



'Health, Wellness & More..'

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Snippets

You can see high cholesterol

It is possible to see signs on your body that you may have high cholesterol. Xanthelasma are cholesterol-filled bumps that form under your skin. It can be an indicator of possible heart disease. The lesions can be found all over the body and tend to appear on the skin of people with diabetes or other heart ailments.

Cholesterol-free can be bad for your cholesterol

Food labels may say that it is cholesterol-free, however, that does not mean that the food is good for your cholesterol levels. Trans fats, which are cholesterol-raising, naturally have no cholesterol but can be detrimental to your cholesterol levels. Trans fats can be found in many fried foods and baked goods. Trans fat, such as partially hydrogenated vegetable oils, and saturated fats are not good for your cholesterol levels and should be avoided as much as possible.

5 COMPONENTS OF FITNESS

- 1 Cardiovascular endurance
- 2 Muscular strength
- 3 Muscular endurance
- 4 Flexibility
- 5 Body composition



A spine infection had left Niranjn Prasad bed ridden. Endoscopic spine surgery made him

Pain Free!

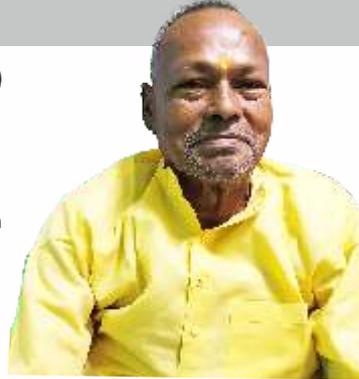
62-year-old Niranjn Prasad had a major sweet tooth. Unfortunately, he was also a diabetic with very poor sugar control. The elderly gentleman, an ex-employee of Coal India, lived with his wife in Dhanbad. With his grown up children settled in their respective lives (sons in Delhi and Kolkata and daughter married with children of her own), Niranjn was content having heated addas with his friends on current affairs and spending happy evenings with his grandchildren. His unconcern for his health, however, was beginning to take its toll. He soon began experiencing nagging problems like extreme exhaustion, loss of appetite and difficulty in urination. Things took a serious turn when he all but stopped passing urine.

His sons decided to take him to Kolkata for consulting a Doctor and there he was first faced with the impact of his condition when he was diagnosed with Kidney failure. He had to be put on immediate dialysis. He was fitted with a catheter, which unfortunately became infected and turned to sepsis. "Dad's condition was serious and we needed to shift him to a hospital with better ICU facilities to manage his condition," his son said. A private hospital they approached in the city refused to admit the patient in such a serious condition. The sons were in despair when someone mentioned Medica, and Niranjn was rushed to the hospital's emergency.

At Medica he was admitted in the ICU under the supervision of the Nephrology team. The Kidney team along with the Critical Care Doctors concentrated on treating his sepsis, even as he was put on Dialysis for his kidney failure. In the ICU, under the expert care of the specialised team, he slowly recovered from a potentially life-threatening condition. When he was discharged about two weeks later, Niranjn had recovered fully and was happy to go back to his life in Dhanbad. The Doctors, however, cautioned him about the long-term effects of his condition and told him that he would need to alter his lifestyle.

Niranjn's feeling of wellness was, however, short lived. Soon after getting discharged he developed a sudden and severe pain in his lower back that was spreading to his legs. Movement became increasingly difficult and he was not able to stand or even sit. He was in immense pain and though his wife and son tried their best to give him some relief, he slowly became bedridden and started having seizures. His sons brought him back to Medica, where the Nephrology team referred him to spine specialist **Dr. Shumayou Dutta**.

Imaging studies and blood tests revealed a lumbar intervertebral disc space infection and a state of sepsis. He required an urgent surgical debridement of the



lumbar disc but due to his poor health condition, Anaesthetists refused to declare him fit for surgery. Dr Dutta, one of the few endoscopic spine surgeons in the city, then decided to do the procedure endoscopically under local anaesthesia. The procedure relieved Niranjn of the pain to a certain extent. His septicaemia was brought under control with medications and after a few weeks he was fit to go under the knife again, this time for a more definitive procedure under general anaesthesia. A minimally invasive fusion was done as the definitive surgery. Post operation, Niranjn became almost completely pain free and was soon able to sit up on his bed!

Back home, son Pawan is happy to see his father free of pain and sitting up. His mother who had been his constant support is pleased to have her husband back on the path to recovery. They are thankful to the Medica doctors and the support staff for their efforts and are eagerly waiting to see Niranjn walk again and get back to his normal life again. With regular Dialysis, he feels much better today.

