

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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Spine Fellowship (USA) Senior Consultant & Chairman Department of Ortho Spine Surgery Professor Dept. of Orthopaedic & Spine Surgery

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)



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.

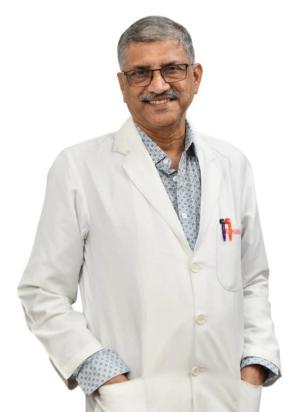
Contact Us

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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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!





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