The Future of Minimally Invasive Spine Surgery
Why a Spine-Focused ASC is Important
Richard Hynes, MD

From Becker’s ASC Review

• According to Naya Kehayes, managing principal and CEO of Eveia Health Consulting & Management. Data from Healthcare Appraisers’ 2010 ASC Valuation Survey backs up her claim: According to responding ASC companies, orthopedic spine is the second-most desirable specialty in ASCs. She says the migration of laminectomies and the growing interest in anterior cervical discectomy and fusion will present a great opportunity for spine centers as more insurance companies feel comfortable moving the cases to ASCs. “Some payors are even open to the potential of surgery centers discharging bigger spine cases to skilled nursing facilities,” she says.

• Goran Dragolovic, senior vice president at Surgical Care Affiliates, agrees that spine will see more attention over the next few years as minimally invasive procedures advance. “We believe we have just scratched the surface of minimally invasive spine surgery,” he says. He says in order to move minimally invasive spine into the ASC, surgeons must be comfortable moving their cases into the outpatient arena.

• Joe Zasa, managing partner at ASD Management, says an ASC planning to add spine should be ready to go through all its contracts and ensure the appropriate codes and carve-outs are included.

Minimally Invasive Spine Surgery (MIS) - A Definition

• Smaller Incisions/Less Scarring - Typically Percutaneous, Laparoscopic or Through Tubes
• One to Two Levels
• Decreased Blood Loss/Soft Tissue Damage
• Equivalent or Better Recovery Times
• Reduced Anesthesia Time
• Reduced LOS/Reduced Post-Op Pain
Procedures Moving From Hospital to ASC

- Decompressions
- ASC
- Dynamic Stabilization

Vertebral Compression Fractures

- Simple, Quick, Effective
- Percutaneous Delivery of Cement to Treat Compression Fractures (Internal Casting)
- 90%+ of Patients Receiving Treatment Report Good Results
- 70% of Fractures ARE NOT TREATED
- Treatment WILL NOT be replaced by Pharmaceuticals - Patients Simply Are Not Going to be Compliant EVEN WITH THE PERFECT DRUG – Compliance and Costs will be an issue

Fractures are THE Problem

- Osteoporotic fractures are responsible for an estimated 800,000 emergency room visits, 500,000 hospitalizations, 180,000 nursing home placements, and 2.6 million physician visits in the US each year, costing the healthcare system approximately $12.2 to $17.9 billion annually.
Projected Economic Impact of Osteoporotic Fractures

Kyphoplasty Example
(3 Lumbar Levels Treated for VCF’s)

VCF Treatment Options
The End Result of Any VCF Treatment
Procedures Moving From Hospital to ASC

- Decompressions
- ASC
- Dynamic Stabilization

Decompression Procedures

- Simple, Quick, Effective
- Primarily Used in Treatment of Severe Arm/Leg Pain and Numbness Due to a Ruptured, Herniated, or Bulging Disc
- Small Amounts of the Disc Are Removed, Reducing The Compression Of The Disc And Relieving Nerve Pressure.
- The Procedures Typically DO NOT Affect the Stability of the Patient’s Spine

Technology Will Allow the Shift in Site of Surgery

Yesterday
- Open Laminectomy

Today
- Tubular Laminectomy
MIS Decompression Treatment Options

- Mechanical
- Laser
- Tubular
- Tubular View

Procedures Moving From Hospital to ASC

- Decompressions
- ASC
- Dynamic Stabilization

MIS Fusion Procedures

- Used to Treat Patients With Back and Leg Pain
- Typically One to Two Levels
- Provide Stability for the Spine During Healing/Fusion Process
- Procedures May be Percutaneous or Use a Mini-Open Approach
- May Include Interbody/Cages or May be Pedicle Screws Alone
Spine Surgery. "Spine surgery is the next great horizon for the ASC," Dr. Redler says. Anterior cervical discectomies and fusions (ACDs) and lumbar discectomies are the most common spine cases in surgery centers. Many highly skilled spine surgeons do not require a microscope for these cases, allowing expedited surgery and lower equipment costs. One challenge for spine in the ASC is carving out the reimbursement with insurance carriers. But Dr. Redler predicts success here, given the cost savings and the high quality of care in an ASC.

Cervical Spine Options

Technology Will Allow the Shift in Site of Surgery

Yesterday
Open Lateral Screws

Today
Cortical Screws or Percutaneous Screws
Clinical Study

Cortical bone trajectory for lumbar pedicle screws

B.G. Santoni, PhD7, R.A. Hynes, MD6, K.C. McGilvery, BS5, G. Rodriguez-Cuenas, BS5, A.S. Lyttos, MS5, M.A.W. Henson, MS5, W.J. Womack, BS5, C.M. Pantilie, PhD5

6 Depuy Viper
7 Stryker Mantis
8 Medtronic – Mini Open Solera

Abstract

BACKGROUND CONTEXT: Achieving solid implant fixation to cortices/hone presents a clinical challenge. New technique and devices are being designed to increase screw-bone purchase of pedicle screws in the lumbar spine via a novel cortical bone trajectory that may improve holding screw strength and minimize loosening. Preclinical and clinical evidence suggests that the new trajectory provides screw interface that compares to the minimally invasive trajectory for lumbar pedicle screws

PURPOSE: Evaluate the mechanical competence of lumbar pedicle screws using a more medialized path (i.e., “cortical bone trajectory”) than the conventionally used path.

STUDY DESIGN: Human cadaveric biomechanical study.

MIS Pedicle Screw Options

- Depuy Viper
- Stryker Mantis
- Medtronic – Cortical Tech
- Medtronic – Sextant
- Medtronic – Mini Open Solera

Technology Will Allow the Shift in Site of Surgery

Yesterday

Open ALIF

Today

MIS TLIF

Laparoscopic ALIF
MIS Interbody Options

- Lap ALIF & Scar
- MIS TLIF
- DLIF & Scar

Procedures Moving From Hospital to ASC

- Decompressions
- ASC
- Dynamic Stabilization

Dynamic Stabilization Procedures

- Used to Treat Patients With Issues Similar to Fusion Candidates
- Typically One to Two Levels
- Allow for Continued Motion While Providing Stability at the Instrumented Levels
- Typically Use a Mini-Open Approach
- May Include Total Disc Replacements (TDR) or May be Pedicle Screw Based Devices
MIS Dynamic Stabilization Options

Cervical Discs

Lumbar Discs

Pedicle Based Options

Spine Surgery Will Move to ASC’s

Don’t Miss the Boat

CRANE CREEK MEDICAL CENTER
Questions and Discussion

Surgery centers with backbone.
Best City Partners develop and manage surgery centers successfully. We have built several surgery centers.

You're the spine expert. Let's line backbone problems.

Best City Partners
Surgery Centers.
www.bestcitysurgical.com • 513-181-8880