Ask Your Doctor

I have been experiencing a pain in my lower back, which is also radiating down to my legs. Should I be worried?

Low back pain can be due to a number of factors. Standing for long, lifting heavy weights, or a bad posture can result in pain in the lower back. Usually rest and physiotherapy can help in alleviating such pain. However, if the pain is radiating to your legs or you are experiencing any numbness in the lower limbs, it may be an indication of a spine problem. It is advisable to consult a Doctor, who may ask you to undergo certain investigations to confirm or rule out prolapsed disc (or slipped disc).

Why is back pain more common in the elderly?

With age, water content in the spinal discs begins to dry up, progressively making them thinner and harder. As a result of this, friction between the bones (discs) increases. This is referred to as degenerative disc disease. While in some people this condition does not cause any significant discomfort, in others it can cause mild to severe pain, which if left untreated can become a chronic condition making movement difficult. Regular exercise or any form of physical activity helps in preventing this condition.

DOCTOR SPEAK



Dr Shumayou Dutta
Associate Visiting Consultant
MBBS, MS (Orthopaedics), F. ASSI
Mr Jha was in terrible pain and surgery was the only option to relieve his agony. But uncontrolled diabetes and kidney failure made him high-risk for surgery. We had to initially do an endoscopic surgery to make the pain bearable and could perform the complete procedure only after his sepsis was under control. It was a challenging case.

PATIENT SPEAK

Mr Jha's sons

Seeing our father in so much pain made us feel completely helpless. We were extremely worried when the Doctor said operating on him in his condition would be very risky. But thanks to the extremely skilled Medical team here, my father is much better now. He is able to sit up and is pain free. Thank you Medica!

'30 minutes of daily moderate exercise can add years to your life'



'Spineless' not an option

What is the spine?

The spine is made of 33 individual bones stacked one on top of the other, called vertebrae. These bones are connected together with ligaments and muscles to form the spinal column, which has three main segments. The top segment is the cervical spine, the middle segment is called the thoracic spine, and the lowest one is the lumbar spine. The spinal column provides the main support for our body, allowing us to stand upright, bend, and twist, while protecting the spinal cord from injury. A healthy spine comprises of strong muscles and bones, flexible tendons and ligaments, and sensitive nerves. If any of these are affected by strain, injury, or disease, it can cause pain as a result.

While vertebrae have unique regional features, every vertebra has three functional parts:

Body: a drum-shaped body designed to bear weight and withstand compression

Vertebral arch: an arch-shaped bone that protects the spinal cord

Processes for muscle attachment: star-shaped processes designed as outriggers for muscle attachment

Spinal curves

An adult spine has a natural S-shaped curve. The neck (cervical) and low back (lumbar) regions have a slight concave curve, and the thoracic and sacral regions have a gentle convex curve. The curves work like a coiled spring to absorb shock, maintain balance, and allow range of motion throughout the spinal column.

The abdominal and back muscles maintain the spine's natural curves. Good posture involves training your body to stand, walk, sit, and lie so that the least amount of strain is placed on the spine during movement or weight-bearing activities. Excess body weight, weak muscles, and other forces can pull at the spine's alignment.

An abnormal curve of the lumbar spine is lordosis, also called sway back.

An abnormal curve of the thoracic spine is kyphosis, also called hunchback.

An abnormal curve from side-to-side is called scoliosis.

Muscles

The two main muscle groups that affect the spine are extensors and flexors. The extensor muscles, attached to the back of the spine, enable us to stand up and lift objects. The flexor muscles are in the front and include the abdominal muscles, that enable us to flex or bend forward, and are important in lifting and controlling the arch in the lower back.

The back muscles stabilize your spine. Something as common as poor muscle tone or a large belly can pull your entire body out of alignment. Misalignment puts incredible strain on the spine.

Intervertebral discs

Each vertebra in your spine is separated and cushioned by an intervertebral disc, which keeps the bones from rubbing together. Discs, which function like coiled springs, are made of a gel-filled center called the nucleus and a tough fibrous outer ring called the annulus. The crisscrossing fibers of the annulus pull the vertebral bones together against the elastic resistance of the gel-filled nucleus. The nucleus acts like a ball bearing when you move, allowing the vertebral bodies to roll over the incompressible gel. The gel-filled nucleus contains mostly fluid. This fluid is absorbed during the night as you lie down and is pushed out during the day as you move upright.

