P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE
KHAR

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# Health Buzz

FOCUS: **ORTHOPAEDICS**

VOLUME 12

## Introduction

Our bones, joints, muscles and spine support us through every step, stretch and movement we make. Yet, many of us only pay attention to them when pain or discomfort begins to interfere with daily life. In this edition of the Orthopaedic Newsletter from P. D. Hinduja Hospital, Khar, we explore how advances in medical technology are transforming the treatment of spine disorders through minimally invasive procedures that help patients recover faster. We also discuss simple ways to protect your knees, understand common foot conditions such as bunions and lesser-known toe deformities, and learn why gradual, progressive loading is an important part of successful rehabilitation. Additionally, we shed light on rotator cuff injuries, a common cause of shoulder pain and weakness. Through expert insights and practical advice, this issue aims to help you move better, stay active, and maintain strong bones and joints for years to come.

# LOOK AFTER YOUR KNEES AND THEY WILL LOOK AFTER YOU.


## DR. VIVEK ALLAHBADIA

Consultant - Orthopaedic Surgery


Indians are genetically prone to knee problems.

Knee pains can start in a younger age specially in women who go to the gymnasium quite often and exercise a lot. Some exercises may not suit the knee joints and can cause knee pain.

Any sign of knee pain, you must visit your orthopaedic surgeon and make sure you are exercising the right way. Certain exercises like squats and lunges can cause anterior knee pain. Unfortunately, this is the first exercise that the trainers insist on when you go for muscle strengthening after weight loss, irrespective of age.

If you are finding this problem you must visit your orthopaedic surgeon immediately or a knee specialist and take remedial action. They may advice you to change certain kind of exercises that you are doing and give you alternative exercise.

Food supplements like glucoseamine and marine collagen combinations can also help control the pain in early disease.

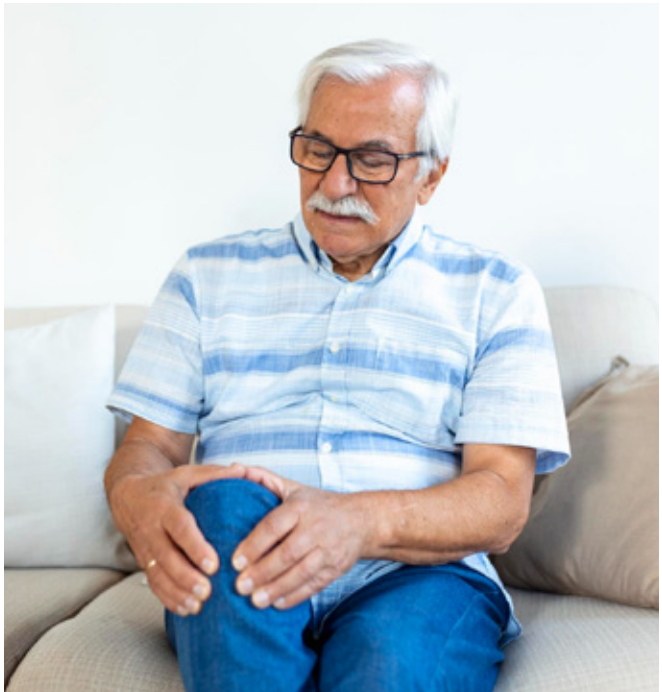
If you are flat footed then you must get medial arch supports in your workout shoes and regular footwear. This can also indirectly affect the knee joints.

In the older age group patients if they have knee pain they should see their orthopaedic surgeons, with an x-ray and if they have high uric acid levels in their blood reports, then carry the reports with them when they meet their orthopaedic surgeon.

Conservative treatment involves muscle strengthening around the knee and we ask patients to avoid sitting on the floor, sitting cross legs and avoid climbing and descending stairs as form of exercises. Walking in waist deep water and exercising in water helps strengthen the knee muscles without loading the joints excessively.

Eventually lots of elderly patients may reach a stage where surgery may be necessary.

Discussion with orthopaedic surgeon regarding types of surgery for their particular stage of disease is important. Surgeries range from arthroscopy to osteotomies to correct limb alignment, to joint replacements. Surgeons may offer unicompartmental knee replacements which replaces just the damaged compartment only and giving less limitations to patients in their lifestyle than a total knee replacement. Total knee replacements are offered for elderly patients with advanced knee arthritis. Both these procedures can be performed with conventional and robotic surgery. Robotic surgery being the latest offering increasing precision and early recovery and rehabilitation.



# Arthroscopic Management of Lateral and Clavicle Fractures:

## A Modern Approach with Dog Bone Fixation

**DR. NAGRAJ SHETTY**
Consultant - Arthroscopy

A fractured collarbone, medically known as a clavicle fracture, is one of the most common injuries affecting the shoulder region. While many clavicle fractures heal well with conservative treatment, fractures occurring at the outer (lateral) end of the clavicle present a unique challenge. These injuries are often unstable, prone to displacement, and may fail to heal properly if not managed appropriately.

Advancements in orthopaedic surgery have led to minimally invasive techniques that offer better stability, quicker recovery, and improved patient outcomes. One such innovation is arthroscopic fixation using the Dog Bone™ fixation system, which has emerged as an effective treatment option for selected lateral end clavicle fractures.

## UNDERSTANDING THE CLAVICLE AND ITS FUNCTION

The clavicle, or collarbone, acts as a bridge between the breastbone (sternum) and the shoulder blade (scapula). It plays a vital role in maintaining shoulder alignment and enabling smooth upper limb movement.

The outer end of the clavicle connects to the acromion, a part of the shoulder blade, through the acromioclavicular (AC) joint. Stability in this region is provided by strong ligaments known as the coracoclavicular (CC) ligaments.

