

Back to Freedom



Contents

Foreword

Preface

Frequently asked Questions on Spine Diseases

A stylized human figure in light blue, with the spine highlighted by a vertical line of green dots. The figure is positioned on the left side of the page, with its arms raised and legs slightly apart, suggesting a dynamic or active posture.

SHISHIR
SPINE
CENTRE

back to freedom

Foreword



I have known Dr. Shishir Kumar since the year 2000, when he was training as a Trauma & Spine Fellow, under my guidance. He has been a very dedicated surgeon who has always followed the best principles of 'safe spine surgery' while using his broad knowledge of spine diseases, medical and rehabilitation sciences, in an integrated manner. I have seen him grow into an experienced, world class surgeon over the last two decades, treating both simple & complex cases from India and many foreign countries, with excellent results.

On World Spine Day 2020, I applaud Dr. Shishir Kumar for this initiative to spread much needed public awareness on Spine diseases, by launching a series of public education booklets, under the Shishir Spine project.

I wish him the best in this public service endeavour.

Dr. AB Goregaonkar
Professor and Head
Department of Orthopaedics
Sion Hospital
Mumbai
India
Dated: 16/October/2020



Preface



Since ancient times, diseases of the Spine have remained an enigma, both to the person suffering from it, and also to the healthcare community. With the advent of technology, in the last three decades, our understanding of the disease process of spinal ailments has undergone a quantum jump. Advancements in imaging like MRI, computerised gait analysis, biomechanical analysis, intra-operative neural monitoring and high resolution microscopes have enabled the healthcare professional to provide safe and scientific solutions to these diseases. Despite the information revolution, there is however a lack of awareness about spinal diseases in the general public, even though eighty percent of the world population would have suffered from backache in their lifetime. The lack of awareness assumes more significance due to the fact that in the absence of proper health care in our country, almost 7.5 lakh people develop disabilities every year due to spine diseases.

Having treated spinal diseases for close to three decades, two decades in the army and then a decade in private practice, I have tried very hard to dispel the various myths, suspicions, worries and uncertainties faced by the patients regarding to spine care. Few popular perceptions heard most often are; ‘back pain requires surgery’, ‘physiotherapy is the panacea for all back problems’ and ‘undergoing spine surgery will leave you permanently bed ridden’. Keeping all this in mind, we started the initiative of #ShishirSpine, with the aim of disseminating awareness about spinal diseases in the society. This general awareness booklet, on the occasion of the World Spine Day 2020, is another step in this direction. Many further initiatives covering various facets of spine diseases have been planned for the near future.

This booklet has been written for my beloved patients, who have been visiting my consultation room for the past three decades. I hope this will enable them and their families to clear a few misconceptions they have about spine care and answer a few of their very relevant questions. The styling of the book is different from others. Here we have first tried to answer the various questions that arise in the mind of the patient, in the first chapter itself.

Dr. (Lt Col retd) Shishir Kumar
(MBBS, MS, MCh, D Ortho, PDF)
Senior Consultant, Orthopedics and Spine
Delhi, India

Dated: 16th October 2020

Frequently asked questions (FAQs) about Spine Diseases

Though most books start with an introduction, we realised that there was so much misconception and confusion about spine care that we decided to first pen down the answers to frequently asked questions by patients who have been visiting the spine clinic. Subsequent chapters are devoted to various aspects of spine care.

1) What is cervical pain and how to cope with it?

Cervical pain is the pain caused due to **cervical spondylolysis or osteoarthritis**. It involves changes in the bone, disc or joints connected to neck causing stiffness, headaches or discomfort in the neck, arm or chest. This can also cause giddiness. The major reasons causing this is wear and tear of cartilage, and is often an age-related problem. However, symptoms of the same can show in younger adults as well.

The severity of the pain varies from mild to severe, each having its own different treatment. Some of the ways to deal with the pain are:

- **Isometric Cervical Spine Exercises-** These exercises form the mainstay of therapy. Once started as treatment they can be continued for further prevention of the problem. The beauty of these exercises is that they can be performed at home, in office, while travelling in a bus or metro or just about anywhere.
- **Medications-** like anti inflammatory, muscle relaxants and those for giddiness are often started in the initial stage to control severe symptoms.
- **Surgery-** is not indicated for cervical spondylosis unless it is very advanced and is causing weakness of the hands or legs.