With age, our discs increasingly lose the ability to reabsorb fluid and become brittle and flatter; this is why we get shorter as we grow older. Also diseases, such as osteoarthritis and osteoporosis, cause bone spurs (osteophytes) to grow. Injury and strain can cause discs to bulge or herniate, a condition in which the nucleus is pushed out through the annulus to compress the nerve roots causing back pain.

Spinal cord

The spinal cord is about 18 inches long and is the thickness of your thumb. It runs from the brainstem to the 1st lumbar vertebra protected within the spinal canal. The spinal cord serves as an information super-highway, relaying messages between the brain and the body. The brain sends motor

messages to the limbs and body through the spinal cord allowing for movement. The limbs and body send sensory messages to the brain through the spinal cord about what we feel and touch. Sometimes the spinal cord can react without sending information to the brain. These special pathways, called spinal reflexes, are designed to immediately protect our body from harm.

Any damage to the spinal cord can result in a loss of sensory and motor function below the level of injury. For example, an injury to the thoracic or lumbar area may cause motor and sensory loss of the legs and trunk (called paraplegia). An injury to the cervical (neck) area may cause sensory and motor loss of the arms and legs (called tetraplegia).

Spinal nerves

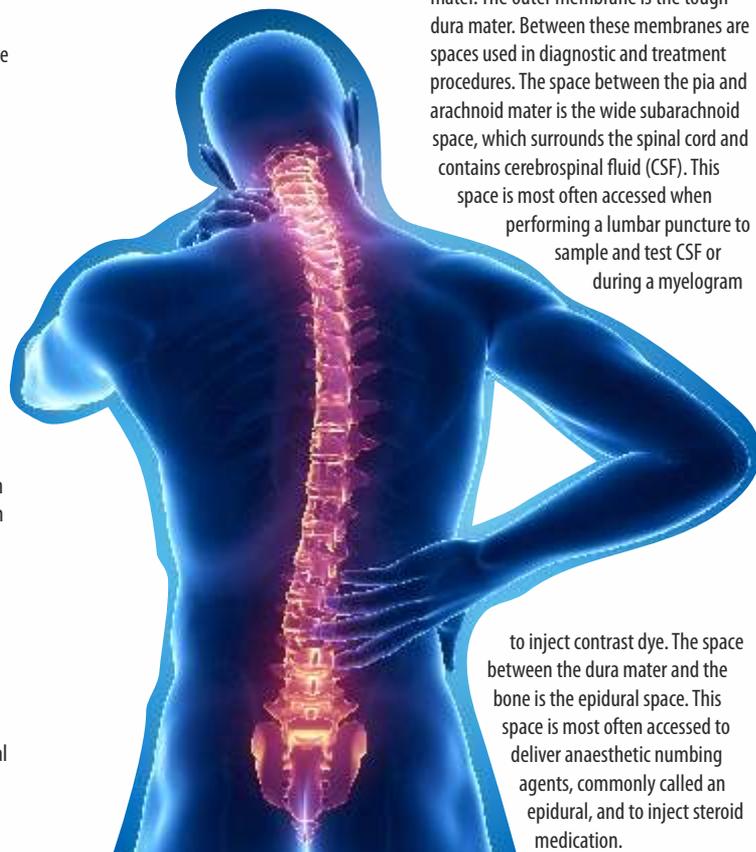
Thirty-one pairs of spinal nerves branch off the spinal cord. The spinal nerves act as

'telephone lines', carrying messages back and forth between your body and spinal cord to control sensation and movement. The spinal nerves are numbered according to the vertebrae above which it exits the spinal canal. The spinal nerves innervate specific areas and form a striped pattern across the body called dermatomes. Doctors use this pattern to diagnose the location of a spinal problem based on the area of pain or muscle weakness. For example leg pain (sciatica) usually indicates a problem near the L4-S3 nerves.

A dermatome pattern shows which spinal nerves are responsible for sensory and motor control of specific areas of the body.

Coverings & spaces

The spinal cord is covered with the same three membranes as the brain, called meninges. The inner membrane is the pia mater, which is intimately attached to the cord. The next membrane is the arachnoid mater. The outer membrane is the tough dura mater. Between these membranes are spaces used in diagnostic and treatment procedures. The space between the pia and arachnoid mater is the wide subarachnoid space, which surrounds the spinal cord and contains cerebrospinal fluid (CSF). This space is most often accessed when performing a lumbar puncture to sample and test CSF or during a myelogram



to inject contrast dye. The space between the dura mater and the bone is the epidural space. This space is most often accessed to deliver anaesthetic numbing agents, commonly called an epidural, and to inject steroid medication.