When a fracture occurs near the lateral end of the clavicle, these ligaments may become detached or disrupted. As a result, the fractured bone fragments can shift out of position, making healing more difficult.

## Why Are Lateral and Clavicle Fractures Different?

Unlike fractures occurring in the middle portion of the clavicle, lateral end fractures are often unstable because of the forces exerted by surrounding muscles and ligaments.

**Patients may experience:**

- **Severe shoulder pain**
- **Swelling and bruising**
- **Difficulty lifting the arm**
- **Visible deformity over the shoulder**
- **Tenderness near the AC joint**

If left untreated, unstable fractures can result in non-union (failure of the bone to heal), persistent pain, weakness, and reduced shoulder function.

## Traditional Treatment Methods

Historically, unstable lateral clavicle fractures have been managed using various surgical techniques, including plates, screws, Kirschner wires, and hook plates.

**While these methods provide stability, they may also have certain drawbacks:**

- **Larger surgical incisions**
- **Prominent implants under the skin**
- **Shoulder stiffness**
- **Implant-related irritation**
- **Need for a second surgery to remove hardware in some cases**

The search for less invasive yet equally stable fixation methods has led to the development of arthroscopic-assisted procedures.

# What Is Arthroscopic Dog Bone Fixation?

Dog Bone fixation is a minimally invasive surgical technique that uses high-strength sutures and specially designed titanium buttons to stabilise the fractured clavicle.

The procedure is performed with the assistance of arthroscopy, a technique that allows surgeons to visualise the shoulder joint using a small camera inserted through tiny incisions.

The Dog Bone construct acts by recreating the function of the damaged coracoclavicular ligaments, helping maintain proper alignment of the fractured bone while natural healing occurs.

The name "Dog Bone" comes from the shape of the small titanium button used during the procedure, which resembles a dog bone.

## How Is the Procedure Performed?

The surgery is typically carried out under general anaesthesia.

Using arthroscopic guidance, the surgeon first visualises the underside of the shoulder and identifies the coracoid process, a hook-shaped structure on the shoulder blade.

A small tunnel is then created through the clavicle and coracoid. High-strength sutures attached to titanium Dog Bone buttons are passed through these tunnels.

Once the fracture is reduced into its correct position, the fixation system is tightened, securing the clavicle and restoring stability.

Because the procedure relies on small incisions and minimal soft tissue disruption, patients often experience less postoperative discomfort compared to traditional open procedures.

# Advantages of Arthroscopic Dog Bone Fixation

The technique offers several benefits for appropriately selected patients:

### Minimally Invasive Approach

Smaller incisions result in less tissue damage, reduced scarring, and potentially faster recovery.

### Strong Biological Fixation

By restoring the function of the coracoclavicular ligaments, the construct provides stable fixation while allowing the fracture to heal naturally.

### Lower Implant Prominence

Unlike plates or bulky hardware, the Dog Bone system is low profile and generally less noticeable beneath the skin.

### Reduced Risk of Implant Removal

Many traditional implants require removal after healing. Dog Bone fixation often eliminates the need for a second procedure.

### Better Shoulder Function

The arthroscopic approach preserves surrounding structures, helping patients regain shoulder movement more effectively during rehabilitation.

### Simultaneous Evaluation of Shoulder Injuries

Arthroscopy allows the surgeon to identify and address associated shoulder injuries that may otherwise go unnoticed.

# Recovery After Surgery

Recovery protocols may vary depending on the fracture pattern and surgeon preference.

In general, patients wear a shoulder sling for several weeks to protect the repair while initial healing occurs.

Gentle range-of-motion exercises are introduced gradually under the guidance of a physiotherapist. Strengthening exercises follow as healing progresses. Most patients can resume routine daily activities within a few weeks, while return to sports and heavy physical activity may take several months depending on individual recovery.

Regular follow-up visits and imaging studies help ensure that the fracture is healing appropriately.

# Who Is a Suitable Candidate?

Arthroscopic Dog Bone fixation is particularly useful for:

- **Unstable lateral end clavicle fractures**
- **Displaced fractures with ligament disruption**
- **Active individuals seeking early functional recovery**
- **Patients where implant prominence is a concern**

However, not every fracture requires surgery. The choice of treatment depends on several factors, including fracture type, degree of displacement, patient age, activity level, and overall health.

## The Future of Shoulder Trauma Care

Orthopaedic surgery continues to evolve towards techniques that minimise tissue damage while maximising stability and recovery. Arthroscopic management of lateral end clavicle fractures with Dog Bone fixation represents an excellent example of this progress.

By combining advanced imaging, minimally invasive surgery, and biomechanically strong fixation, this technique offers patients a reliable solution that supports healing, restores shoulder function, and helps them return to their daily lives with confidence. As with any orthopaedic condition, early evaluation and timely treatment remain the key to achieving the best possible outcome.

# MINIMALLY INVASIVE SPINE SURGERY:

## How technology has changed the landscape of spine care

**DR. SAMIR DALVI**
Consultant - Spine Surgery

Twenty years ago, the thought of spine surgery was often accompanied by fears of large incisions, long hospital stays, significant post-operative pain and long recovery times. Surgery has been successful in treating many spinal pathologies, but the process itself can be arduous for patients.

The field of spine surgery has changed dramatically today. Advances in imaging, surgical navigation, microscopy and endoscopic technology have changed how surgeons diagnose and treat spinal conditions. Now we can do many procedures with greater precision, less tissue disruption and better patient recovery experiences using modern minimally invasive techniques.

Spine surgery's goal, however, remains the same: relieve pain, restore function and improve quality of life. What has changed is how we achieve those outcomes.

