

LIVING WITH SCI

FACTSHEETS

sia spinal
injuries
association
FOR LIFE AFTER SPINAL CORD INJURY



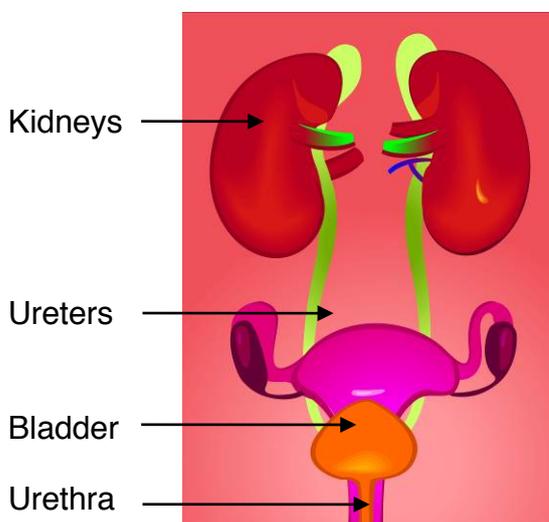
BLADDER MANAGEMENT

Introduction

Spinal cord injury (SCI) at any level almost always affects the level of control you have over your bladder. Loss of control over when and how you pass urine, is one of the major life-changing adjustments that needs to be made following SCI. During rehabilitation, you will learn techniques, tailored to your individual needs, how to empty your bladder. These techniques take into account your level of functionality and dexterity.

The Urinary System

The urinary system is made up of the kidneys, 2 ureters, the bladder and urethra.



The kidneys work 24 hours a day, filtering the blood passing through them, removing waste products and thus producing urine.

Urine, a mixture of excess water and salts, drains from the kidneys via the ureters, one from each kidney, into the bladder.

The ureters allow the urine to flow in one direction only and are connected to the bladder.

How does the bladder work?

The bladder is a muscular bag, which stores urine until it is convenient to be emptied. When the bladder is full, nerves send a message via the spinal cord to the brain. When you decide to pass urine, the brain sends messages down the spinal cord to the muscles of the bladder wall to contract, and to the ring-like muscle called the sphincter, which acts as an outlet valve.

The sphincter opens and the bladder releases urine. Urine passes down the urethra via the penis or the vulva.

Urine is normally straw coloured. If you notice an unusual smell, change in colour or the presence of blood in the urine, you should seek medical advice. Certain foods and drugs can affect the colour and smell of urine.

How will my bladder work after my injury?

After your injury, your body's normal system of bladder control no longer works, because messages no longer pass between the bladder muscles and the brain. If your injury is T12 or above, you may have what is called a reflex ('automatic' or 'spastic' bladder). With an injury below the T12 level you may have an acontractile (or 'flaccid') bladder. It is possible to have elements of both presentations.

What is a reflex bladder (automatic/spastic bladder)?

If you have a reflex bladder, the nerve impulses (known as the reflex arc) between the bladder and spinal cord remain intact but messages no longer reach the brain. A reflex bladder allows automatic, involuntary control of the bladder so when the bladder fills above a certain level it contracts and urine flows out automatically. However, the reflex bladder may not empty completely due to the sphincter not relaxing fully. This can leave a pool of urine in the bladder (residual urine), which increases the risk of infection. Pressure due to contractions of the bladder can cause back pressure on the kidneys.

What is a flaccid bladder (acontractile bladder)?

If you have a flaccid bladder, the reflex arc is damaged, this means the nerves between the bladder and the spinal cord have been damaged. Interruption of the impulses to the spinal cord results in the bladder not receiving the message to empty. The flaccid bladder has no muscle tone and therefore doesn't contract automatically to allow emptying. It continues to fill and eventually small amounts of urine may leak out. The flaccid bladder needs emptying at regular intervals and this can be achieved by intermittent self-catheterisation.

What is Bladder Management?

This is your personal programme, developed during rehabilitation, to allow you to gain as much control over your bladder as possible.

The main aims of bladder management are to:

- Establish a safe method for emptying your bladder at intervals throughout the day, which protects your kidneys and importantly helps you to remain dry
- Establish a routine which will be long lasting and achieve the independence you need to carry out daily activities and enjoy a social life
- Maintain a good body image
- Reduce the risk of complications such as bladder and kidney infections and formation of bladder stones.