Multiple Sclerosis (MS)

Multiple Sclerosis (MS) is a disease that can disable the brain and spinal cord (central nervous system). The body's immune system begins attacking the protective sheath (myelin) that covers nerve fibers, which results in communication breakdown between the brain and the rest of the body. Eventually, the disease may cause permanent damage or deterioration of the nerves. Some people with severe MS may lose the ability to walk independently or to move at all, while others may experience long periods of remission without any new symptoms.

Symptoms:

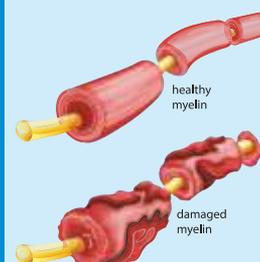
- Numbness or weakness in one or more limbs, typically on one side of the body, or the legs and trunk
- Electric-shock sensations that occur with certain neck movements

- Tremor, lack of coordination or unsteady gait
- Partial or complete loss of vision/double or blurry vision
- Slurred speech
- Fatigue
- Dizziness
- Tingling or pain in parts of your body
- Problems with sexual, bowel and bladder function

Treatment:

There is no cure for multiple sclerosis. However, treatment can help speed recovery from attacks, modify the course of the disease and manage symptoms.

myelin of the neuron



Impression

Rate of sepsis deaths 'much higher than previously estimated'



New research shows that worldwide rates of sepsis-related death are very high, despite the fact that the condition is preventable.

Sepsis, a potentially life threatening condition, occurs when the body has an extreme response to an infection, and this requires immediate intervention to prevent disability and, in the worst-case scenario, death. Yet medical professionals lack the resources to prevent and treat sepsis adequately. This results in extensive fatalities, and researchers have not had reliable data to assess the global rates of sepsis-related death accurately.

This has changed thanks to a new analysis conducted by specialists, many from the University of Pittsburgh, in Pennsylvania, and the University of Washington, in Seattle. The results of the investigation now appear in the journal, *The Lancet*.

"If you look at any top 10 list of deaths globally, sepsis is not listed because it hasn't been counted," notes lead study author Dr. Kristina Rudd. In their study, the researchers looked at data collected through the Global Burden of Disease Study (GBD). The most recent data indicates that there are 282 primary causes of death around the world. Sepsis, meanwhile, is classified as an intermediate cause. The underlying conditions that lead to sepsis, such as cancer, are considered primary causes of death. 85% of sepsis cases occur in sub-Saharan Africa, the South Pacific islands, and regions of South, East, and Southeast Asia.

Sepsis incidence was higher among females and young children than in people of other ages. In their investigation, Dr. Rudd and colleagues analyzed annual sepsis incidence and mortality trends in countries from 1990 to 2017 and found that rates of death from sepsis are actually declining: In 1990, it was an estimated 60.2 million cases of sepsis and 15.7 million deaths. By 2017, the numbers had decreased to 48.9 million cases and 11 million deaths. However, sepsis is still responsible for around 1 in 5 deaths around the world.

The most common cause of sepsis-related death in 1990 and 2017 was lower respiratory infection. The solution lies in basic public health infrastructure. Vaccines, ensuring toilet access for all, clean drinking water, adequate nutrition for children, and maternal healthcare would address a lot of these cases.

Source: medicalnewstoday

Could low-fat diets reduce testosterone levels in men?



A new study finds that low-fat diets slightly reduce levels of serum testosterone in men. Testosterone deficiency occurs when a male's body does not produce enough serum testosterone. Though exercise and weight loss can combat this deficiency, a study

published in *The Journal of Urology* suggests that the type of diet matters.

A deficiency of this hormone is linked to a variety of health issues, including reduced bone mass, erectile dysfunction, diminished energy and sex drive, sleeping difficulties, mood swings, reduced semen, increased body fat, hair loss, hot flashes, reduced testicle size, changes in cognition. There is also evidence of a possible connection between low testosterone and chronic conditions such as high blood pressure and type 2 diabetes.

While weight reduction can lead to an increase in testosterone levels, in some cases it has the opposite effect. Hoping to shed light on why losing weight can help resolve low serum testosterone, the researchers behind the recent study have investigated the potential influence of fat intake on testosterone. They write: "While a weight loss diet will clearly help optimize cardiovascular health, the effect of diet on [testosterone] is not well established."