## Why Minimally Invasive Surgery Is Different

While minimally invasive spine surgery is often associated with smaller incisions, the concept is well beyond cosmetic benefits.

With conventional open surgery, larger exposures were required to access the spine, often involving moving or detaching nearby muscles and soft tissue. Minimally invasive techniques, however, are designed to get to the affected area through smaller, well-planned routes, preserving as much normal anatomy as possible.

The less impact there is on healthy tissue, the less physically disruptive the correction of the underlying problem is for the patient.

It has been especially useful for conditions that require precision, such as herniated discs, spinal stenosis and certain types of spine instability.

## Precision Through Technology

Minimally invasive surgery of the spinal column cannot be successful without advances in technology.

For example, one of the greatest technological achievements is navigated spinal surgery that resembles a GPS system. During this kind of surgery, a surgeon gets real-time information about a patient's anatomy to find necessary structures and properly place implants.

Furthermore, microscopic spine surgery plays an equally important role in spinal disorders treatment. With the help of powerful microscopes, the surgeon can see all the structures he needs to operate nerves, discs, and even the spinal column itself. Microdiscectomy for slip disc problems, for example, can be done with minimal harm to adjacent tissues and structures.

Another achievement of minimally invasive techniques in the sphere of spine disorders treatment is endoscopic spinal surgery. It consists of making an incision on the patient's body to put a camera into a certain place inside him and conduct the operation through it.

All these technologies made surgery more accurate and safer for patients.

## From Open Surgery to Keyhole Procedures

Perhaps the most obvious development in spinal surgeries can be noted in the way the surgery itself has gone from an open surgery to a keyhole or tubular procedure.

Previously, in order for a surgeon to have adequate visibility of the spinal area being worked on, a larger area of the spine had to be exposed. Although successful, this technique always meant more trauma.

With the use of tubular retractors and sophisticated imaging technology, doctors are now able to perform the surgery via narrow corridors targeting directly where the problem lies. As such, there is no need to expose any more of the spine than necessary.

This represents a revolutionary development in the field of spinal surgery, since it means that minimal damage is done to the muscles and ligaments that support the spine.

## What Conditions Can Be Treated?

Minimally invasive approaches are currently used in treating various spinal pathologies.

**Among common indications are:**

- **Slipped disc in the lumbar region.**
- **Nerve compression leading to sciatica.**
- **Stenosis of the spinal canal**
- **Degeneration of the spine**
- **Particular spinal fractures**
- **Spine instabilities for which stabilization surgery is required.**

Development of new technologies has also led to the ability to operate on complicated spinal diseases. Operations involving the neck, revision spine operations, as well as particular correction of spinal deformities are possible due to better visualization and navigability.

The selection of the surgical technique is always personalized based on a specific case of the pathology.

## Recovery: What Has Changed for Patients?

Due to fewer invasions into muscles and soft tissues, there will be less discomfort after surgery and early mobilization. There could be fewer incidences of bleeding and less trauma to the tissues.

Advancements in anaesthesia techniques and pain control protocols, as well as rehabilitation measures, have resulted in an improvement in the general experience. Nowadays, the stay in hospitals may be shortened compared to previous years.

Although there is still variance in terms of duration according to various conditions and surgeries, there has been significant progress compared to previous generations of spine surgery.

## The Future of Spine Surgery

This evolution has not come to a stop, as there are still new technologies on the horizon. Robotic surgery, navigation systems for operating rooms, AI assistance in preoperative planning, and innovative imaging techniques are all among them.

As new technologies become increasingly accessible and used during surgeries, there will be more chances to enhance both the outcome and the experience.

Spine surgeries currently provide patients suffering from spinal pain or other conditions with treatment that is safer and more accurate. Modern spine surgery makes it possible for people suffering from various spinal problems to live more active lives.

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## ADVANCED NEXT GEN

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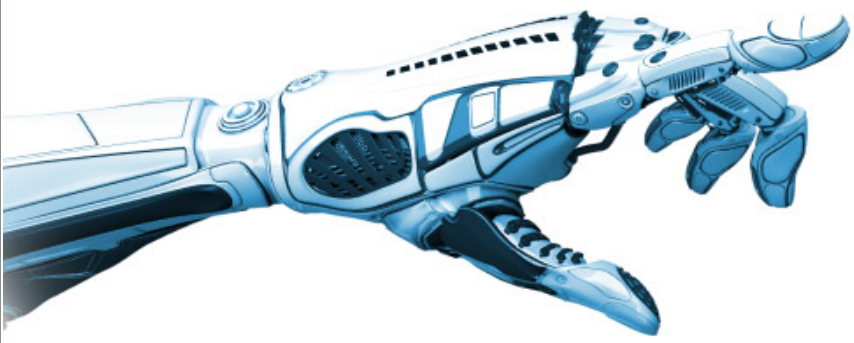

