

# Sexual Rehabilitation of Patients with Spinal Cord Injury

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## Commentary

Sexual and reproductive health is important for quality of life and has a significant influence on patient satisfaction. Spinal cord pathology occurs from trauma, deformity, and degenerative disease processes may lead to damage sexual function and reproductive system. There are two control systems situated in the spinal cord associated with erection; parasympathetic and sympathetic nervous systems. The parasympathetic center is in sacral segments S2–S4 and is responsible for reflexogenic erection and the sympathetic center is placed in T11–L2 segments of the spinal cord, which is responsible for psychogenic erection. Approximately 10-20% of erectile dysfunction (ED) is of neurological origin. The neurogenic ED is classified into 3 groups, as supraspinal, spinal (sacral and suprasacral) and peripheral. Main causes of neurogenic ED include stroke, Alzheimer's disease, spinal cord injury (SCI) and spinal lesions, pelvic injury, pelvic surgery, diabetic neuropathy and multiple sclerosis. Almost 50% of neurogenic ED cases are resulted from SCI. Depending on the level of SCI, reflexogenic erection and/or psychogenic erection may occur in the patients.

Since the sexual function is associated with the innervation of the reproductive system, defining the neurological level of complete SCI is important to estimate the residual sexual capacity. The spinal cord might be classified in 3 sections, due to the level of the spinal centers playing role in sexual function, as T10 and above, T11-L2 (the sympathetic center), conus-cauda (the sacral parasympathetic center as follows).

### T10 and above

Local stimulation of the genital organs can be answered. However, the answer cannot be psychogenic.

### From T11-L2

Erection was expected with genital stimulation as well as with psychogenic stimulation.

### Conus-cauda (sacral lesion of the way)

These come in two types conus terminalis and the cauda equina. Usually, any type of erection does not occur. In the first group, protection of psychogenic erection is more frequent than the second group [1-3].

Reflex erection occurs in the men with incomplete upper motor neuron lesion. Psychogenic erection is possible according to the whereabouts of neurological damage (lateral or medial) both incomplete upper and incomplete lower motor neuron lesion. During spinal shock, the erection cannot occur.

Sexual concerns in men can involve erectile function, ejaculation function for fertility, and the ability to reach orgasm. This is evident even though most men who sustain a spinal cord injury suffer from ejaculatory dysfunction and are infertile as well as recalling an active sexual life, disconnection with sexual identity, loss of physical and emotional capability, isolation from sexual partner perceived physical barriers to sexual functioning are the other major problems faced by. The quality of sexual life for these men was not only affected on a physiological level but also compromised by significant social, existential, and emotional factors, as a result of the paraplegia [3-5].

## Treatment

In the literature spinal cord injured men related to penile erection, ejaculatory dysfunction, semen characteristics, and techniques for enhancement of fertility in; semen profiles with low motility. Ejaculatory dysfunction in spinal cord lesioned men through penile vibratory stimulation for electroejaculation [5,6].

### PDE-5 inhibitors

Studies revealed that long term tadalafil treatment in SCI-induced ED saved the relaxation function of rat corpus cavernosum by preserving the availability of NO /cGMP pathway. To prevent the development of permanent damage in the cavernous tissue and to ensure the patient's sexual rehabilitation long term tadalafil treatment appears to be necessary. Tadalafil is used at 5 mg daily doses. It has been proposed that daily usage of tadalafil induces regular erections and increases penile blood flow which is likely to prevent the physiopathological process leading to fibrosis development [2-4].

### Topical pharmacotherapy

Some of vasoactive drugs (2% nitroglycerine, 15-20% papaverine gel and 2% minoxidil solution or gel) are used for topical application to the penis.

### Vacuum constriction devices

It provides passive pooling the blood in the corpora cavernosa.

### Intracavernous injection agent

Alprostadil

### Combination therapy

Papaverine, phentolamine and alprostadil

Sacral stimulators, intraurethral alprostadil

### Penile implants

The patients who do not respond to pharmacotherapy or want a permanent solving to be considered by the penile prosthesis implantation [3,7,8].

### Psychosexual counseling and treatment

Psychosexual therapy for patients with a significant psychological problem administered alone or in combination with other therapeutic approaches. The quality of sexual life for these men was not only affected on a physiological level but also compromised by lower sexual satisfaction- sexual respect, sexual incapability, loss of sexual identity and high sexual depression, as a result of the paraplegia [4,7,8].

Consistently, Sexual functions were affected severely after SCI in male patients. The great impact on quality of life and interpersonal relationships. Investigative approaches could consider bio-psycho-social models for this population. Clinical management of erectile dysfunction need for sexual counseling, psychological support, or psychosocial sexual rehabilitation post injury. Although there has been enough research about sexual satisfaction following spinal cord injury, there has been lack of psychological resources and emotional aspects of sexuality.

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