In chalking out your treatment plan for neck pain, there are some alternative therapies available to help deal with the pain, or you can also try these at home.

2) Are there alternative therapies to help deal with neck pain?

Massage therapy- massage therapists use their hands to work on the muscles, tendons, ligaments or soft tissues. This helps alleviate muscle tension and increase blood circulation. This can last for 30-60 minutes. But one has to be very careful with such therapies because if done by untrained hands, may cause catastrophic damage.

Yoga- yoga is mind-body practice that combines specific poses while incorporating breath-control and meditation. It improves back-strength and flexibility and reduces back pain. It also helps generate calm and focus. Exercises such as *suryanamaskar*, pilates are proven beneficial.

Hydrotherapy- it involves performing physical activities performed in water, with water serving as a gentle resistance to movement, to gently strengthen the muscles. For instance, soaking in warm water in a whirlpool tub or placing ice packs on strategic parts of the body soon after injury to reduce inflammation and pain.

3) What are the common causes of back pain?

Back pain is one of the most common problems faced by people today. Some of the common causes are:

Muscle or ligament strain-This is the most important cause of back pain. It often occurs in the young due to **repeated** heavy lifting or sudden awkward movement can strain back muscles and spinal ligaments. Poor conditioning of the back muscles can cause regular painful muscle spasms.

Osteoarthritis or Spondylosis- is nothing but wear and tear of the joints, of the spine due to aging. The loss of cartilage from these joints causes rubbing of bone against bone causing back pain. With time the ligaments and capsule around these joints swell up and start pressing

on the nerves of the spinal cord. This initially gives rise to pain in arms and legs and subsequently due to interference with the function of the nerve it may cause weakness of arms and legs

Inflammation it is the part of your body's natural immune response, but can still cause discomfort heat and pain. It persists due to any injury; it can cause chronic soreness in your back.

Infection like Tuberculosis and other bacterial infections eat away the bone and cause pain in the back. Unchecked, they may cause deformity of the spine and paralysis of arms and legs by the pus pressing on the spinal cord.

Injured, herniated and ruptured discs- cushions of tissue called discs separate the bony vertebrae of your spine. When these discs move out of place, bulge or are injured, it can become extremely painful.

4) What is Sciatica and Prolapsed Disc?

Our spine is comprised of small bones called vertebrae. They are stacked on top of each other to form a natural curve in the spine. This provides a protective layer for the nerves and cord. Between each set of vertebrae, there are small, round discs that act as a cushion between the vertebrae. The disc is toothpaste like material in between the vertebrae (bones of the back). This toothpaste like material (nucleosus pulposus) is surrounded by a tough covering (annulus fibrosis), which prevents this material from leaking out and pressing on the surrounding nerves.

Sometimes due to weakness of this covering, the disc herniates; the nucleus pushes against the outer ring and puts pressure on the sensitive spinal nerves, causing back pain, numbness, or weakness. In the lower back it often occurs at the L4 or L5 level and the pain starts from the back and goes to the buttocks and to the back of the leg. It is like a stretching pain and increases on raising the leg. This pain is called **Sciatica**. Sometimes it can be so severe that prevent sleep. It can also be accompanied by weakness of the foot.

The **major difference** between herniated and bulging disc is that the nucleus does not push out of the annulus in bulging disc. The disc simply bulges out of space it normally occupies in a spine. It is considered a normal part of ageing, so it doesn't show many symptoms. A bulging disc can sometimes be a precursor to herniated discs.

5) What is Degenerative disc disease (DDD)?

DDD is one of the most common causes of low back and neck pain. Degeneration is nothing but a process of aging. Spinal discs are shock absorbers between your vertebrae or bones of spine. They help your back stay flexible so that you can bend and twist. With age they show signs of wear and tear. Despite what the name suggests, it is not a disease, but a condition which is natural and age-related where wear and tear of the disc causes pain, instability, and other symptoms. This is kind of inevitable as people age and everyone's disks break with time. This condition does not result in long-term disability, and in most cases can be resolved through non-surgical treatments like medication, **physical therapy**, steroid injections.