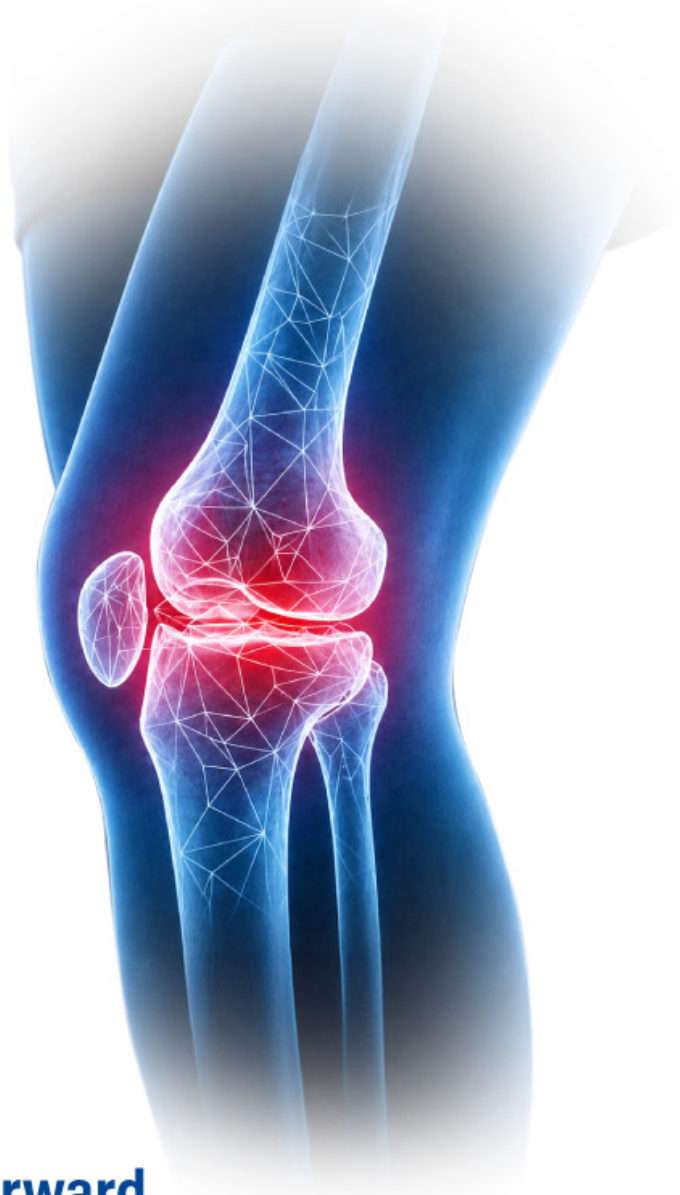

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# BUNIONS AND LESSER-KNOWN TOE DEFORMITIES:
## When Your Feet Start Changing Shape

**DR. PRADEEP MONOOT**
Consultant - Orthopaedics
(Knee, Foot & Ankle)

Our feet carry us through every stage of life, yet they are often the most neglected part of the body. Many people dismiss foot pain, toe crowding, or changes in the shape of their feet as a normal part of ageing or an unavoidable consequence of footwear. However, persistent deformities of the toes and forefoot can affect mobility, balance, confidence, and overall quality of life.

Among the most common conditions is a bunion, a problem many people recognise but few fully understand. Alongside bunions, several lesser-known toe deformities can silently progress over time, making walking painful and daily activities uncomfortable.

Understanding these conditions early can help prevent worsening symptoms and reduce the need for extensive treatment later.

## What Exactly Is a Bunion?

A bunion, medically known as *hallux valgus*, is a deformity that develops at the base of the big toe. In this condition, the big toe gradually shifts towards the second toe, causing a prominent bony bump to form on the side of the foot.

Contrary to popular belief, the bump itself is not an extra bone growth. It is actually the misalignment of the joint.

Bunions typically develop slowly over years and may begin with mild discomfort, redness, or difficulty fitting into footwear. Over time, the joint can become increasingly painful and stiff.

Women are more commonly affected than men, partly due to footwear choices, but genetics also plays a significant role. If bunions run in the family, there is a higher likelihood of developing them.

## Common Symptoms of Bunions

While some people may only notice a visible bump, others experience symptoms such as:

- Pain while walking or standing
- Swelling and redness around the joint
- Corns or calluses between the toes
- Restricted movement of the big toe
- Difficulty wearing closed shoes
- Overlapping or crowding of toes

As the deformity progresses, the altered mechanics of the foot can also affect the knees, hips, and lower back due to changes in walking patterns.

## Lesser-Known Toe Deformities You Should Know About

Although bunions are widely recognised, several other toe deformities are equally common and can significantly impact foot function.

## Hammertoe

A hammertoe occurs when one of the smaller toes bends abnormally at the middle joint, giving it a hammer-like appearance. The toe may initially remain flexible, but over time it can become rigid and painful.

People with hammertoes often develop corns on the top of the toe due to friction against footwear.

## Claw Toe

In claw toe deformity, the toe bends upward at the base joint and downward at the middle and tip joints, creating a claw-like shape. This condition can affect multiple toes simultaneously and is sometimes associated with diabetes, nerve disorders, or muscle imbalance.

## Mallet Toe

This deformity affects the joint closest to the toenail, causing the tip of the toe to curl downward. Tight footwear and prolonged pressure on the toes are common contributing factors.

## Overlapping Toes

Sometimes one toe may gradually shift over or under another toe. This can occur due to longstanding bunions, ligament imbalance, arthritis, or inherited foot structure abnormalities.

Overlapping toes can make walking uncomfortable and increase the risk of skin irritation and ulcers in elderly individuals or people with diabetes.

## What Causes These Deformities?

Toe deformities rarely occur due to a single reason. Instead, they usually result from a combination of factors such as:

- **Hereditary foot structure**
- **Poorly fitting or narrow footwear**
- **High heels causing excess forefoot pressure**
- **Flat feet or abnormal foot mechanics**
- **Arthritis**
- **Neuromuscular conditions**
- **Previous injuries**
- **Age-related weakening of ligaments and muscles**

Certain occupations that involve prolonged standing or walking may also contribute to worsening symptoms.

## Why Early Attention Matters

Many people ignore foot deformities until pain becomes severe. However, delaying treatment can allow the deformity to become more rigid and difficult to manage conservatively.

