



Regd. No.3095/DMC  
**Dr. Shankar Acharya**

M.S. (Ortho), DNB (Ortho), FRCS (Glasgow) FRCS (Edinburgh)  
FRCS (Orthopaedics) (London), M.Ch. (Orthopaedics) Liverpool  
Spine & Deformity Fellowship, (Birmingham) U.K., Spine Fellowship Munster (Germany)  
Spine Fellowship (USA)  
Senior Consultant & Chairman Department of Ortho Spine Surgery  
Professor Dept. of Orthopaedic & Spine Surgery

## 3D Navigation & Imaging: Navigation-Assisted Spine Surgery

Navigation-assisted spine surgery uses **3D navigation and imaging** to guide the surgeon during procedures. This advanced technology acts like a GPS system for your spine, providing real-time, detailed views of the surgical area. It helps the surgeon plan and perform precise, minimally invasive surgeries.

### How Does 3D Navigation Work?

1. **Pre-Surgical Imaging:** A CT or MRI scan is taken before the surgery to create a detailed 3D map of your spine.
2. **Real-Time Navigation:** During the surgery, the navigation system displays the exact position of surgical instruments and implants on a screen, ensuring accuracy.
3. **Enhanced Visualization:** The 3D imaging provides a clear and magnified view of the spine, allowing the surgeon to work with precision while minimizing damage to surrounding tissues.

### Who Can Benefit from Navigation-Assisted Spine Surgery?

Patients with complex spine conditions or those requiring precision for implant placement are ideal candidates. Whether you're a young individual with a spinal deformity or an older adult with degenerative changes, this advanced technology ensures safer and more effective treatment.

### Benefits of 3D Navigation-Assisted Spine Surgery

1. **Increased Accuracy:** The technology ensures precise placement of screws, implants, and other surgical tools
2. **Minimally Invasive:** Smaller incisions are needed, which means less pain, scarring, and a faster recovery
3. **Reduced Risk:** Real-time guidance minimizes the risk of complications, such as nerve damage or misplaced implants
4. **Faster Recovery:** With better precision and less tissue disruption, patients typically recover more quickly
5. **Better Outcomes:** Patients experience improved pain relief and long-term results due to the accuracy of the procedure.



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## What Happens During the Procedure?

1. **Planning:** Before the surgery, detailed imaging scans are used to plan the procedure
2. **Surgical Navigation:** During the operation, the navigation system continuously updates the surgeon with real-time visuals.
3. **Precise Execution:** Using this guidance, the surgeon performs the procedure with unparalleled precision
4. **Completion:** Once the surgery is complete, the incision is closed, and the patient is taken to recovery

## Conditions Treated with Navigation-Assisted Spine Surgery

- **Herniated Discs**
- **Spinal Stenosis**
- **Scoliosis and Spinal Deformities**
- **Spondylolisthesis**
- **Fractures or Trauma to the Spine**
- **Spinal Tumors**
- **Degenerative Disc Disease**

## Why Choose Dr. Shankar Acharya for Navigation-Assisted Spine Surgery?

- **Unmatched Expertise:** Dr. Acharya has 30 years of experience and is a pioneer in advanced spine surgeries.
- **State-of-the-Art Facilities:** Sir Gangaram Hospital is equipped with the latest 3D navigation and imaging systems.
- **Patient-Centered Care:** We prioritize clear communication, ensuring you understand every step of your treatment.
- **Safe and Trusted Results:** Dr. Acharya's expertise combined with cutting-edge technology ensures excellent outcomes.

## Frequently Asked Questions (FAQs)



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### **1. Is navigation-assisted spine surgery safe?**

Yes, this technique enhances safety by reducing the risk of complications and improving surgical accuracy.

### **2. How long does the surgery take?**

The duration depends on the complexity of the condition but is often shorter than traditional surgery due to precise planning.

### **3. What is the recovery time?**

Most patients recover faster with minimally invasive techniques, often returning to normal activities within a few weeks.

### **4. Is it suitable for rural patients?**

Absolutely! The benefits of this technology, such as faster recovery and minimal hospital stays, make it ideal for patients from all backgrounds.

### **5. Does this surgery cost more?**

While the initial cost may be slightly higher, the reduced recovery time, fewer complications, and better outcomes make it cost-effective in the long run.

## **Contact Us**

If you or a loved one is experiencing spine-related issues, don't wait to seek help. Dr. Shankar Acharya and the expert team at Sir Gangaram Hospital are here to provide the best care possible.



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[Sir Gangaram Hospital](#) Address: Room No. G-1, Ground Floor, Ortho Department, Old Rajender Nagar,  
New Delhi – 110060, India  
Phone: +91-11-25750000, +91-11-42254000  
Email: [spinecaredelhi@gmail.com](mailto:spinecaredelhi@gmail.com), [spineshankar@gmail.com](mailto:spineshankar@gmail.com)  
Website: [www.sgrh.com](http://www.sgrh.com)

At Sir Gangaram Hospital, we bring together advanced technology and compassionate care to improve your spine health. Let us guide you to a pain-free, active life!



## SIR GANGA RAM HOSPITAL

*Trust of Generations*

Address:- Room No. G-1, Ground Floor,  
Ortho Department, Old Rajender Nagar,  
New Delhi – 110060, India  
Tel. +91-11-25750000, +91-11-42254000  
Timings: Pvt. OPD: 2:00 P.M. to 5:00 P.M.  
For Appointments Visit: [www.sgrh.com](http://www.sgrh.com)  
For Appointments Call:- +91-11-42254000,  
+91-11-25750000  
For Admission, Call: +91-11-42251000-7  
Email Address: [spinecaredelhi@gmail.com](mailto:spinecaredelhi@gmail.com),  
[spineshankar@gmail.com](mailto:spineshankar@gmail.com)



Dr. Shankar Acharya's Private Clinic  
Address:- 21, Kailash Enclave, Ground Floor,  
Near Saraswati Vihar, E-Block Bus Stand,  
Pitampura, Delhi-10034, India  
Timings: 8:00 P.M. – 9:00 P.M. (Monday to Friday)  
For Appointments Call:- +91-98109-12174,  
+91-8586963525 (after 5:00 P.M.)

Official Website

[www.SpineSurgeonInIndia.com](http://www.SpineSurgeonInIndia.com)