Correct bladder management is vital to your health and well-being. Urinary tract complications are still among the main causes of illness, re-admission to hospital and death in spinal cord injured people.

In the first few weeks after injury, your bladder will need to be emptied regularly through a fine tube or catheter. This may be via an indwelling catheter or alternatively inserted every few hours by a nurse through your urethra (the tube through which you void or 'pee') and up into the bladder, and then withdrawn when the bladder is empty. Another method involves creating a small surgical incision just above your pubic area. A 'suprapubic' catheter inserted directly into your bladder and left in place.

Bladder management is not necessarily the same plan for life. Changes may have to be made depending on factors, such as a need for surgery, and your regime may not always be solely related to your level of injury.

How will I know which Bladder Management Methods are best for me?

During rehabilitation, you will be educated on the best method to empty your own bladder.

The method adopted will depend on:

- The level of your injury
- Whether your bladder is reflex or flaccid
- Whether you are male or female
- What is acceptable to you
- Results of urological investigations
- What is least likely to cause major complications, such as bladder stone formation, infection and autonomic dysreflexia (explained later).

The team of health professionals will explain to you the best method for you to adopt.

What are the bladder management options?

Intermittent Self-Catheterisation

This is often the method of choice if you have a flaccid bladder and is commonly used by men and women with paraplegia. If you have a reflex bladder that has good capacity, you can use this method. Medications may be required to increase bladder capacity.

If you have sufficient hand control you can learn to self-catheterise, but you need to be sufficiently dexterous so as not to risk damaging the urethra. Importantly, you are less likely to get an infection if you change your own catheter than if someone else changes it for you.



Both men and women can usually catheterise while in bed, in a wheelchair or on the toilet.

The benefits of intermittent self-catheterisation are:

- To empty your bladder completely at regular intervals
- To achieve continence without the need to wear an appliance.

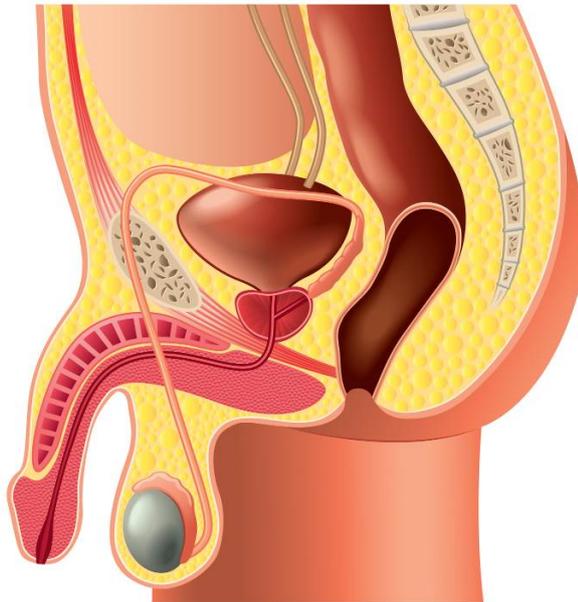
Disadvantages:

- You need some privacy or access to a toilet
- Privacy may be a problem when travelling or away from home.

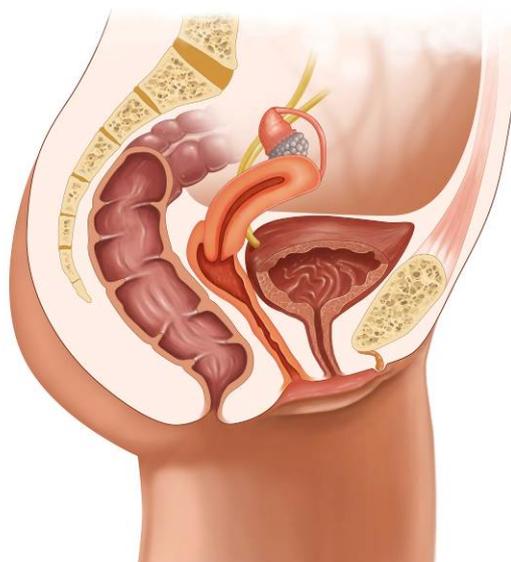
Good technique and hygiene:

- Important to avoid bladder infections
- Important to wash your hands and genital area thoroughly before passing the catheter.