- **Untreated toe deformities may lead to:**
- **Chronic pain**
- **Difficulty walking**
- **Reduced balance and increased fall risk**
- **Joint stiffness**
- **Skin ulcers or infections**
- **Progressive arthritis of the foot joints**

For elderly individuals, maintaining foot health is especially important because impaired mobility can affect independence and overall well-being.

## Treatment Options: Not Every Case Needs Surgery

One of the biggest misconceptions about bunions and toe deformities is that surgery is always necessary. In reality, many patients can manage symptoms effectively with conservative treatment, especially when the condition is identified early.

## Non-Surgical Management

**Treatment may include:**

- **Wearing wider, supportive footwear**
- **Avoiding high heels and narrow shoes**
- **Using toe spacers or protective pads**
- **Custom orthotics to improve foot alignment**
- **Physiotherapy exercises**
- **Pain-relieving medications when required**
- **Activity modification**

These measures help reduce discomfort and slow progression, although they may not reverse the deformity completely.

## When Is Surgery Recommended?

**Surgery is generally considered when:**

- Pain interferes with daily activities
- Walking becomes difficult
- The deformity continues to worsen
- Conservative treatment fails to provide relief

Modern surgical techniques are far more advanced than many people realise. Depending on the severity of the deformity, procedures may involve realigning bones, correcting soft tissue imbalance, or stabilising joints.

With newer minimally invasive approaches, many patients experience faster recovery, smaller scars, and improved functional outcomes.

## Conclusion

Our feet are the foundation of movement, balance, and independence. Persistent pain, visible deformities, or difficulty wearing footwear should never be ignored as "just ageing."

Simple lifestyle changes, early diagnosis, and timely medical intervention can go a long way in preserving mobility and preventing complications.

If you notice gradual changes in the shape of your toes or experience recurring foot discomfort, seeking expert orthopaedic evaluation early can make all the difference — helping you stay active, comfortable, and confident on your feet for years to come.

# Keyhole Surgery for Hand and Wrist Problems


## DR. PANKAJ AHIRE

Consultant - Orthopaedics (Hand Surgery)

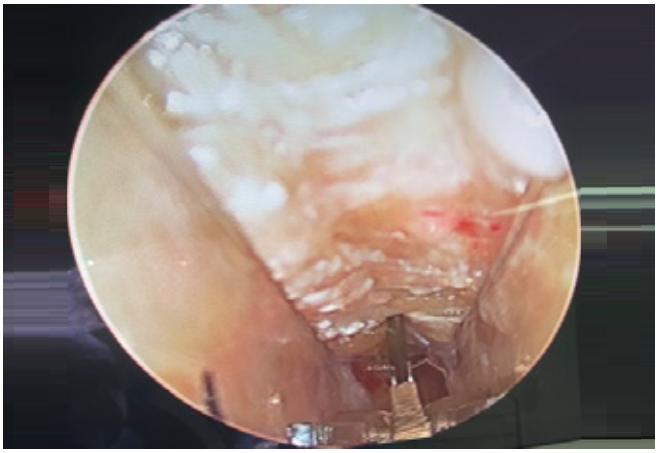

Most of us take our hands for granted until pain, numbness or stiffness begins to interfere with everyday activities. Something as simple as buttoning a shirt, opening a jar, using a mobile phone or writing can become difficult and frustrating.

Fortunately, advances in hand surgery now allow many conditions to be treated through "keyhole" techniques known as endoscopic surgery and arthroscopy. Keyhole surgery when used for a joint it is called Arthroscopy. Anywhere else in the body it is called endoscopy. Laparoscopy, Cystoscopy, Hysteroscopy are terms used to describe endoscopy of specific organs.

These procedures use a thin cylindrical lens, called an endoscope or arthroscope, which is introduced through very small incisions. The scope is connected to a High Definition (4K) camera which projects a magnified image onto a screen, allowing the surgeon to see structures inside the hand and wrist without the need for large surgical exposures. The structures visualised through endoscope are sometimes completely inaccessible by conventional surgery.

One of the most common applications is Endoscopic Carpal Tunnel Release (ECTR). Carpal Tunnel Syndrome occurs when a nerve passing through the wrist becomes compressed due to repetitive stress (keyboard, mobile, driving, vibrating machines), swelling of the nerve (Hypothyroidism, Pregnancy), swelling of the tendons and joint (after fractures, rheumatoid disease). Patients often complain of numbness and tingling in the fingers, especially at night. Some may even find themselves dropping objects or having clumsiness attempting fine tasks.

Using a small incision and specialised instruments, the tight ligament compressing the nerve can be released. In suitable patients, this minimally invasive technique can reduce postoperative discomfort and allow an earlier return to normal activities. Conventional carpal tunnel release surgery involves about 4 cm of incision in the palm, need to cut multiple layers of tissues to reach the offending ligament and necessity of a splint/ bandage for about 2 weeks. Whereas the ECTR involves about 1 cm incision at the wrist, no splinting and immediate (same day) return to full function. Due to this advantage ECTR can be performed in both hands in the same surgery while the open CTR, when needed in both hands, needs to be performed 3 months apart, involving another hospitalisation, anaesthesia and 2 weeks of indisposition.



Another area where keyhole surgery has made a significant impact is wrist arthroscopy. The wrist is one of the most complex joints in the body, made up of multiple small bones, ligaments and cartilage surfaces. When wrist pain persists after an injury or develops without an obvious cause, diagnosis can sometimes be challenging.

Wrist arthroscopy allows us to look directly inside the joint through tiny portals. Conditions such as ligament injuries, TFCC tears, ganglion cysts, inflammation and selected cartilage problems can often be diagnosed and treated during the same procedure. Because the surgeon can directly visualise the structures involved, arthroscopy frequently provides information that may not always be evident on x rays, CT scan, MRI.

