Disclosure

- Zimmer/Biomet/LDR: Consultant, Royalties
- Ortho Kinematics: Consultant
- Paradigm Spine: Consultant
- Titan Spine: Consultant

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Factors Influencing the Future of ASCs

- Physicians
  - Acceptance
  - Training
  - Social economic
- Patients
  - Confidence
  - comfort
- Policy Makers
  - $$
- Hospitals

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The rapid growth in number of ASC's is a result of multiple factors.

- Medical advances
  - Surgical instrumentation
  - Anesthetic techniques
- Economics
  - Surgeon empowerment
  - Cost efficiency for payor
- Patient choice
  - Patient empowerment
  - Wish for hospital alternative

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Timeline

ASCs in the US

- **1970** - First ASC established by Wallace Reed, M.D., and John Ford, M.D.
- **1979** - Number of ASCs reached triple digits
- **1988** - Number of ASCs reached 1,000
- **1995** - Medicare expanded ASC list to cover 2,000+ procedures
- **2011** - 5,300+ ASCs in the US to perform
  23 million surgeries annually
- **2015** – Medicare approved 9 procedure codes on the ASC payable list spine

The nine new procedure codes on the ASC payable list in 2015 include:

1. [Neck spine fuse & remov bel c2 (22551)]
2. Neck spine fusion (22554)
3. Lumbar spine fusion (22612)
4. Neck spine disc surgery (63020)
5. Low back disc surgery (63030)
6. Laminectomy single lumbar (63042)
7. Removal of spinal lamina (63045)
8. Removal of spinal lamina (63047)
9. Decompression spinal cord (63056)

http://www.beckersspine.com/spine/item/29478-the-growth-of-outpatient-spine-9-key-points.html

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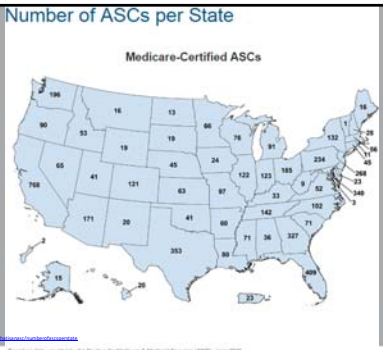
Number of ASCs per State



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Growth is fueled by advantages of ASC

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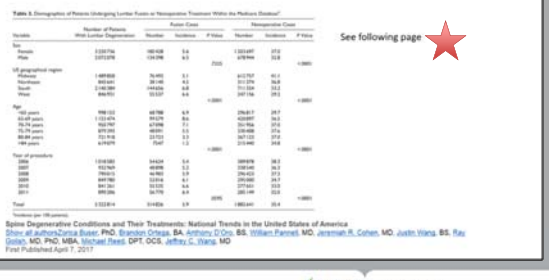
Rising Incidence of Surgery Treatments



See following page

Spine Degenerative Conditions and Their Treatments: National Trends in the United States of America
Show all authorsZorica Buser, PhD, Brandon Ortega, BA, Anthony D'Oro, BS, William Pannell, MD, Jeremiah R. Cohen, MD, Justin Wang, BS, Ray Golish, MD, PhD, MBA, Michael Reed, DPT, OCS, Jeffrey C. Wang, MD
First Published April 7, 2017

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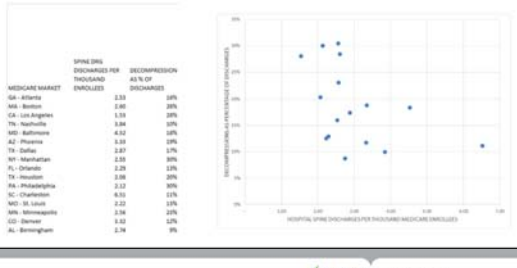
Regional Variations in Practice



MEDICARE MARKET	SPINE DRG DISCHARGES PER THOUSAND ENROLLEES	DECOMPRESSION AS % OF DISCHARGES
GA - Atlanta	2.33	16%
MA - Boston	2.60	26%
CA - Los Angeles	1.53	19%
TN - Nashville	3.04	10%
MD - Baltimore	4.52	18%
AZ - Phoenix	3.33	19%
TX - Dallas	2.87	17%
NY - Manhattan	2.53	30%
FL - Orlando	2.29	13%
TX - Houston	2.08	20%
PA - Philadelphia	2.12	30%
SC - Charleston	4.51	11%
MO - St. Louis	2.22	13%
MN - Minneapolis	1.56	23%
CO - Denver	1.32	12%
AL - Birmingham	2.74	9%

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HOSPITAL PRODUCTIVITY

By Elizabeth L. Munnich and Stephen T. Parente

Procedures Take Less Time At Ambulatory Surgery Centers, Keeping Costs Down And Ability To Meet Demand Up

DOI: 10.1377/hlthaff.2013.1281
HEALTH AFFAIRS 33,
NO. 5 (2014): 764–769
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The People-to-People Health
Foundation, Inc.