6) What is Lumbar Canal Stenosis (LCS)?

Your spine is a bundle of nerves that runs down the middle of your back. These are encased in a stack of vertebrae which form a pipe or a canal in which these spinal nerves run. LCS arises when there is constant instability due to DDD, which leads to thickening of the ligaments and capsules around the spinal cord. This thickening causes compression of the spinal cord, something akin to narrowing the diameter of a pipe in which the spinal nerves are located. This is called **Lumbar Canal Stenosis** and most often presents with pain in the leg, more on walking and sitting and relieved on bending forwards. Long standing LCS may lead to weakness of legs, most commonly a foot drop.

The treatment initially is rest, pain relief and drugs like Pregabalin and physiotherapy like IFT and TENS. A large proportion of patients improve with this, but if there is no improvement, epidural steroids is an option. This can give long lasting relief in many cases. Surgery is reserved for patients who have no relief with all the above measure, tried for a substantial amount of time, and the pain in the legs is intolerable and disabling. If there is weakness of legs, then one should consider early surgery.

7) How can I improve my spine health?

Some of the tips to improve your spine include:

Make exercise a daily regime-whether it's a walk, or hitting the gym, staying active keeps the spine good health. A simple exercise program emphasising on stretching, strengthening the back, hamstrings, and abdominal muscles, or any aerobic activity can take you a long way around.

Lead with your hips while lifting-lifting heavy items without supporting your spine can put you in abdominal positions that can strain your back muscles. The right way is the stand as close to object as you can, and use your legs and knees rather than your back or upper body to pull up the item to support your back.

Choose your food wisely- eating food rich in calcium and other nutrients and vitamins such as oatmeal, fruits, vegetables, whole-grains, legumes rich in antioxidants can help prevent problems like **osteoporosis** or **arthritis**. Eliminate packed and processed foods to ensure good spine health. Also resolve to quit smoking as this decreases the likelihood of developing degenerative spinal disorders.

Get adequate sleep- grabbing a good night's sleep is vital for an overall good health. Sleep always on your side and not on your stomach, as this puts too much pressure on your spine. While sleeping, also use a pillow that supports the natural curve of your neck and lower back

8) What is the role of physiotherapy in Spine care?

Physiotherapy is a valuable adjunct in the management of Spinal Diseases. Contrary to popular belief, physiotherapy is just a generalised term for a very wide range of therapies offered. Those therapies are different for different kind of back problems. For example an acute backache will require cold therapy, rather than heat application, whereas chronic backache will require heat based therapies. It is therefore important to first visit a doctor specialising in spinal diseases, who will assess the kind of physiotherapy that is required. A physiotherapist should never become the primary care giver for back care, as crucial signs of disease progress can be missed during the course of physiotherapy.

9) Which symptoms should make you suspect that you have a spine problem?

Your spine is a bundle of nerves that runs down the middle of your back. These are encased in a stack of vertebrae which form a pipe or a canal through which the nerves pass. It carries signals back and forth between your body and brain. Any process that damages the vertebrae or other parts can also injure the spinal cord. Some of the common symptoms of spinal cord problem include:

- Extreme pain in head, back or neck
- Shooting pain in the arm, which prevents sleep at night
- Numbness or tingling sensation in arm and hand
- Change in handwriting
- Inability to hold a glass or a pen properly
- Inability to balance properly while walking
- Loss of movement due to stiffness in lower back area, restricting range of motion
- Sciatic pain
- Bursting pain in legs and thighs when walking
- Tingling and numbness in legs

- Changes in sexual function, sexual sensitivity or stability
- Loss or altered sensation, including the ability to feel heat, cold or touch.
- Loss of bladder or bowel control

10) Do all Prolapsed discs (PIVD) seen on MRI require treatment?

Degeneration and bulging of the discs is an aging phenomenon. This aging phenomenon is reported by the radiologist in his MRI. Most people get perturbed and scared reading the radiologist report. Barring a few young people, this aging phenomenon is seen in almost all people to a varying degree. Most of these bulging and degenerative discs do not cause symptoms. In very few cases are these the cause of back pain and leg pain. Only a physician experienced in spine care can assess the MRI and the symptoms of the patient in totality and decide on the correct line of treatment.