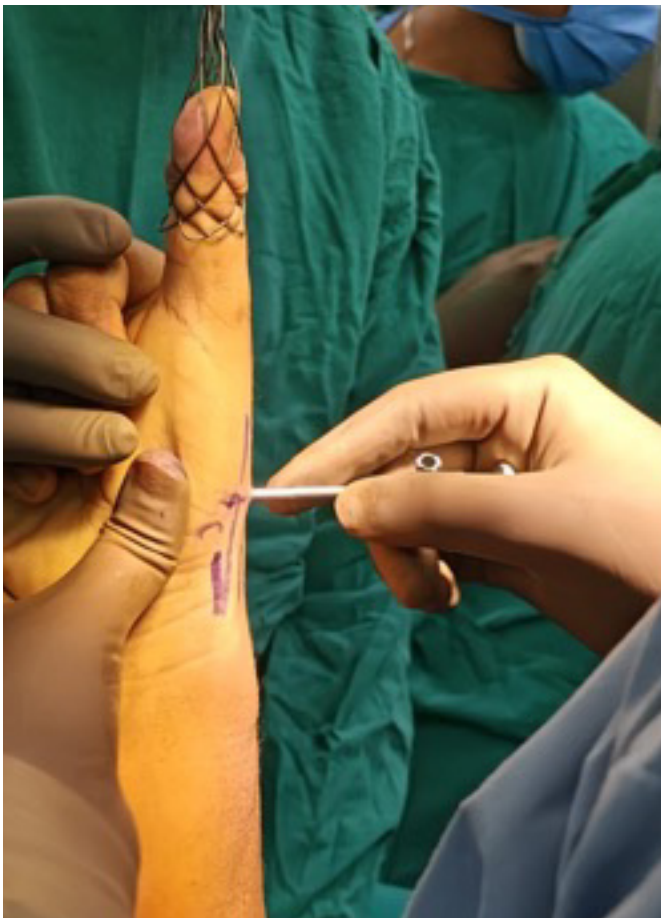
A newer and exciting application is arthroscopy of the thumb CMC joint, the joint at the base of the thumb. This joint is essential for pinching, gripping and performing many day-to-day activities. Arthritis affecting this joint is particularly common in middle-aged and elderly individuals and can cause considerable pain while opening bottles, turning keys or lifting objects.

In selected patients, arthroscopy allows treatment of early joint damage through very small incisions while preserving surrounding tissues. This may help reduce pain and improve function with minimal scarring.

Patients often ask, “What are the advantages of keyhole surgery?” In general, smaller incisions mean less tissue disruption, less postoperative pain, smaller scars and a quicker return to everyday activities. Equally important is the excellent visualisation of structures within the wrist and hand that these techniques provide.

However, it is important to remember that not every condition is suitable for endoscopic or arthroscopic treatment. Some problems are better managed through conventional open surgery. The choice depends on the nature of the condition, its severity and the individual needs of the patient.

Keyhole surgery is not about making the incision smaller at any cost. It is about achieving the best possible result while minimising tissue trauma whenever appropriate. As technology continues to evolve, these minimally invasive techniques are helping us treat many hand and wrist conditions more effectively and with faster recovery than ever before.



# ROTATOR CUFF INJURIES


## DR. RISHABH TIWARI

Jr. Consultant - Orhtopaedics


## What is Rotator Cuff?

Rotator Cuff is a group of 4 muscle and Tendons which help in movement of shoulder joint and stabilizes it.

**These Tendons are :**

1) **Supraspinatus**
2) **Infraspinatus**
3) **Teres Minor**
4) **Subscapularis**

## Each Tendon has a specific function

**Supraspinatus** : Abduction of the Arm
**Infraspinatus** : External Rotation
**Teres Minor** : External Rotation
**Subscapularis** : Largest and Strongest, it's function is internal rotation of the arm

## Rotator Cuff Tear Pathology can be of two types

1) **Partial Tear**
2) **Full thickness tear**

Partial tear has a better prognosis then full thickness tear.

## Causes for the Tear can be:

1) **Traumatic Tear**
2) **Degenerative Tear**

Traumatic tear is caused due to trauma and can occur in any age group young or old.

Degenerative Tear is seen in older age group where quality of Tendons become compromised.

Degenerative Tear is seen more commonly in women as compared to men, more common in diabetics and hypothyroidism, more common in people doing overhead activities, amongst sportsperson, more common in throwers and bowlers.

## Complaints:

Initial symptoms is pain, night pain more than day pain.

Pain characteristic is constant dull aching pain. Initially sub acromial bursitis is chiefly responsible for the pain.

Many patients get confused with cervical radiculopathy, to differentiate the two, Rotator Cuff patient typically complaints pain at the outer aspect of the shoulder.

If the pain is neglected, patient stops using their shoulder due to pain and it goes into stiffness which is more commonly known as frozen shoulder which causes more pain. Rotator cuff tear with frozen component is a very common finding.

If tear progresses and becomes large it causes weakness in the shoulder where patient is not able to lift the arm.

## Investigations:

**1) Ultrasound**

**2) MRI (Gold Standard investigation)**

## Treatment:

**Initial line of treatment is :**

Non operative with physiotherapy, anti inflammatory tablets, ice and hot fomentation.

Life style modification like not lifting heavy weight, avoid overhead activities, Range of motion exercises so that it doesn't become stiff.

If not resolved patient can opt for Injections in Shoulder joint which can give good relief in majority of patients.

