

## **Spinal Cord Injury Info Sheet**

An information series produced by the Spinal Cord Program at GF Strong Rehab Centre.

# **Male Sexuality and Fertility**

### **What about after my injury?**

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The brain and the genitals are connected by the spinal cord to send messages back and forth about sex. After a spinal cord injury, this pathway is interrupted and often messages cannot be sent like before. There is nothing wrong or changed with your genitals. It is that the message about “this feels good” can’t get from the genitals to the brain like it did before. This is why you don’t feel like you did before and your vagina or penis may not respond like it use to.

### **My erection is different from before. What can I expect?**

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There are two different ways that men can get erections: one, from thinking about something sexual and two, through touch on the penis.

Erections from thinking about something sexual (mental erections) occur when messages are sent from the brain to the spinal nerves that leave the spine around T9 to T12. Blood flows into the penis and the erection occurs. Often mental erections cause some enlargement of the penis but the firmness may not be sufficient for intercourse.

Erections from touching the penis (reflex erections) occur when something touches the penis. The touch can be sexual or non-sexual, for example, touch from washing or from getting a catheter. In this case, messages from the nerves on the penis are sent to the lower end of the spinal cord (S2 to S4) and immediately returned to the penis. Again, blood flows into the penis creating an erection.

Men who have an SCI in the lower part of their spine (below T10) will likely not have reflex (or touch) erections but will likely have mental erections. Often, mental erections are either not quite firm enough or don’t last long enough for intercourse to occur. Using some method of erection enhancement will help with this problem.

Men who have an SCI in the upper part of their spine (above T10) will likely not have mental erections but will likely have reflex erections. After SCI, this reflex functions independently from the brain and is not completely predictable. Because of this, some men may feel uncomfortable if they get a reflex erection in a non-sexual situation. In addition, some men may find that their reflex erection does not last long enough for sexual intercourse. Again, using some form of erection enhancement will help with this situation.

How your erection works after your SCI depends on many things, such as your level and completeness of injury and the medications you are on. It may be helpful for you to meet with a sexual health clinician to discuss your specific situation.

## **What options are available for erection enhancement?**

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Many men after an SCI say that they have difficulty getting and/or maintaining an erection they are satisfied with. There are several options available that can help with these concerns.

**Constrictor Bands:** This is a wide elastic band designed to be placed at the base of the penis once an erection occurs. The band helps to maintain the erection by stopping the blood from flowing out of the penis. The skin of the penis may become cool and discoloured while the band is on but it will return to normal once the band is removed. It is very important the band is not kept on for more than 30 minutes, otherwise you may be at risk for skin and tissue damage. This method is most useful for men who are able to get an erection but have difficulty maintaining it.

**Vacuum Devices:** Vacuum devices work by placing a cylinder with an attached pump over the penis. The pump works to create a suction causing blood to flow into the penis. A constrictor band is then applied to help maintain the erection.

**Intraurethral Medications:** This method is a relatively new technology and involves the insertion of a very small suppository (via an applicator) into the urethra. The medication (Prostaglandin E1) is absorbed into the spongy tissue of the penis causing the blood vessels to open and the penis to become erect.

**Intracavernosal Injections:** A tiny needle is used to inject a small amount of medication directly into the spongy tissue on either side of the penis. The medication (usually Prostaglandin E1, but there are other medications available) works by causing the blood vessels to open and blood to fill the penis. This technique can be taught to your partner if hand function is a concern.

**Oral Medications:** There are several oral medications being explored to help with erection. Sildenafil Citrate (Viagra) is the first oral medication to be available by prescription. It works by enhancing the erection you have and appears to be helpful for men with an SCI. Side effects can include headache, flushing, heartburn, and temporary visual disturbances. This medication is taken on an "as needed" basis before sexual activity. Sildenafil Citrate may interact with other medications (i.e., any nitrate drugs) so it is important to discuss this with your doctor when you are asking for a prescription.

**Surgical Options:** While there are surgical options available they are not commonly chosen as they require an invasive procedure which may put men with an SCI at risk for skin breakdown. In addition, most men find that one of the methods discussed above works to meet their specific needs.

