
SPINAL CORD INJURY BOOKLET

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INTRODUCTION

I am your **spinal cord injury booklet**—your own personal helpline and guide. I will tell you the basic information that you should know about your condition. I will also tell you important tips to prevent complications that can occur with spinal cord injuries. So concentrate well. Be my friend and visit and chat with me regularly! In time, I am sure you will be able to help so many other people with spinal cord injuries by sharing your knowledge with them!

We will familiarise with the following aspects of the spinal cord injury—spinal cord, pressure sore, bladder care, bowel care, etc.

PART I – SPINAL CORD

1. What is the spinal cord?

The spinal cord is a thick rope like structure. It contains a bundle of nerves. The individual nerve fibres branch out of the cord to connect your brain to the different parts of your body like your skin, muscles, and organs.

2. What is the function of the spinal cord?

The spinal cord carries messages from the brain to the different parts of your body and also from the different parts of the body to your brain. It is because of this, that the brain can control your body.

3. What happens to a person after spinal cord injury?

Imagine a telephone cable which carries messages from the exchange to your home and from your home to the exchange. If the cord gets cut somewhere in between, then all the homes that come before the cut will still have working telephones. But the part of the cord that comes after the cut cannot carry messages at all. So, all the houses that come after the cut part will not have working telephones. In the same

way, the spinal cord carries messages from your brain to the different parts of your body and from the body to the brain.

If the spinal cord gets cut, then all the parts of the body above the cut will work normally. But the part of the body below the cut will not receive any messages from the brain. It cannot send messages to the brain too.

4. How can we know if the spinal cord is damaged?

The spinal cord is needed for your body to work normally. The major effects of spinal cord injury are as follows:-

You will not be able to move your body parts like before. You may not be able to move your arms and legs or you may not be able to move your legs alone. That depends on the level of the injury.

You will not be able to feel touch, pain, or pressure on your body in the area that is affected

You may not be able to feel your bladder becoming full. You may not be able to pass urine even though your bladder is full.

You may not be able to pass motions like before. It may come out by itself suddenly or may not come out at all for several days.

You may not be able to control your body temperature. So you may feel very hot but not be able to sweat. Or you may sweat too much. Or you may feel very cold and shivers. Or you may feel very cold and yet not be able to shiver.

5. Can there be recovery after spinal cord injury?

Hmm.... Difficult and very sensitive question. Let me simplify it for you. Imagine a bomb blast. Immediately after the bomb blast, everybody will be in a state of shock. They will be so shocked that they may not move at all. But after some time, they slowly calm down and think what to do next. They walk around and help the other people and so on.

In the same way, immediately after a spinal cord injury, there is a lot of swelling in the place where the cord is hurt. The spinal cord is in a state of shock. During this time you may not be able to do anything.

But after few weeks, the swelling slowly becomes less. So you may be able to do some of the things that you were not able to do till then. It is difficult to predict how much you will recover.

But that part of the cord which is cut cannot be joined again. Once a nerve is cut, it never grows back. So only after all the swelling comes down, you will know how bad the injury is.

If the nerve was not cut but only got mildly hurt, you may recover fully. But if the nerves have been cut anywhere, you will not be able to do those actions for which the nerves are damaged.

PART II: PRESSURE SORES

Pressure sores used to be called bed sores earlier. But now we know that it is not correct. Pressure sores don't happen because of the bed! And just because you sleep on a water bed does not mean that you will never get pressure sores!

Did you know that you can save yourself from ever getting pressure sores in your life? Read on to know some interesting facts about pressure sores!

1. What is a pressure sore?

A pressure sore is a wound that develops when you lie down on only side for a long time. It develops in stages.

First, the skin in that area will become pink and will be warmer to touch than the rest of your body. Then the skin in that area will start peeling off. Then the wound will become deeper and you may be able to see your body fat or muscles. Then the wound becomes even deeper and goes up to the bone. But no matter what stage it is in, it is always called a pressure sore only.

You should not neglect it just because it is in the first or second stage. Because pressure sores get worse very fast and take a long time to heal.

So it is always better to prevent them from ever happening at all, isn't it?

2. How do pressure sores develop?

Like the name itself tells you, pressure sores happen because of pressure over a part of your body for too long a time.

Imagine that you are lying down on your back, on the bed. Between the bed surface and your back bone there are all your back muscles and other soft parts. So, all the soft parts of your back are getting sandwiched between the bed and your back bone.

With the muscles, your blood vessels are also getting pressed. So blood supply to your back slowly becomes less.

But all our body parts need oxygen to live and work. Our blood carries the oxygen that we need to all the parts of our body.