A cross section of the urinary system in a man



A cross section of the urinary system in a woman



What catheters are available?

There are many different types of catheters available and your health care professional will work with you in identifying the most appropriate one for you.



Indwelling urethral catheters

This method of emptying the bladder is normally used for short periods of time, for example, before and after surgery, when away from home if you know you cannot rely on access to toilets to self-catheterise.

The catheter is inserted through the urethra in the usual way, but kept permanently in place by a small balloon on the end inside the bladder. Once the catheter has been inserted, the balloon is inflated with sterile water, expanding to hold the catheter in place.

Long term use of indwelling urethral catheters can cause urethral dilatation, chronic bladder infection, penis splitting and bladder stones. Long term use of indwelling catheters is best avoided.

Indwelling urethral catheters:

- Can be easily blocked by sediment and small calcium granules which gather around the balloon and grow to form stones
- May require regular bladder washouts (care must be taken during this procedure)
- Need to be changed regularly, every 4-6 weeks
- Often need to be inserted by your pa or district nurse
- Require extra care to ensure good sterile technique
- Require you to increase your daily intake of fluid to 3.5 litres (6 pints)
- Create a high risk of infection, bacteria can enter through the permanent opening left by the indwelling catheter
- Can sometimes be expelled by spasms, or because of a blockage or stone
- Require securing to the thigh to prevent urethral trauma.
- In women, can cause 'leakage' around the catheter during menstruation.

Suprapubic catheter

What is a suprapubic catheter?

A supra-pubic catheter is an indwelling catheter which is inserted into the bladder, via a small surgical incision made in the abdomen below the belly button.

Would a suprapubic catheter be suitable for me?

It is normally used by:

- Newly injured people
- Tetraplegic women
- People who do not have the manual dexterity to carry out intermittent self catheterisation.

The incision is not permanent and starts to close up within 24 hours if the catheter is permanently removed.

The catheter used is similar to that used for urethral use. The insertion of a suprapubic catheter may initially cause an increase in spasm. People with suprapubic catheters may experience oozing around the catheter site and this should be cleaned each day as part of your normal bathing routine. A dry gauze dressing may be applied each day.

The suprapubic catheter:

- Should be changed every 4-6 weeks to prevent blockages
- Should be taped to the lower abdomen and connected to a leg bag
- Protects and frees the genital area for sexual function
- Carries less risk of tubing being sat on or kinked
- Carries a similar risk of infection, blockage and stone formation as an indwelling urethral catheter

If the catheter becomes blocked, urine may drain via the urethra, and you may not realise you are sitting in wet clothing.

Bladder washouts will help to remove build up of deposits that ultimately may form bladder stones.

It is important to drink plenty to keep the urine as dilute as possible.

Sheaths and condoms

This form of bladder management may be used by men with reflex bladders. A urinary sheath or condom is applied to the penis and attached by a plastic tube to a collecting bag which is strapped to your leg or belly or can be hung beside your bed or wheelchair.

There are many varieties available. All are available in different sizes of width and length to ensure the best fit. Also available are latex and non-latex hypoallergenic sheaths to reduce skin problems.

Urinary sheaths are purpose made. They have a tube outlet at the end, designed to resist twisting or tearing, and usually come with an adhesive coating on the inside of the sheath itself.

Inspect your penis carefully, and stop using a sheath/condom immediately if there are any signs of a rash, pressure or broken skin. If skin is particularly sore it may be necessary to have an indwelling urethral catheter for a short period to allow the skin to heal.

Some men might be suitable for the insertion of penile implants to allow a condom sheath to fit appropriately.



Top Tip: some men use a strategically placed shaving mirror to help them apply the sheath

What other specific equipment is available?

Catheter valve

A catheter valve is a tap-like device. It fits into the end of your catheter – this may be a urethral or suprapubic catheter.

Do I need to use a catheter valve?

You may be advised to use a catheter valve. The valve may be switched on or off to drain urine from your bladder or to stop drainage. You can close the valve for 3–4 hours at a time to ensure that your bladder fills regularly. If the bladder is left empty all the time, this will probably reduce the amount of urine your bladder can hold.