11) When should you see a Spine Specialist Surgeon?

Spine surgeons are specialists who perform surgery on the spine. It is often recommended to see a spine surgeon in case of persisting back pain for few weeks or months, especially when conservative or non-surgical treatments like pain medication, anti-inflammatory drugs, steroids, physical therapy, or acupuncture have failed to show signs of improvement. Some of the physical symptoms demanding the doctor's attention include:

- Acute onset pain in leg (Sciatic pain) or arm (radicular pain)
- Long standing pain in legs or arms - no response to treatment
- Unrelenting back pain radiating down an arm or leg.
- Pain in legs or arms associated with weakness
- Back pain accompanied by fever, chills, night perspiration, or weight loss
- Neurogenic claudications- bursting pain in legs on walking

- Backache with deformity
- Any spinal deformity
- Inability to control the urinary bladder or bowel movement
- Loss of ability to move an arm or leg or any previously functioning limb.

12) What is the most common spine surgery?

Spinal fusion is the most common type of spine surgery for back pain. When someone is suffering from back pain, the motion that takes place between the vertebrae is the usual source of pain, resulting from bending, twisting or lifting. A spinal fusion involves fusing together two or more vertebrae to create a single immobile unit, and alleviating pain. It can also be performed to stop the progression of **scoliosis** or deformities, treat injuries, or stabilise a loose vertebrae.

13) Can you live a normal life after spinal fusion/surgery?

With advanced technology along with the latest techniques, equipped with the ability to treat and diagnose **spinal disorders**, recovery is no longer a far cry. Even people with bigger surgeries like **spinal fusion** are 90% likely to return to work and stay there long term very reliably. The combination of appropriate exercise and intensive conservative care coupled with an experienced doctor's expertise are some of the deciding factors about the success of surgeries. The significant goal of every spine surgery is to help you regain pain-free movement and revive a healthy lifestyle.

14) What are the common complications of Spine surgery?

Often surgeries are surrounded by potential complications, and spine surgery is no exception to it. While your **best spine surgeon** tries his best to reduce complications, there are some general complications one can face which include:

- Anaesthesia risks like heart attack, stroke, and brain damage.

- Bleeding and blood clots.
- Dural tear when the thin, protective covering over spinal cords or nerves is torn during the procedure.
- Risk of infection
- Lung infections
- Persistent pain
- Nerve injuries and paralysis

Spine surgery complications are rare, but it is better to be informed. Before you plan undergoing spine surgery, become aware about the potential risks so that you can weigh the benefits and make a sound decision for the same.

15) How long is the recovery after spine surgery?

This is a question which concerns many patients, as nobody wants to become bed-ridden and to be away from thick of things. The length of recovery mostly depends on your health condition prior to surgery. Recovery from **foraminotomy** takes a few weeks. One feels the pain, numbness and weakness along the path of nerve under pressure.

Recovery from **laminectomy and fusion surgery** is longer. It takes **3-4 months** post surgery for bones to heal, and may continue up to one year.

Spinal fusion will keep you off work for **4-6 weeks**, if you are young and healthy, and the work is not taxing. However, for older patients this might extend to **4-6 months**. The post-op care plan and your own efforts to adhere to the same decide the length of time needed for healing.

16) What can I expect after back surgery?

The thought of going through a procedure is very daunting. Back surgery relieves you of the painful symptoms, but battling a painful

recovery is unavoidable. After a back surgery, one can expect you might feel some of the following:

- Post surgery, you might feel a bit of pain in the surgical area giving you discomfort.
- After surgery, you might feel pain from the wound or general swelling around the nerves and wound. The pain is no longer achy or arthritic, but stems from inflammation.
- The back feels still and sore. One may find trouble in sitting or standing in one position for long.

In some cases, pain medication can be consumed to help relieve the post-op pain, and reduce inflammation. It might take 4-6 weeks to start performing light household chores.

17) What are the symptoms of spinal cord problem?