After trying above mentioned treatment if there is no improvement patient can go ahead with Surgery which is done via Arthroscopy where we repair the tendon

Non operative treatment is not for patients who have developed weakness alongwith pain

Patients presenting really late where rotator cuff tear has gone into category of irreparable tear such patients need to undergo Shoulder Replacement and the name of surgery is Reverse Shoulder Arthroplasty

# IMPORTANCE OF PROGRESSIVE LOADING IN REHABILITATION

**MS. PREETI TARE**
Team Leader - Physiotherapy

Progressive loading is one of the most essential principles in rehabilitation and exercise therapy. Whether recovering from an injury, surgery, chronic pain condition, or prolonged immobilization, the body requires gradual and controlled stress to heal effectively and regain optimal function. In physiotherapy and sports rehabilitation, progressive loading refers to the systematic increase in physical demand placed on tissues over time so that the body can adapt safely and efficiently. This principle is fundamental because the human body responds positively to appropriately applied mechanical stress. Without progressive loading, recovery may become incomplete, delayed, or associated with recurrent injury.

When an injury occurs, tissues such as muscles, tendons, ligaments, bones, and joints undergo a healing process. During the early phase of recovery, protection and symptom control are important. However, prolonged rest can lead to muscle wasting, stiffness, reduced cardiovascular fitness, poor neuromuscular control, and decreased confidence i n movement. Historically, complete rest was commonly advised for many musculoskeletal conditions, but modern rehabilitation emphasizes that controlled movement and gradual loading are crucial for optimal healing. The body adapts according to the demands placed upon it, and tissues become stronger when exposed to progressively increasing stress.

One of the major benefits of progressive loading is restoration of tissue capacity. Every tissue in the body has a certain ability to tolerate force. Following injury or surgery, this capacity reduces significantly. Muscles lose strength, tendons become less resilient, and joints may lose stability and mobility. Through gradual loading, tissues adapt by becoming stronger and more efficient. For example, resistance exercises improve muscle hypertrophy and strength, while tendons respond to progressive tensile loading by improving collagen organization and stiffness. Bone also adapts positively to weight-bearing stress through remodeling. Thus, progressive loading helps rebuild the body's tolerance to everyday and sporting activities.

Another important role of progressive loading is pain modulation and restoration of confidence. Pain often causes fear of movement, also known as kinesiophobia. Patients may avoid activities because they fear worsening their injury. This avoidance can lead to deconditioning and chronic disability. Controlled loading helps retrain the nervous system and teaches patients that movement can be safe. Gradual exposure to physical activity reduces fear, improves confidence, and promotes return to function. This approach is particularly beneficial in chronic low back pain, tendinopathies, osteoarthritis, and post-operative rehabilitation.

Progressive loading is also essential for functional recovery. Rehabilitation is not only about reducing pain but also about preparing the individual to meet the demands of daily life, work, or sports. Functional activities require the body to tolerate different levels of force, speed, balance, and coordination. A patient recovering from a knee injury, for instance, must progress from simple exercises like weight shifting and sit-to-stand activities to squatting, running, jumping, and eventually sport-specific movements. Without gradual progression, the body may not be adequately prepared for these higher-level activities, increasing the risk of re-injury.

An important aspect of progressive loading is respecting tissue healing timelines. Different tissues heal and adapt at different rates. Muscles generally recover faster because they have a rich blood supply, whereas tendons and ligaments adapt more slowly. Bone healing also requires careful progression of weight-bearing activities. Overloading tissues too early may lead to setbacks, inflammation, or reinjury, while underloading may delay healing and reduce tissue quality. Therefore, rehabilitation professionals must carefully monitor symptoms, function, and tolerance to exercise while progressing treatment programs.

The progression of loading can occur through various methods. Resistance may be increased by adding weights or stronger resistance bands. Exercises may become more challenging by increasing repetitions, range of motion, speed, endurance, or complexity. Stability demands can also be altered by introducing balance tasks or unstable surfaces. For athletes, progression eventually includes plyometric and sport-specific drills that mimic real-game situations. The key principle is gradual adaptation while maintaining good movement quality and avoiding excessive symptom aggravation.

Examples of progressive loading can be seen across many rehabilitation settings. In rotator cuff rehabilitation, patients may begin with isometric exercises and gentle range-of-motion activities before progressing to resistance bands, free weights, overhead strengthening, and advanced functional exercises. In anterior cruciate ligament (ACL) rehabilitation, patients gradually progress from protected weight-bearing to strengthening exercises, single-leg stability work, running, agility drills, and finally return-to-sport training. Similarly, in tendinopathy rehabilitation, heavy slow resistance exercises are progressively increased to improve tendon capacity and reduce pain.

Monitoring patient response is vital during progressive loading. Mild discomfort during exercise is often acceptable in many rehabilitation programs, provided symptoms settle within a reasonable period, usually within 24 hours. Rehabilitation professionals must educate patients about acceptable pain levels and ensure progression is individualized. Factors such as age, fitness level, healing stage, psychological readiness, and medical history all influence loading tolerance.

In conclusion, progressive loading is a cornerstone of effective rehabilitation. It promotes tissue healing, restores strength and function, reduces fear of movement, and prepares individuals for the physical demands of life and sport. Appropriate loading helps build resilience and improves long-term outcomes while reducing the risk of reinjury. Successful rehabilitation is not simply about eliminating pain but about gradually increasing the body's capacity to tolerate movement and load safely. By applying progressive loading principles carefully and systematically, physiotherapists can help patients achieve a confident, functional, and sustainable recovery.

What our patients say about us?

# TESTIMONIALS:

Very well organised camp. All doctors listened to queries patiently. They all were very polite and answered all questions and gave appropriate advices and guidance.

Thank you team Hinduja Hospital for organising such an informative camp. It truly was useful.

**-Swati Shetty**

My mother's total knee replacement surgery we did here, very good doctors all went very well without any complications.

