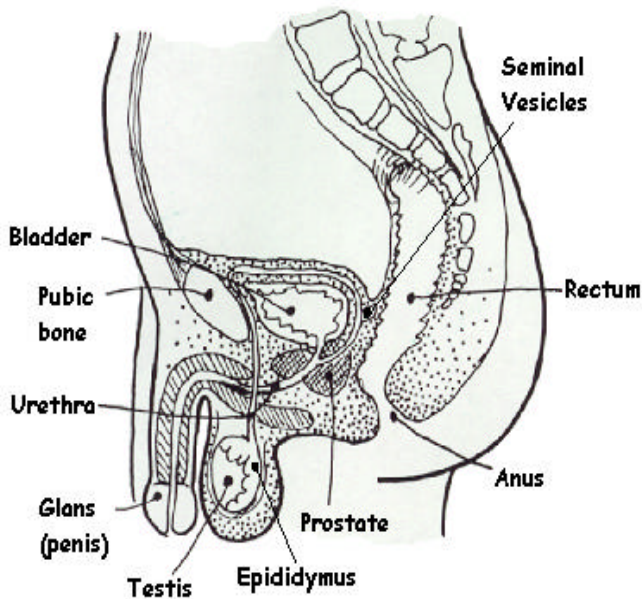


I . SEX AND SEXUAL FUNCTION



Anatomy of the Male Sex Organs

Scrotum

- Pouch of skin that contains the testes and its tubes
- Assists in keeping the testes at the right temperature for sperm production (~ 2 degrees below body temperature)

Testes

- Egg shape glands that produce the sperm
- Also produce the male sex hormone - testosterone.

Epididymus

- The long tube behind the testes in the scrotum in which the sperm are stored

Seminal vesicles

- Small glands located behind the bladder that add fluid to the sperm

Prostate gland

- Small gland at the bottom of the bladder which adds more fluid to the sperm
- The urethra passes through it

Ejaculatory duct

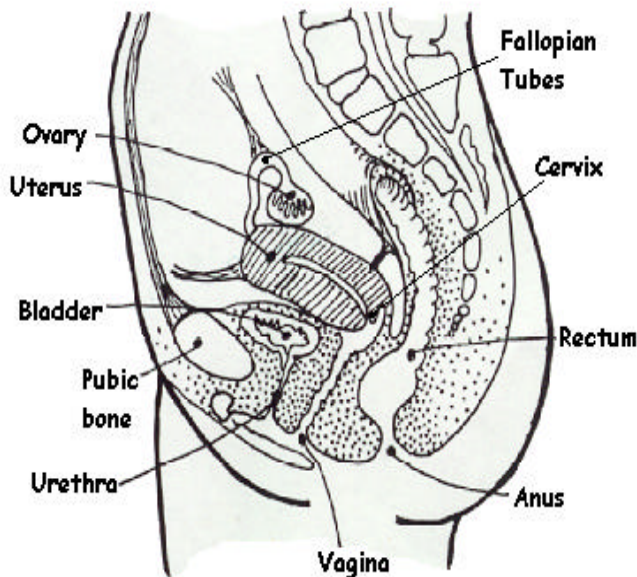
- Small tube that carries the **semen (sperm plus added fluids)** into the urethra
- This occurs close to the time of ejaculation

Urethra

- The thin elastic tube that runs through the penis
- During ejaculation, the bladder is closed off so that urine does not escape and
- the urethra carries the semen to the outside of the body

Penis

- contains the urethra
- it consists of 3 cylindrical tubes made of erectile tissue
- these tubes fill with blood during sexual stimulation (producing an **erection**)
- the erection assist in depositing the sperm effectively
- the end of the penis is slightly larger and is called the **glans**



Anatomy of the Female Sexual Organs

Vulva

- folds of skin at the entrance to the vagina
- **Outer labia**
 - larger folds on the outside
 - these have skin and hair
 - contain glands that produce the lubrication fluid needed for intercourse
- **Inner labia**
 - smaller folds of skin inside the larger folds
 - these are soft, pink and moistened by secretions

Clitoris

- the external projection of this organ is located just above the urethral opening at the top of the inner labia
- highly sensitive and its only real purpose is for pleasure
- made of the same type of erectile tissue as found in the penis