Your spine is a bundle of nerves that runs down the middle of your back. It carries signals back and forth between your body and brain. Any accident that damages the vertebrae or other parts can also injure the spinal cord. Some of the common symptoms of spinal cord problem include:

- Loss of movement due to stiffness in lower back area, restricting range of motion
- Loss or altered sensation, including the ability to feel heat, cold or touch.
- Loss of bladder or bowel control
- Extreme pain in head, back or neck
- Trouble in breathing, coughing or clearing secretions from lungs
- Numbness or tingling sensation caused by damage to nerve fibres in your spinal cord
- Changes in sexual function, sexual sensitivity or stability

18) What happens after spinal cord is damaged?

The spinal cord is a very fragile part of the body. Unlike other parts it has the inability heal itself if damaged. Most spinal cord injuries lead

to loss of sensation and muscle function below the injured part. If it gets injured and the sensitive tissues also get destroyed, nerve and glial cells die within minutes to hours. It is then followed by secondary damage, where blood cells rupture leading to oxygen deficiency in the tissue. Other nerves also die and the damage spreads. The injury is generally described as either:

- **Complete-** where there is complete loss of sensation and muscle function below the injured part.
- **Incomplete-** where there is some function remaining below the injured part.

19) What is failed back surgery syndrome?

Nearly one in 10 people experience lower back pain, and for some surgery is the only option for relief. However, sometimes, surgery doesn't bring that relief. **Failed back surgery syndrome** is a term used to describe a condition of patients who have not had successful results with back surgery or spine and have experienced continued **pain after surgery**. The pain might feel better for a while, but then starts to get worse again. Common symptoms associated with FBS include:

- Diffuse, dull or aching pain involving the back or legs.
- Abnormal sensitivity like sharp pricking or stabbing pain in the extremities.

Treatments for FBS include **physical therapy**, nerve blocks, medications, injections or chronic pain management program.

back to freedom

20) Why is multidisciplinary approach to spine care important?

The multidisciplinary approach is to have a multidisciplinary team at the spine clinic incorporating all the people specialising in spine rehabilitation working together. The team includes physiatrists, physical therapists, exercises specialists, and psychologists working

together to chalk out a comprehensive, personalised program for each patient. This is tailor-made to cater to the needs of patients after proper evaluation and assessment of their goals and needs.

The focus of attention is still to maximise functioning ability of each patient while minimising the pain attached to it.

21) What are the benefits of artificial disc?

Disc degeneration is fairly common as we age, considering the cumulative weight our body endures over years. Sometimes the pain is managed using non-surgical methods like medication, exercise or physical therapy. However, at times the pain fails to subside leaving as the last best bet. Out of the two surgical options, spinal fusion involves fusing two vertebrae together. But, this limits movement and flexibility. The other option gaining popularity is artificial disc replacement. It is a device inserted between the vertebrae after the inter-vertebral disc has been removed. Some of the benefits are:

- It helps **maintain full range of motion** and flexibility following surgery. Each disc can continue to move and shift as necessary without being bonded to another vertebrae.
- It **reduces the likelihood of degeneration** in **adjacent segments** of cervical spine.
- It has **shorter recovery time**. Most patients resume normal activities with weeks.
- It results in **fewer post-surgery complications** with less need for revision surgery.

back to freedom

22) Do I need to wear a brace after surgery?

The **anterior cruciate ligament, or ACL**, is one of the four major ligaments in the knee. ACL tears may require surgical treatments to reconstruct the torn ligament by replacing it with a piece of tendon called a **graft**. Many patients are given a knee brace after surgery.

Historically, the surgeons believed that the brace serves to stabilise your knee and allow your ACL to be protected, while it heals properly. During the healing process, which takes eight to ten weeks, the new ligament is in danger of rupturing. Rupture of the graft may occur if forces are placed on the knee which it can't endure. However, recently, there has been an increased scrutiny as to the effectiveness of wearing a brace. It has been found the patients who wore it and the ones who did not, didn't show any significant differences in outcome.

23) What is multi-level spondylitis?

Spondylosis is a type of **arthritis** spurred by wear and tear to the spine. It is a type of inflammation related to age-related degeneration of the cartilage that cushions the joints. Spondylitis can affect more than one region of the spine. Moreover, more than one segment or level of vertebrae in any of these regions can be involved. When multiple segments or levels of spine are involved then that condition is known as multi-level spondylitis.