Am so impressed with the Entire Nursing Staff - little to everything was taken care by them. Fantastic it was.

Staff of Patent Care was always available on call doing their duty with smiling face without complaints

Found PD Hinduja Khar one of best health care Hospital.

**-Chintan Mehta**

I was admitted for the second time for my knee surgery at Hinduja khar . The hospital staff is very professional, highly skilled doctors as well as the nursing staff. They take utmost care with thorough professionalism. The only thing where they can improve is the insurance department especially their policy of advance payment of the estimated amount. This needs to be revisited as it is a bizzare policy. They are dogmatic regarding this which doesn't give a good impression. But as you admit in the hospital they take extremely good care and even the discharge process is smooth and without any issues.

**-Dr. Pratik**

Our experience at P. D. Hinduja Hospital was truly excellent. The entire hospital management is extremely organized and efficient, making every process smooth and hassle-free for both patients and families. The doctors are highly skilled, compassionate, and take the time to explain everything with patience and care.

The hospital maintains exceptional standards of cleanliness and hygiene, and the overall environment feels calm, safe, and well-managed. The amenities and support services for patients and family members are also very thoughtful and comfortable.

What stands out most is the genuine care and coordination across every department. From admission to discharge, the entire experience reflected excellence, compassion, and professionalism. Deep gratitude to the entire team at P. D. Hinduja Hospital for their outstanding service and dedication.

**-Prashant Sarda**

What our patients say about us?

# TESTIMONIALS:

I had a small day procedure that took me to Hinduja Khar & I must say I came out of the whole experience feeling like I wasn't a patient but a client of the hospital.

The hospital is efficient, clean & extremely easy to navigate but it's the staff that makes the place world class. Everyone from the team that took care of admissions, the day charge staff, the post surgery staff to the discharge staff were kind, gentle, courteous & efficient. They understand that everyone who comes to a hospital is stressed but they all made me feel so at ease that I felt completely at ease & confident that the staff was right with me every step of the way.

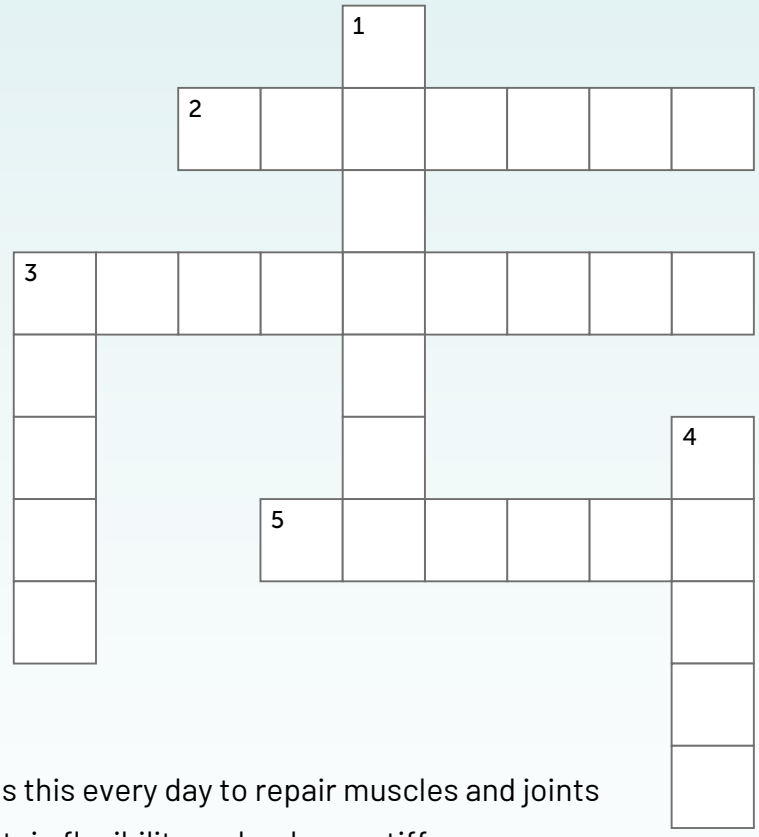
I especially want to highlight the amazing day care staff- Vidya, Namrat, Aarti, Swapnil & Krutika. Dr. Sofiya who took all my readings and the helps- Sakshi & Meenakshi Maushi who ensured they were around when I needed anything . The anaesthesiologists - Dr. Christine & Dr. Shubam were so gentle &

careful with the whole administration that I think I recovered faster due to that.
Its odd to recommend a hospital but I would highly recommend PD Hinduja Khar for their attention to detail & patient care. Oh, Also, the food in the day care unit was incredible. Another added bonus I say.

**-Lavanya Anand**

## RECENTLY LAUNCHED

# Joint & Spine Health Crossword




## ACROSS

2. Your body needs this every day to repair muscles and joints
3. This helps maintain flexibility and reduces stiffness.
5. A healthy body_____reduces stress on your joints.

## DOWN

1. Good_____helps prevent back and neck pain.
3. Wearing comfortable_____can help prevent foot problems.
4. Sitting for long periods can make your body feel_____.

**Use the clues to fill in the words above.**

Words can go across or down.

Letters are shared when the words intersect.

8 of 8 words placed.


# P. D. HINDUJA HOSPITAL
## & MEDICAL RESEARCH CENTRE
### KHAR

11th Road, Khar (W), Mumbai-400 052.

**For Appointments:** +91 22 4510 8989 / 6154 8989 | **For Emergency:** +91 22 6174 6099 / 98

**www.hindujahospital.com/khar**

For Enquiries / Booking Health Check-up Packages, kindly contact:

**+91 22 2646 9999 / 6174 6000**