Urinals

There are numerous different models, made of plastic or stainless steel. Some merely have a snap-on lid, but others have a no-spill adapter with a rubber sleeve to fit around the penis, and a non-return valve. Some are disposable. Contact your local Continence Advisor or Spinal Injury Centre for advice about the best one for you.

Drainage bags

Urine drainage bags are connected to a condom or catheter by plastic tubing. Different bags can be worn on the upper or lower leg, across the stomach, or hung beside a bed or wheelchair. They can be disposable or

reusable. Leg bags, with capacities from 350 to 1,300ml can be attached by straps or a stocking-type sleeve. Overnight bags have larger capacities, up to two litres. These can be useful when on a long haul flight.



Top Tip: Never lift a drainage bag above the level of the bladder, unless you are sure that your system has a well-functioning non-return valve!



If you are susceptible to autonomic dysreflexia, care should be taken when using a catheter valve or spigot

What is Autonomic Dyreflexia?

Autonomic Dysreflexia is the name given to a condition where there is a sudden and potentially lethal rise in blood pressure. It is your body's way of responding to a problem. It is often triggered by acute pain or some other harmful stimulus within the body, such as an overfull bladder. It is unique to spinal cord injury and most commonly affects spinal cord injured people with injuries at or above T6. This extreme rise in blood pressure (hypertension) can lead to some types of stroke (cerebral haemorrhage) and even death. It should always be treated as a medical emergency. If you have an injury above T6 it is essential that you are educated in the prevention and management of autonomic dysreflexia.

For further details see SIA fact sheet:

<http://www.spinal.co.uk/userfiles/pdf/factsheets/AD.pdf>

What are the Common Problems / Complications I need to be aware of?

Fortunately, the signs of infection are usually fairly obvious:

- Cloudy urine
- Often dark coloured
- Strong smelling
- Pink urine

NB: pink urine, eating beetroot can also produce beautiful pink urine, and eating asparagus can make the urine smelly!

- A decrease in the amount of urine passed
- An increase in mucus produced.

Accompanying symptoms are:

- An increase in spasms
- Pain in lower abdomen, if you have sensation
- High temperature
- Headaches
- Shivering and sweating
- Uncontrollable shakes (rigors).

Treatment of Urinary tract infection:

- Increase fluid intake to try to flush out the bacteria
- Ensure your bladder is emptied frequently and completely
- Try to keep your urine acid, (cranberry capsules and vitamin c help).

If you are ill or signs of infection persist contact your GP. Urinary tract infection is defined as a positive urine culture indicating the growth of bacteria in the urine. There will also be flu-like symptoms, including feeling unwell and running a temperature etc.

Infection in the bladder can pass up to the kidneys and cause damage. Frequent infections can cause scarring of your bladder which may affect its ability to contract properly.

NB: On its own, a positive culture is meaningless, especially in the presence of a catheter. There should always be symptoms of infection in order to justify taking antibiotics.

Stones

Stones or calculi can develop in your kidneys and/or bladder. You are more prone to this after your injury because of your lower mobility, the loss of some calcium from the bones of your paralysed limbs (although this is usually limited to the months immediately after injury), and your less efficient bladder function. Smaller stones can be passed out through the bladder and urethra without being noticed.

Larger ones can create obstruction in the kidney, or obstruct an indwelling catheter, and make you more susceptible to urinary tract infections.

The symptoms are similar to those of a urinary tract infection, with greater difficulty in passing urine and more likelihood of pink-tinged urine (with blood in it). You will need treatment in hospital. Nowadays stones can often be broken up by ultrasound (lithotripsy) without the need for an operation or be removed through an endoscope.

How to reduce the risk of stone formation:

- Increase your fluid intake
- Cut down on foods which are high in calcium (especially milk and cheese)

Guide to general care

Fluid intake

Given the difficulties with continence, it may be tempting to drink less fluid. This is a mistake, especially if you use an indwelling catheter. You need a good fluid throughput to keep your kidneys clean and bladder washed out and functioning properly. If you are prone to urinary tract infections, increase your fluid intake (preferably to at least 3 litres or 5 pints per 24 hours), make sure your urine is slightly acid and if necessary take vitamin C (not the effervescent type). Some SCI people have found that cranberry in a tablet form is useful. The evidence for the effectiveness of cranberry remains debatable, despite claims by the manufacturers.