The authors of the study began with the intention of assessing the effects of four diets on testosterone: a low-fat diet, as defined by the American Heart Association (AHA), a Mediterranean diet, which involves a high intake of fruits, vegetables, whole grains and a minimal intake of animal protein and dairy products, and thus animal fats, a low-carbohydrate diet, and a nonrestrictive diet.

The researchers analyzed data from 3,128 men. While 457 had followed a low-fat diet and 764 had followed a Mediterranean diet, only two had followed a low-carbohydrate diet. The researchers therefore excluded this diet from their analysis.

"We found that men who adhered to a fat-restrictive diet had lower serum testosterone than men on a nonrestrictive diet," says lead author Dr. Jake Fantus, of the University of Chicago Medical Center, in Illinois. The researchers determined that the Mediterranean diet did not cause a significant reduction in testosterone, whereas the reduction associated with a low-fat diet was small but significant.

The authors conclude that men with obesity may view a potential slight reduction in serum testosterone to be a relatively minor consideration in comparison with the potential benefits of a low-fat diet. Men with a testosterone deficiency who are maintaining a healthy weight, however, may wish to consider an alternate diet, if the findings of the current study are supported by more research.

Source: medicalnewstoday

Heart health: Are women getting incorrect treatment?



Recent research suggests that ignoring sex-specific risk factors of heart disease has resulted in women having a higher risk of dying from heart failure than men. A review published in *Nature Medicine* reveals an alarming failure to successfully treat cardiometabolic disorders, such as diabetes, heart disease, and stroke, in women. The authors urge health services to consider the biological

differences between men and women when treating heart disease.

The review, by Prof. Eva Gerds, of the University of Bergen, in Norway, and Prof. Vera Regitz-Zagrosek, of the Charité Universitätsmedizin Berlin, in Germany, states: "Men and women have different biologies, and these result in different types of the same heart diseases. It is about time to recognize these differences."

Health service professionals fail to spot symptoms or risk factors unique to women, resulting in wrong treatment. Obesity and associated damage to the heart occur differently in men and women. Global figures show that obesity in women is on the rise, and as Prof. Gerds' review explains, women store fat differently

from men, which leads to increased risk of type 2 diabetes and heart disease. "Obesity increases the risk of high blood pressure, which increases the risk of heart disease," explains Prof. Gerds.

Oestrogen loss during menopause increases risk of heart diseases. Socioeconomic status and lifestyle factors also play a role in cardiovascular risk discrepancies. Women are more likely to experience low levels of education, low income, and joblessness, and studies have associated each of these factors with diabetes and depression, two major contributing factors for heart disease.

Meanwhile, the adverse effects of unhealthy habits, such as smoking, which is on the rise in women,

multiply as we age, leading to high blood pressure, which can cause heart failure if a person does not receive treatment. The risk for women increases after menopause.

Cardiac arrest, more common in men, is now treatable and preventable. If the same resources and research were applied to the factors that put women at risk of heart failure, effective interventions could be developed in the near future. Healthcare providers need to help women in high-risk groups lower their blood pressure, reduce the risk or effects of obesity, and put quitting smoking at the top of their list of 2020 goals, if necessary.

Source: medicalnewstoday

Common Spine Problems

Your Other Core

Are you glad you can stand or sit upright? Thank your spine, a stack of little bones called vertebrae along the center of your back, from your seat to your neck. It supports your head, shoulders, and upper body, and the vertebrae make a tunnel for your spinal cord. That's the set of nerves that connect your brain to most of your body.

Slipped Disk

A cushion called a disk sits between each of your vertebrae, so they don't scrape against each other.



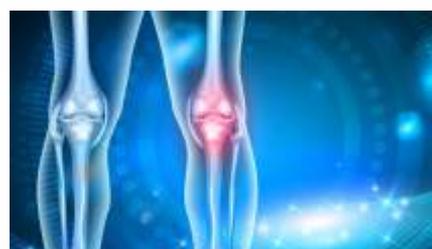
As you age, the disks start to dry out. If you put too much stress on your back, a disk may tear or break. Doctors call this a herniated disk. Your arms or legs might hurt, or they could feel numb or tingly. Usually, exercise and painkillers help. If not, you may need an operation.

Cervical Spondylosis

It's the result of the gradual breakdown in your neck as you get older. You could get a slipped disk there, or the vertebrae may sprout extra bone called spurs to try to boost strength. The ligaments that connect the vertebrae can get stiff and tight. Regardless of the cause, your neck may hurt or be harder to move. If disks or vertebrae squeeze nerves and nerve roots a lot, you could have permanent damage.

