A SCALABLE SOLUTION

Advances in navigation and the introduction of robotic assisted technologies have led to improved accuracy rates. However, subsequent increases in radiation exposure, costs, technical demand, and scalability concerns have ensued.

Advances in navigation and the introduction of robotic assisted technologies have led to improved accuracy rates.

REFERENCES


BREACH DISTANCE

Comparison of conventional and competitors technique irradiation vs. MySpine (Obese patient)

<table>
<thead>
<tr>
<th>Technique</th>
<th>17 vertebrae</th>
<th>19 vertebrae</th>
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<tbody>
<tr>
<td>FREE-HAND</td>
<td>70.8 to 94.7%</td>
<td>70.8 to 94.7%</td>
</tr>
<tr>
<td>NAVIGATION ASSISTED</td>
<td>80.9 to 95.9%</td>
<td>80.9 to 95.9%</td>
</tr>
<tr>
<td>ROBOTIC ASSISTED</td>
<td>96.1%</td>
<td>96.1%</td>
</tr>
</tbody>
</table>

MySpine, Charité University Hospital, Berlin, Germany

Radiological Society of North America, Inc

Radiation Dose in X-Ray and CT Exams; 2013

Health Physics Society Specialists in Radiation Safety, Lawrence Berkeley National Laboratory; Fact Sheet 2010

Computerized Tomographic Scans, JBJS Am. 2009


A NEW ANATOMICAL APPROACH TO PATIENT-MATCHED SOLUTIONS

A new anatomical approach to patient-matched solutions.

UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS

UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS

UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS

AN INTRODUCTION FOR COMPLEX DEFORMITY

Complex deformity is a challenging surgical area, not only regarding pedicle screw placement, but also concerning management of deformity magnitudes, major complications occurrence in 3-column reconstructions, and major complication occurrence in 3-column reconstructions.

However, despite continued advancements in surgical modality, major complications occurrence in 3-column reconstructions and major complications occurrence in 3-column reconstructions remain high.

While the adoption of template-delivering, and subsequent complications occurrence high.

For the management of complex deformity, and subsequent complications occurrence high.

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**COMPREHENSIVE COMPONENTS OF PEDICLE SCREW PLACEMENT TECHNIQUES**

**REVIEW PEDICILE SCREW PLACEMENT TECHNIQUES**

- **UNIQUE ANATOMIES PATIENT-MATCHED SOLUTIONS**

**EFFICIENCY**
- Can placement be achieved quickly and with diminished soft-tissue disruption?

**ACCURACY**
- Can placement be achieved accurately?

**NO OR LOW INTRA-OP RADIATION**
- Is intra-op fluoroscopy and CT imaging marginalized or eliminated?

**SCALABILITY**
- Can the technology accommodate high surgical volumes without the need for additional resources or capital equipment?

**COST**
- Is there a high associated cost to the practice or institution?

**NO LEARNING CURVE**
- Can the technology be readily adopted into the practice?

**LOW-DOSE CT UPLOADED REMOTELY TO MEDACTA WEB PLATFORM**
- Reduced radiation exposure for patient and surgeon
- Improved efficiency and cost effectiveness

**SEGMENTATION, 3D PLANNING & VALIDATION REPORT**
- Ensures accurate and efficient planning
- Provides detailed, surgeon-specific planning reports

**GUIDE DESIGN ACCORDING TO SURGEON APPROVED PLAN**
- Customized surgical guides for precise placement
- Eliminates radiation exposure during procedure

**3D PRINTING OF GUIDES**
- Precise and durable surgical guides
- Reduced procedure time and increased accuracy

**ONLINE CASE MANAGEMENT**
- MySpine cases are managed by proprietary encrypted software for no additional cost
- Surgeons have access to the case database at any time

**COMPLETE IN-HOUSE TECHNOLOGY**
- MySpine process is kept completely in-house from 3D anatomical reconstruction to manufacturing of guides, allowing for direct contact between the surgeons and the MySpine team

**3 WEEK LEAD TIME**
- The shortest delivery time in today's market for this technology

**A PERSONAL MYSPINE ENGINEER**
- Each surgeon is assigned a personal MySpine engineer to assist with any questions regarding the case planning process

**LOW-DOSE CT NAVIGATION ASSISTED**
- Improved accuracy (vs. free-hand)
- Real-time internal anatomical visualization
- Pronounced radiation usage
- Learning curve/training limitations
- Intra-op software/device troubleshooting concerns
- Often requires preoperative CT via specific protocol
- Less favorable workflow (vs. free-hand)
- Longer procedural time
- Availability/cost

**ROBOTIC ASSISTED**
- Improved accuracy (vs. free-hand)
- Real-time internal anatomical visualization
- Marginal surgeon demand
- Decreased radiation exposure (vs. navigation)
- Increased radiation exposure (vs. free-hand)
- Capital equipment - availability/cost
- Longer procedural time (vs. free-hand)
- Intra-op software/device troubleshooting concerns
- Learning curve/training limitations
- May require re-calibration and registration intraoperatively depending on length of construct

**OPEN FREE-HAND PLACEMENT**
- Can diminish intra-op radiation exposure (vs. navigation)
- Facilitates faster procedural time (vs. navigation/assisted)
- Streamlined workflow
- Inaccuracies (especially in patients with altered morphology)
- Learning curve
- Often require intra-op fluoroscopy for confirmation
- Potential surgeon fatigue

**PATIENT MATCHED GUIDE/TEMPLATE ASSISTED**
- No required intra-op imaging
- Optimized procedural time
- Surgical workflow maintained
- Improved accuracy (vs. free-hand)
- Minimal learning curve
- Patient specific
- 3 week lead time and pre-op scanning per protocol

**ONLINE INTERACTIVE 3D PLANNING TOOL**
- Reliable pedicle targeting and screw trajectory identification
- Information on the website is always kept up-to-date

**SCALABILITY**
- No internal resources required at hospital. Outsourcing accommodates high-volume. No need for software training

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**ORIONIC CAS Mastery Management**
- Simplified surgical process with proprietary cases across the entire database at any scale with surgeon-specific templates
- Online interactive 3D planning tool for optimal results during targeting and intra-op imaging and x-ray frequency identification
- The information on the website is always kept up-to-date

** MySpine cases are managed by proprietary encrypted software for no additional cost. The surgeon can access the case database at any time with internet access.**

**Online interactive 3D planning tool for reliable pedicle targeting and screw trajectory identification.**

**The information on the website is always kept up-to-date.**

**Delivery of patient-matched instrumentation within 3 weeks of CT upload.**