Regular emptying

It is essential that your bladder is emptied regularly and as completely as possible (preferably every 3–4 hours during waking hours). An overfull bladder may cause urine to reflux or 'back up' into your kidneys and can cause infection and damage. An overfull bladder can cause autonomic dysreflexia. Inadequate emptying of the bladder causes sediment and deposits to build up, increasing the likelihood of infection and bladder stones.

Bathrooms / Toilets

Make sure that your bathroom at home is well adapted for you:

- Make sure it is easy to get in and out of
- Have hand rails in the right place
- Have a hand basin at a suitable height
- Use a padded toilet seat (important to avoid pressure sores)
- Include a low shelf or work surface
- The supplies you require are within easy reach.

If you are able to use one, a bidet can be very useful. Alternatively, there are special combined toilet/bidets, but take care the water is not too hot.

Who can help me when I need questions answered?

- Your spinal injuries unit is the first source of help and advice as they have a vast amount of experience
- Your GP – mainly by making referrals to appropriate specialists
- A Continence Advisor, employed by your GP Surgery or the Clinical Commissioning Group (formerly PCT) may see you at a clinic or visit you at home. He /she can usually tell you what equipment and supplies are available and where to get them
- The District Nurse may help with bladder and bowel care and arrange supplies for you initially
- Social Services, run disposal service for soiled materials
- **The Bladder and Bowel Community**

Provides information and support for all types of bladder and bowel related problems.

T: (General enquiries) 01926 357220

@: help@bladderandbowelcommunity.org

W: www.bladderandbowelfoundation.org

Radar Key

For gaining entry to accessible toilets at events and public places. You can obtain a radar key from:

Disability Rights UK

<https://crm.disabilityrightsuk.org/radar-nks-key>

Age UK

<http://www.ageukincontinence.co.uk/incontinence-shop/toilet-aids/disabled-toilet-keys.html>

To help you find out what's available, we've included a list of companies that are frequently used by SIA members for catheters and continence products.

Wellspect Healthcare

Park

Brunel Way

Stonehouse

Gloucester GL10 3GB

T: 0800 652 3350

W: <http://www.wellspect.co.uk/>

Bard Ltd

Forest House
Brighton Road
Crawley
West Sussex RH11 9BP
T: 01293 527888
W: www.crbard.com

CS Bullen Ltd

3-7 Moss Street
Liverpool L6 1EY
T: 0151 207 6995

Coloplast Ltd

Peterborough Business Park
Peterborough PE2 6FX
T: 01733 392000
W: www.coloplast.co.uk

Hollister Ltd

Rectory Court
42 Broad Street
Wokingham
Berkshire RG40 1AB
T: 0118 989 5000
Freephone: 0800 521377
W: <http://www.hollister.com/>

Jade-Euro-Med Ltd

Unit 14
East Hanningfield Industrial Estate
Old Church Road
East Henningfield
Chelmsford
Essex CM3 8BG
T: 01245 400413
W: <http://www.jade-euro-med.co.uk>

Manfred Sauer UK

Unit 3 IO Centre
Lodgefarm Industrial Estate
Northampton NN5 7UW
T: 01604 595696
W: <http://www.manfred-sauer.co.uk>

SIMS Portex Ltd

Colonial Way

Watford

Herts WD24 4LG

T: 01923 246 434

W: www.smiths-medical.com

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Revised May 2017

ABOUT SIA



The Spinal Injuries Association (SIA) is the leading national user-led charity for spinal cord injured (SCI) people. Being user led, we are well placed to understand the everyday needs of living with spinal cord injury and are here to meet those needs by providing key services to share information and experiences, and to campaign for change ensuring each person can lead a full and active life. We are here to support you from the moment your spinal cord injury happens, and for the rest of your life.

For more information contact us via the following:

Spinal Injuries Association
SIA House
2 Trueman Place
Oldbrook
Milton Keynes
MK6 2HH

T: 01908 604 191 (Mon – Fri 9am – 5pm)

T: 0800 980 0501 (Freephone Advice Line, Mon – Fri, 11am – 1pm/2pm – 4.30pm)

W: www.spinal.co.uk

E: sia@spinal.co.uk

Charity No: 1054097

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