Vagina

- hollow muscular tube / opening into the body
- has a moist lining which is made up of folds of skin
- it lengthens and widens with sexual intercourse
- it accepts the penis during sex
- also the passageway during childbirth

Uterus

- pear shaped muscular organ located in the pelvis
- its purpose is to carry and nurture a child
- each month of the female cycle it builds up its lining, if no fertilised egg is received it expels the lining in a process called menstruation (a period)
- the **cervix** is the opening of the uterus into the vagina

Fallopian Tubes

- these tubes are attached to the top of the uterus
- each month they carry an egg from the ovaries to the uterus, ready to be fertilised

Ovaries

- two small organs located in the pelvis they produce and store the eggs until they are ready to be released each month
- they also produce the female sex hormones - **oestrogen** and **progesterone**

Sexual Function (Before the Injury)

Sexual function is a complex interaction between:

- spinal cord reflexes
- influences from the brain
- hormones
- psychological factors

Nerve Supply

The important parts of the spinal cord for sexual function in both male and female are:

- **T11,12 - L1,2**
- **S2 - 4**

In the male:

Sensation (to perineum)	S2-4
Erection	T11,12 and S2-4
Ejaculation	T11,12 and S2-4

In the Female:

Sensation (to perineum)	S2-4
Clitoral erection and Vaginal lubrication	T11,12 and S2-4

Male Sexual Response Cycle

- **What happens when a man becomes aroused ?**

Sexual arousal is a result of a combination of signals that stimulate our senses including:

- Smells
- Sounds
- Seeing something sexually exciting
- Touch - especially in erogenous zones

The physical signs of arousal that the body shows include:

- penis becomes erect
- scrotum tenses and testes rise
- emission and ejaculation may occur
- nipples become erect
- muscles tense
- breathing becomes rapid
- pulse and blood pressure rises
- skin becomes flushed

Orgasm is the culmination of all these feelings:

- when orgasm occurs there is a pumping action that discharges semen from the penis in spurts

Following orgasm:

- muscle tension decreases
- pulse, blood pressure and breathing gradually return to normal
- relaxation occurs

Female Sexual Response Cycle

- What happens when a woman gets aroused ?
 - vagina moistens
 - clitoris swells
 - labia swell and open
 - uterus contracts
 - nipples become erect
 - muscles tense
 - breasts enlarge
 - breathing becomes more rapid
 - pulse and blood pressure rise
 - skin becomes flushed

- **Orgasm** in the female involves:
 - withdrawal of the clitoris from its normal position
 - strong contraction of the muscles of the vaginal walls and rectal area
 - tensing of other muscles

Following orgasm there is:

- muscle relaxation
- gradual fall in pulse, blood pressure and breathing

Erogenous Zones

Remember, the erogenous zones are not only **the genitals** but also the neck, ears, lips and almost any other part of the body. Some or all of these areas may contribute to arousal and stimulation.

Reflexogenic Vs. Psychogenic Stimulation

In the male: Erections can be either:

1. Psychogenic

- caused by a message sent from the brain
- e.g. seeing an attractive person, watching an erotic movie or fantasising

2. Reflexogenic

- caused by direct stimulation
- the brain is not important at all

3. Combination of Both

In the Female: the same applies to vaginal lubrication and clitoral erection.

Sexual Function (After the Injury)

Sexual function following spinal cord injury depends primarily on:

- Level of injury
- Completeness of injury
- Time since the injury may also be important

The main aspects of sexual function that may have been affected are:

In the Male:

- SENSATION in genital and other areas below the level of injury
- ORGASM may be changed
- Ability to achieve and sustain an ERECTION
- Ability to EJACULATE

In the Female:

- SENSATION in genital and other areas below the level of injury
- ORGASM may be changed
- Ability to achieve VAGINAL LUBRICATION

The **degree of paralysis** of muscles around hips, pelvis and legs may be important for both sexes with respect to positioning for sexual activity and intercourse.

What Can Be Done to Help Overcome Sexual Problems following SCI ?