Osteoarthritis

Your vertebrae have slippery tissue on each end



that helps your back flex without friction. If that cartilage gets rough or wears down, the vertebrae start to rub against each other, and it makes your back painful or stiff. Women are more prone than men to get osteoarthritis in their backs, and it tends to get worse over time. While this cannot be reversed, painkillers, therapy, and exercise help ease the symptoms.

Spinal Stenosis

Your spine has spaces in it for your spinal cord and the nerves that branch out from it. When those spaces shrink, bones can press against nerves. Any time nerves are messed with, you could have pain, tingling, or numbness, or your muscles might seem weak. Osteoarthritis is the most common cause of spinal stenosis. When it's severe, a surgeon goes in and makes more room for the nerves.

Sciatica



If pain shoots down from your lower back, through your bottom, and into your leg, the culprit may be your sciatic nerve. A herniated disk, bone spur, or some other spine problem can put pressure on it. Doctors call this sciatica. It usually affects only one side of your body. Hot packs, cold packs, stretching, and painkillers can help you feel better, but you may need a doctor to fix the cause.

Tumour

Sometimes, cancer spreads from the spot where it starts to form a new growth in your spine. Lung, breast, prostate, and bone cancers are more likely to go there. A few non-cancer conditions can create a spine tumour, too. Your back might hurt, with the pain spreading through your body. Your arms or legs might be numb or weak. Part of your body could even be paralyzed. Your doctor may recommend surgery, radiation, or chemo.

Scoliosis

It is one of the conditions that can twist your spine out of shape. The most common type affects

children during their growth spurt before puberty, bending the spine sideways, causing uneven shoulders, or one shoulder blade might stick out more than the other. Nobody knows what causes this. Scoliosis can get worse and cause problems, but a brace may help prevent that and the need for surgery.

Kyphosis

This condition bends your spine forward, when your vertebrae crack or mash down. Older women get it most often, but it can also affect children whose spines develop wrong. It can cause pain and other problems, and in severe cases, it bends your whole body out of shape. Depending on how curved your spine is, treatment might include painkillers, exercise, or surgery.

Ankylosing Spondylitis

This type of arthritis typically starts off making your low back and hips stiff and sore, especially in the morning. Over time, it can spread up your spine and to other joints and organs. Vertebrae and bones in your rib cage could fuse, leaving you hunched over. Young men get it more often than women, and it may run in families. Early treatment with exercise and medication helps slow the progress.

Spinal Cord Injury

An injury most often comes from an accident (like a fall, car crash, or sports mishap) or from a gunshot. In most cases, the spinal cord gets bruised, or part of its blood supply is cut off. That may keep your brain from controlling part of your body, so it can be very serious. The higher on your spine, the more of your body is affected. Your chance of getting better depends on how bad the injury is.

Broken Neck or Back

Accidents and injuries can also break bones. When that happens to one of the top seven vertebrae, just below your skull, it's called a broken neck; farther down is a broken back. Bone loss because of age can make your back weak, too, and you might get a break that happens slowly over time. In that case, a back brace or surgery may help. Broken vertebrae could also hurt your spinal cord.



Lumbar puncture (spinal tap)

KNOWLEDGE SERIES



A Lumbar Puncture (LP), also called a spinal tap, is an invasive outpatient procedure used to remove a sample of cerebrospinal fluid (CSF) from the subarachnoid space in the spine.

During a lumbar puncture, a hollow needle is inserted through the skin in the lower back, and passes between the vertebrae and into the spinal canal. A lumbar puncture is performed mainly to:

- collect CSF for testing to detect disease conditions
- deliver contrast dye to spinal canal during a myelogram/deliver anaesthesia to spinal cord
- control CSF pressure and relax the brain during surgery

A 20-minute procedure, a sedative may be given to make you drowsy and relaxed. The back is cleaned with a cooling antiseptic, and the lower back area where the needle will be inserted, is numbed. A hollow needle is inserted between the third and fourth lumbar vertebrae into the spinal canal. The needle does not touch the nerves of your spinal cord. Between 5 to 20 ml of cerebrospinal fluid is collected, in 2 to 4 tubes.

In cases of hydrocephalus (fluid build-up in deep brain cavities), a catheter may be inserted to continuously remove CSF and relieve pressure on the brain.

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