Since it affects several vertebrae, this can be more severe than degeneration that only affects one part. It may result in restricted mobility, pressure on the nerve roots and on the spinal cord. Pressure on the cord can lead to global weakness, loss of balance, difficulty with co-ordination, gait dysfunction, loss of bladder and bowel movement. Though it's unavoidable, a healthy lifestyle can help delay its onset. Genetics also play a major role as it can be hereditary.

24) Can I benefit from laser spine surgery?

There are four different types of back surgery- traditional or open approach, MISS, laser and robotic back surgery. In laser surgery, surgeons use lasers to remove portions of soft tissues that can compress nerves, such as ligament enlargement or herniated discs. However, lasers are appropriate only for certain conditions. They can help surgeons remove either tumours from the spinal cord or bone or soft tissue from around a nerve. This can be done using local anaesthesia, which means the skin and surrounding muscles of the

back will be numbed to pain. The major benefit is that it is less invasive as compared to traditional back surgery, and can be performed on outpatient basis. However, there is limited amount of information as to its effectiveness over other methods.

25) What is the success rate of robotic surgeries?

Artificial Intelligence has aided doctors by providing computer-aided diagnostics to **robotic surgeries**. The robotic surgeries were approved by FDA in 2000. The robotic surgeries are essentially **minimally invasive surgeries**, where the imagery provided parallel to it is high resolution. Thus, these surgeries are performed by robots, with their agile computer-controlled system which can be positioned and placed over the patient. The computer screen provides a guide where every inch of the body is magnified to required resolution. The surgeon's hand and wrist movements can bend in any direction and reach places that a human hand cannot. The surgeon has full control over robotic movements and can take over whenever the need arises.

The **success rate** of robotic surgeries is **95 percent**. Some advantages it offers are:

- Less blood loss due to smaller incisions.
- Shorter hospitalisation and faster recovery time
- Less discomfort and reduced pain
- Scars are minimal and healing is quick.

26) What are Covid safety precautions for safe spine surgery?

The Covid-19 has hit the world giving an unprecedented outcome. In this the spine surgeons have a crucial role to play whereby they still treat patients with urgent spine pathology, while maximising patient safety and minimising healthcare resource utilisation.

All patients for spine surgery should be tested for covid before operation. However, in case a covid test is not possible, then all patients to be treated shall be deemed as positive. Some of the precautions for spine surgery could be:

- **Operating room setup-** a dedicated operating room should be utilised for COVID patients. These shall be converted to negative pressure rooms. Effort should be made to minimise outflow from contaminated operation rooms (OR). All the medications and equipments to be needed should be sufficiently stocked to reduce operating room traffic. Whenever possible, disposable equipment should be used.
- **Use minimally invasive techniques-** whenever feasible and safe, focus on using minimally invasive techniques. It reduces the risk of viral transmission through bodily fluids.
- **Operating room personnel and personal protective equipment-** the surgical team should be minimised and should also limit entry and exit from the OR. Standard OR PPE should be used along with N95 respirators. Surgical hood/helmet shall also be donned.
- **Outpatient management-** if both the provider and the patient have access to the requisite expertise and infrastructure, then this process gives minimal exposure to both the parties. This allows the patient to stay at home, while adhering to the said guidelines.

27) What causes L4, L5 compression?

The L4 and L5 are the two lowest vertebrae of the lumbar spine. Along with the intervertebral disk, joints, nerves and, soft tissues, these bones aid in a variety of functions including supporting the upper body and allowing trunk motion in multiple directions. Spinal stenosis (narrowing) of the bony openings which causes the bones press against the nerves or other degenerative changes cause the compression of the nerve roots in the area. The common symptoms of this issue are pain, numbness, abnormal sensations, or impaired bladder or bowel movement.

CONCLUSION

Treating spinal cord diseases could be life-changing. The best chance of recovery of function after an injury is through prompt treatment. Therefore, it is important to seek the services of the best qualified spine surgeon available, to deal with the complicated issues related to spine.

We believe that all of our patients deserve to be fit and healthy, with the best possible quality of life. Our aim is to provide you the same by getting you **BACK ON TRACK**. In case you have any queries regarding the medical procedures or any spine disease related issue, please feel free to write us at shishirspine@gmail.com or contact us through our website www.shishirspine.com.

back to freedom