## **Can I still have children?**

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Many men with complete and incomplete spinal cord injuries have questions and concerns about having children. There are two main areas affecting fertility after an SCI: changes in the ability to ejaculate semen and changes to the quality of the semen. Methods available to obtain sperm and advanced reproductive technologies such as in-vitro fertilization (IVF), have made it possible for many men with an SCI and their partners to become pregnant.

## **Why does ejaculation change?**

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Ejaculation is controlled by a complex interaction of spinal nerves. Just as spinal cord injury affects the nerves involved with bowel, bladder and erectile function, it can also interfere with a man's ability to ejaculate. Commonly, after an SCI, men experience an absence of ejaculation. There are a number of ways to obtain sperm that can be used to overcome this challenge to fertility. Vibrostimulation and electroejaculation are most commonly used. If there are only minor changes to ejaculation, other ways of obtaining sperm are self-stimulation and stimulation with a partner.

## **What are vibrostimulation and electroejaculation?**

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Vibrostimulation involves the placement of a vibrator on the glans (or head) of the penis. Oftentimes stronger stimulation to the damaged nerves is needed for ejaculation to happen, so a special vibrator is used. The ejaculation usually occurs without an orgasmic sensation and an erection may or may not be present. Since there is the risk for autonomic dysreflexia, the technique should first be taught by a qualified professional and tried in a medical setting where blood pressure can be monitored. If there is an increase in the blood pressure, a medication can be given to help prevent this for future attempts. Vibrostimulation seems to work best with men whose injury is complete and higher than T10. Many couples can learn to do this technique safely at home in order to get semen that can then be placed into the partner (intravaginal insemination) to attempt pregnancy. Couples may also try intrauterine insemination where, in a clinical setting, sperm is processed at a specialized lab and then put directly into the uterus using a special catheter.

Electroejaculation involves the use of a probe placed close to the prostate gland. A mild electrical current is used to directly stimulate the nerves and the ejaculate is manually pushed out along the urethra. While this technique is more intrusive and requires a medical setting, it is usually successful regardless of level or completeness of injury. Men who have any genital feeling require some form of an anesthesia for this

procedure. Sperm obtained from this method is usually used for intrauterine insemination.

## **Does semen quality change after a SCI?**

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Men with an SCI tend to have changes to semen quality. Semen quality can be determined through a basic semen analysis, which looks at the numbers and motility characteristics of the sperm. Typically after an SCI, men have high numbers of sperm, however, the number of sperm that are moving is low. This can cause problems for men and their partners who are trying to conceive. There is no definitive reason why these changes occur, however, higher temperature of the testicles, frequent urinary tract infections, and decreased frequency of ejaculation causing changes in the seminal fluid are some possible causes. To improve the chances of being fertile, it is suggested that men do not smoke cigarettes or marijuana, and keep themselves, especially their bladders, healthy. Certain vitamins may be recommended as well. Men considering a sphincterotomy should consult with their urologist as this may affect their ability to ejaculate forwards out the end of the penis.

## **What new technologies are available in the area of fertility?**

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There has been progress made in the area of male infertility that can help make up for changes to semen quality. Special laboratory techniques can be used to prepare the semen sample, which can then be used for intrauterine insemination. Fertility medications along with close monitoring of the female partner's monthly cycle can also help the chances for conception. In addition, techniques known as in-vitro fertilization (IVF) and intracytoplasmic sperm injection (ICSI) have allowed men with very low sperm counts and/or motility to become biological parents. Adoption and therapeutic donor insemination (TDI) are also options. For more information on fertility after spinal cord injury call The Sperm Retrieval Clinic at The Centre for Sexuality, Gender Identity and Reproductive Health at (604) 875-8246.

## **Additional Information**

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You may also find the following info sheets useful:

- Sexuality and SCI
- Female Sexuality and Fertility
- Contraception and Safer Sex

If you have any questions or concerns about sexuality and would like to speak to a Sexual Health Clinician please call Clinical Support Services at GF Strong Rehab Centre at (604) 737-6411.

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