- **General Points**

While sexual activity following SCI may be different from before this does not mean that it cannot be:

- exciting and stimulating
- satisfying

- **You can have:**

- a sexually active life
- maintain intimate relationships

- **Remember:**

- Sex is a natural part of life and we are all sexual beings – this has not changed simply because of your SCI
- Sex and sexuality are important parts of your overall rehabilitation – the staff in the Spinal Unit are happy to discuss issues with you whenever you feel ready
- There is more to sex than just sexual intercourse e.g. foreplay, touching, caressing, exploring, oral sex, masturbation/mutual masturbation
- The inability to move much does not mean the inability to please or be pleased
- Loss of genital function and/or sensation does not mean loss of your sexuality
- Communication with your partner is very important

Treatment of Problems with Erections

- **Different Positions**

- Some people find that using particular positions during intercourse help maintain erections better
- This requires patience, experimentation and communication with partner

- **Vacuum Devices**

- Small vacuum pump is applied to penis to draw blood in
- Elastic ring is applied to base to stop the erection subsiding – tends to cause slightly “bent” erection
- Must not be left in place for more than 30 minutes
- Advantage: - non-invasive
- Disadvantage: - erection does not look normal

- **Penile Injections (Caverjet)**
 - Injection of medication directly into side of penis
 - The medication (Alprostadil/Prostaglandin E2) assists the blood to enter penis and produces erection
 - Advantage:
 - Erection is more normal looking
 - Inexpensive
 - Disadvantage:
 - Care must be taken with dose given or erection can last too long and this is dangerous
 - overcoming the whole idea of "injections"
- **Intra-urethral Pellets (MUSE)**
 - Small pellet the size of grain of rice put into urethra
 - Same drug as the injections (Alprostadil)
 - Adv:
 - no injections
 - Disad:
 - sometimes does not work as well as injections
 - expensive
- **Oral Medications (Viagra)**
 - Tablet form
 - Different medication (sildenafil)
 - Only works if there is arousal stimulation
 - Adv:
 - no injections
 - Disad:
 - needs to be taken 1 hour before sex
 - expensive
 - cannot be used if you use anginine (used to treat autonomic dysreflexia)
- **Penile Implants**
 - complex surgical procedure to implant a device into penis to assist with erection
 - rarely used but sometimes appropriate
 - complications

Treatment for Problems with Ejaculation

- this may be difficult to treat
- it may improve with time
- retro-ejaculation sometimes occurs where the sperm go back into the bladder instead of coming out the right way
- vibrators may sometimes help with ejaculation

Treatment for Problems with Lubrication

- use a water-based lubricant e.g. KY jelly
- direct stimulation may assist reflex lubrication

Treatment of Sensory/Orgasmic Problems

- sensation may improve with time
- explore erogenous zones/areas above the level of injury – these may become extra-sensitive
- orgasm may not be the same as before but can be just as good
- ***Don't expect miracles the first time!!***

Other Things to Think About

• Intercourse Positions

- muscle weakness, spasm or balance problems may make sexual activity more difficult than before
- experiment with other positions
- a member of the team or your local health professional can give you advice about other positions to try or how to manage spasms or lack of balance
- communication with partner is very important

• Bladder And Bowel Problems

A member of the team can also give you advice about:

- avoiding bladder or bowel accidents
- problems related to your type of bladder management and how to overcome them
- communication

• Spasticity

- spasms may aid or interfere with sexual activity
- talk to a member of the team

• Autonomic Dysreflexia (AD)

- if you are prone to AD this can sometimes occur during sexual activity
- especially with ejaculation/orgasm if you experience these
- if severe, the activity should be temporarily ceased
- check other causes of AD i.e. bladder/bowel

Safe Sex

Remember:

- Unless you are 100% certain that the person that you are having sex with does not have a STD (sexually transmitted disease) you should be having "Safe Sex"
- It is not possible to tell whether someone has an STD or not just by looking !!
- SAFE SEX is either:
 - Non-penetrative sex
 - Sex with condom and water-based lubricant
- HIV/AIDS, Hepatitis B and C are usually transmitted by unprotected penetrative sex
- Other STDs e.g. herpes, gonorrhoea, can be spread in other ways
- HIV/AIDS is not only a disease of gay men
- Using a condom is the safest form of intercourse
- Take responsibility for your own health and the health of your partner

Contraception

Remember:

- If you can ejaculate or have any discharge from your penis during sexual activity you may be able to get your partner pregnant
- Some form of contraception will be needed by yourself or your partner
- SCI women usually begin menstruation (periods) a few months after the injury
- Once periods begin again you can get pregnant
- Fertility in SCI women is usually normal unless there is some other fertility problem
- Contraception will be needed unless you are attempting to get pregnant
- Your doctor or other member of the team can give you advice