So when the blood supply becomes less, the oxygen supply also becomes less. So the skin over that area dies. This is called a pressure sore.

If you still continue to sleep like that only, your muscles, fat, etc. will also die and your pressure sore will become bigger and deeper.

3. Why don't other normal people get pressure sores?

Other people have sensation. So when they sit or sleep in one position for a long time, they can feel the pain in that area and they immediately change their position. So they don't get pressure sores.

But you don't have sensation in some part of your body. So you won't be able to feel pain when you lie down in one position for a long time. So you will continue to sleep in that position only for more time and a pressure sore will gradually develop.

4. How can you recognize a pressure sore at its earliest stage?

You want to be as healthy and independent as possible isn't it?

You want to be careful and take good care of yourself isn't it?

Then, you must make it a habit to check your body every day morning with a mirror to look for pressure sores. That is the easiest way to see a pressure sore at its earliest stage.

In the earliest stage, a pressure sore will be an area of skin that has become reddish and hot to touch. It could be raised or bumpy to feel. And when you press over that area with your finger, the skin will remain red only. It will not become whitish and then red again like it normally should.

5. What will you do if you get a pressure sore?

Oops! OK, now what should you do?

First of all, don't sleep on that side on which you have a pressure sore. Keep changing your position in bed once in every 2 hours regularly.

If you can do it, the best solution would be to lie down on your stomach all the time.

A water mattress may help you by increasing the area over which the pressure is distributed. But even a water mattress will not prevent pressure sores if you don't change your position every 2 hours.

If the wound is deep, then you will need regular dressing for it so that it does not get infected.

Keep a mirror and take a look at your pressure sore every day to see if it is getting better or worse. And check if you have developed any new pressure sores. This is just a 5 minute job, but it will help you a lot!

6. Where are the most common places where you can get a sore after you go home?

Wherever you apply pressure for too much time, you have risk of developing a pressure sore there.

If you are lying down on your back for a long, you will get a sore over your lower back or sacrum. It is called a **sacral sore**. Additionally, you will get sores over your heels as well.

If you are lying down on your sides for a long time, you will get sores over the sides of your hips or trochanter. It is called a **trochanteric sore**.

If you are sitting for a long time, like on a wheelchair or your sofa, bed, etc. then you will get sores over the lower part of your buttocks or ischium. It is called an **ischial sore**.

So make sure that you do sit ups every 15 minutes so that you relieve the pressure regularly. What an easy way to prevent such a big problem, isn't it?

