomery Highway • Birmingham, Alabama 35216-2809 • TEL (205)978-5000 • FAX (205)978-5005 • E-MAIL [asrm@asrm.org](mailto:asrm@asrm.org) • URL [www.asrm.org](http://www.asrm.org)

## PATIENT'S FACT SHEET

### Spinal Cord Injury

There are more than 10,000 spinal cord injuries per year in the United States. The majority of these injuries occur in healthy men of reproductive age. Spinal cord injury produces both sexual and reproductive problems. Approximately 60 percent of men remain sexually potent following spinal cord injury, but only 10 percent demonstrate the ability to ejaculate. Ejaculatory dysfunction in men with spinal cord injury is due either to loss of control of ejaculation or direct nerve injury. Many additional factors predispose spinal cord injured men to infertility, including potential abnormalities of sperm production, chronic infections due to abnormal bowel and bladder function, and blockage of sperm within the male reproductive tract. Management of male infertility due to spinal cord injury includes a number of different methods to obtain sperm, which are described below, combined with various forms of assisted reproductive techniques.

#### VIBRATORY STIMULATIONS

Vibration applied to the head and shaft of the penis can stimulate ejaculation in men with loss of control of an intact ejaculatory reflex. Obtaining sperm by vibratory stimulation is successful in up to 50 percent of men with injuries in the upper spinal cord (above the 10th thoracic vertebra). The semen sample is then processed for either intrauterine insemination (IUI) (injecting the semen directly into the woman's uterus), or in vitro fertilization (IVF). IVF is a method of assisted reproduction that involves combining an egg with sperm in a laboratory dish. If the egg fertilizes and begins cell division, the resulting embryo is transferred into the woman's uterus. A possible side-effect of vibratory stimulation is autonomic dysreflexia, a potentially life-threatening condition which can cause extreme high blood pressure. Patients should not try this technique before being evaluated by a physician.

#### ELECTROEJACULATION

Rectal probe electroejaculation has been used for over a decade. The nerves responsible for ejaculation are stimulated directly, and semen can be obtained in nearly all men, including those with lower spinal cord injuries. Some of the sperm go into the bladder rather than out of the penis (known as retrograde ejaculation), requiring additional collection of sperm from the urine. The semen is then processed for either IUI or IVF.

#### SPERM HARVESTING

Sperm are usually present in the reproductive tract of spinal cord injured men. Sperm may be removed from any site along the path of ejaculation, including the vas deferens, epididymis, and directly from the testis. The sperm obtained may be of sufficient quality for IUI, but most of these techniques yield specimens that require advanced assisted reproductive techniques such as IVF using intracytoplasmic sperm injection (ICSI). ICSI involves injecting a sperm directly into an egg to facilitate fertilization.

Despite the relative ease of sperm acquisition using the techniques described above, the overall pregnancy rate remains low. The typical semen sample obtained by vibratory stimulation or rectal probe electroejaculation contains a large number of poor quality sperm. The overall pregnancy rate reported in large studies is under 20 percent. Results can be improved when sperm acquisition is combined with the assisted reproductive techniques IVF and ICSI.