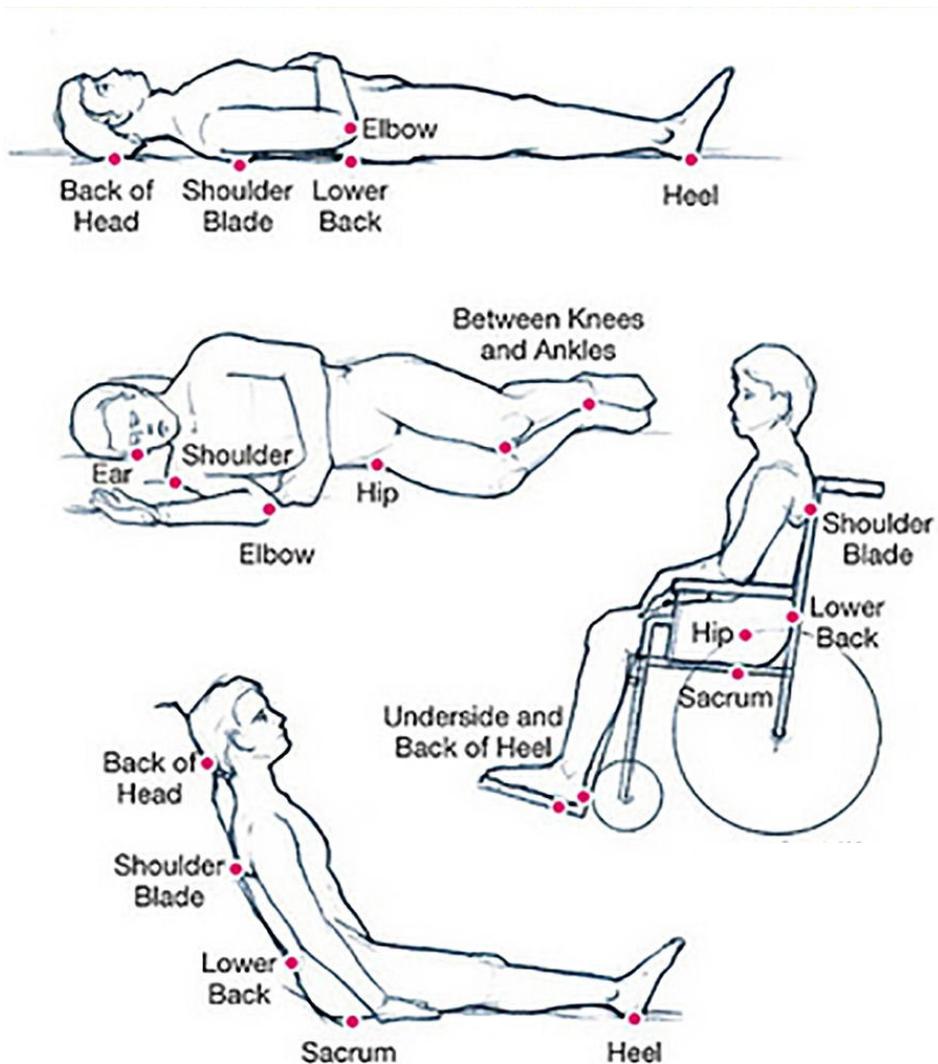


Figure 1 Common Locations of Pressure Sores

If you are lying down on your stomach for a long time, you should check your knees every day. Otherwise, sores can develop there.

This can happen when you lie on your stomach for long periods. Make sure you check every day to see if you have developed a pressure sore at your knees!

But remember, you should practise hard to prevent pressure sores. You should never get pressure sores in your life!

PREVENTION IS BETTER THAN CURE!

PART III: BLADDER CARE

1. What are the parts of the urinary system?

The parts of your urinary system are:

- 2 kidneys
- 2 ureters
- 1 urinary bladder
- 1 urethra

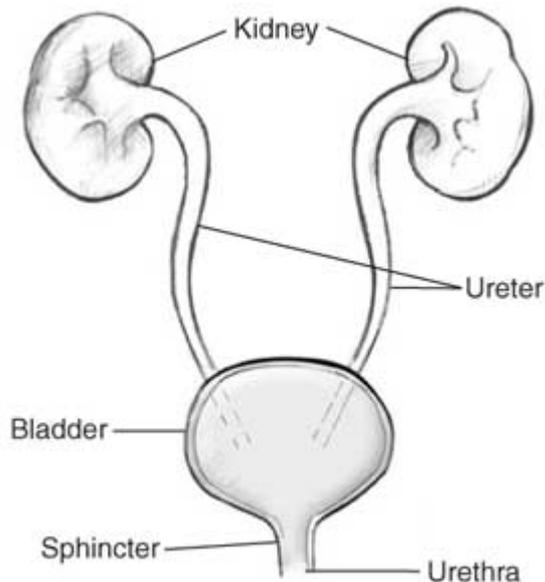


Figure 2 Urinary System

2. What does each of these parts do?

Your urinary system acts like a filter. It removes all the waste products in your blood and throws it out as urine.

- The kidneys filter your blood and remove all the waste products as urine
- The ureters carry the urine to your urinary bladder
- The urinary bladder is like a tank. It stores your urine until the tank is full and then it empties it regularly.
- The urethra throws out the urine that was being stored by your bladder.

3. What happens to your bladder after spinal cord injury?

When you get a spinal cord injury, the nervous supply to your bladder is spoiled. So you may not be able to feel when your bladder is full. You won't know that you have to empty it.

Sometimes it may all come out by itself suddenly when you least expect it.

Sometimes it may not come out at all. This is dangerous because when the bladder becomes full and can't come out, all this urine will go back into the kidneys and slowly destroy your kidneys.

That is why it is very important to empty the bladder at regular intervals before it overflows.

If your house water tank overflows, it is fine, because you can get it repaired. But if your kidneys get damaged, you cannot get it repaired.

4. What is CIC?

CIC is a short form for clean intermittent catheterization. It is also called ICC although it has nothing to do with cricket! ICC is Intermittent Clean Catheterization. You will be taught to do it. It is clean because you wash the catheter every time before and after use. It is intermittent because you empty your urine at regular intervals.

5. What are the advantages of CIC?

The advantages of CIC are

- You don't have to have an indwelling catheter.
- It is more convenient as you don't have to go to a hospital or nursing home every 15 days to change catheter.
- You can live a more routine life like everybody else as you too will be able to empty your bladder just 4 or 5 times a day. You will be able to control the timings as to when you may pass urine.
- You can empty your bladder completely at regular intervals before it gets too full
- It reduces the risk of infection because you will not allow your urine to stagnate inside the bladder. If you allow your urine to stagnate, bacteria will start multiplying there and infection will begin.

BASICALLY, YOU WILL CONTROL YOUR BLADDER; YOUR BLADDER WILL NOT CONTROL YOU!

6. What are the disadvantages of CIC?

The interesting fact is that, with CIC, there are disadvantages only if you are not doing it properly!

- If you do not keep the catheter and the bag clean, you can easily get a urinary infection because all the bacteria sitting on your catheter will take a free joy ride into your bladder when you insert the catheter. Inside your bladder, they will multiply and cause an infection!
- If you do not do it gently, you can hurt yourself. So make sure you put a good amount of jelly. Be gentle; don't force the catheter if it is not going inside easily. Wait and take a deep breath and keep trying gently.
- You may sometimes have leaking of urine in the interval time. The leak can be there because of many reasons. It could be that you have not emptied your bladder completely. It can also happen because of cold weather, urinary infection or because your bladder is over excited after the spinal cord injury

In any case tell your doctor if you are having leaking.

7. If you develop a urinary infection, how will you know?

It is very important that you know how to identify a urinary infection so that you can treat it before it gets worse.

- You will develop fever which may be associated with feeling cold and chill.
- You may have burning sensation in the lower part of your abdomen.
- Your urine will become darker and foul smelling.
- Pus may also come out in your urine.

8. What should you do if you develop a urinary infection?

- Take Tab. Crocin 500 mg 1 tablet for the fever.
- Drink more water so that all the bacteria can get flushed out.
- Do CIC more frequently since you are drinking more water.

PART IV: BOWEL CARE

1. What are the parts of the bowel?

The parts of your bowel are small intestine and large intestine.

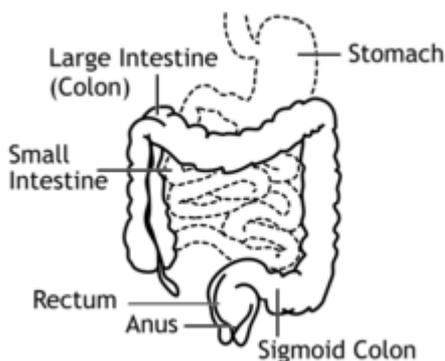


Figure 3 Parts of the Bowel

2. What are the functions of the different parts of the bowel?

The small intestine digests and absorbs all the important things we need for our body like vitamins, glucose, etc from the food we eat.

The large intestine carries the remaining part of our food that we don't need and throws it out of the body.

3. What happens to the bowel after a spinal cord injury?

Because of spinal cord injury, you may lose control or sensation of your bowel or both.

You may not be able to feel when your bowel is full. So you won't know that you have to pass motions. It may come out suddenly by itself on your bed. Or it may not come out for many days and you will have constipation.

Even when you are passing motion you may not be able to feel it because of loss of sensation.

4. What type of diet should you follow? What type of food should you eat?

- Make sure that a large portion of the food you eat is rich in fibre like fresh vegetables which you could eat as a salad, dry fruits like raisins, cashew nuts, figs, almonds, etc. and bread. This will help you prevent constipation.
- Avoid food that could produce gas like onions, beans, cabbage, and potatoes.
- Drink adequate amount of water. (Drinking too much water can result in you having urinary leak and wetting your clothes.) A hot drink before you go to empty your bowel will help you pass motions better.
- Avoid alcohol and fizzy drinks like Pepsi, Coca cola, etc. so that your urine will not become too acidic.

5. When passing motions on the bed, which side should you lie down on?

You should lie down to your right side when you want to pass motions because it will make it easier for the motion to come out.

6. Why do spinal cord injured patients put on weight?

After spinal cord injury, you may notice that you are putting on weight. The main reasons are:

- You are not working as much as before. So you are spending lesser energy than before from your body.
- The food that you eat stays for a longer time in your intestine. So the body absorbs more nutrients than normal.
- You may be eating more than before because you are depressed about your condition.

CONCLUSION

We saw an overview of some of the most important things you should know about your injury. Feel free to talk to the doctors and staff nurses about any doubts that you have.

Discuss one of the above topics everyday with your doctors when they come on rounds. Ask them to teach you more about the things you have learnt.

Some day you will be going home and you will have to manage all by yourself. Nobody will be there to solve your doubts there.

Life has forced you to take a short break now. So be a good student while you are here. Learn everything very well. Revise and recall all that you have learnt every day.

Discuss it with your fellow patients and teach them all that you have learnt. Learn from them too.

Be like a candle who gives light to others. Share the light of your knowledge with all. Make the world a brighter place.

The power is yours!

Goodbye for now. See you again tomorrow!