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ABSTRACT During the past thirty years outpatient surgery has become an increasingly important part of medical care in the United States. The number of outpatient procedures has risen dramatically since 1981, and the majority of surgeries performed in the United States now take place in outpatient settings. Using data on procedure length, we show that ambulatory surgery centers (ASCs) provide a lower-cost alternative to hospitals as venues for outpatient surgeries. On average, procedures performed in ASCs take 31.8 fewer minutes than those performed in hospitals—a 25 percent difference relative to the mean procedure time. Given the rapid growth in the number of surgeries performed in ASCs in recent years, our findings suggest that ASCs provide an efficient way to meet future growth in demand for outpatient surgeries and can help fulfill the Affordable Care Act's goals of reducing costs while improving the quality of health care delivery.

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EXHIBIT 4

Estimated Time Savings for Ambulatory Surgery Centers (ASCs) Relative to Hospital Outpatient Departments

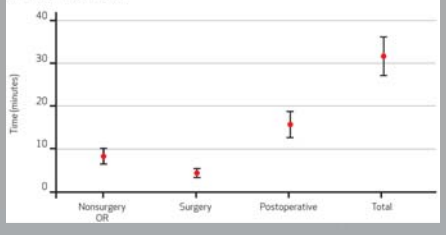

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EXHIBIT 2

Number Of Outpatient Surgery Visits, By Facility Type, 2007 And 2011

Type	2007	2011	Change (%)
Ambulatory surgery center	373,284	461,718	23.7
Freestanding	260,466	344,292	32.2
Hospital-based	112,818	117,426	4.1
Hospital outpatient department	1,173,309	1,224,218	4.3
All types	1,546,593	1,685,936	9.0

SOURCE Authors' analysis of a 5 percent sample of Medicare claims data. **NOTE** The numbers of outpatient department visits include only those that involved at least one surgical procedure.

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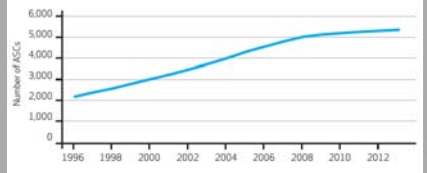
HOSPITAL PRODUCTIVITY

EXHIBIT 1

Number Of Medicare-Certified Ambulatory Surgery Centers (ASCs), 1996–2013



SOURCE Kay Tucker, director of communications, Ambulatory Surgery Center Association, October 29, 2013.

25 million

Procedures

The roughly 5,300 ASCs in the United States provide more than 25 million procedures each year.

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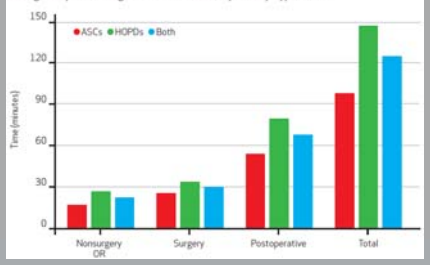
EXHIBIT 3

Average Outpatient Surgical Procedure Time, By Facility Type, 2006



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Hospital have less favorable view of ASC,s

- Direct competition
- Adverse patient selection
- Trend for hospital involvement
  - Acquire
  - Expansion of OP

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Adoption of Outpatient Surgery

	OUTPATIENT SHARE OF PROCEDURES
Hip Replacement	2.2%
Spinal Fusion	9.7%
Laminectomy	26.1%
Cholescystectomy	55.1%
Pacemaker Insertion	64.0%
Cataract/Glaucoma	99.9%

Although spinal procedures are increasingly performed in outpatient settings, they have still not cracked the list of top 20 procedures for ASCs for volume or reimbursements

https://www.hcup-us.ahrq.gov/reports/statbriefs/sb188-Surgeries-Hospital-Outpatient-Facilities-2011.pdf

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Outpatient Expenditures for Spine Patients Surpassed Inpatient in 2000

Expenditures and Health Status Among Adults With Back and Neck Problems

Brook I. Martin, MPH; Richard A. Deyo, MD, MPH; Sohail K. Mirza, MD, MPH; et al Judith A. Turner, PhD; Bryan A. Comstock, MS; William Hollingworth, PhD; Sean D. Sullivan, PhD

Author Affiliations Article Information

JAMA. 2008;299(6):656-664. doi:10.1001/jama.299.6.656

http://jamanetwork.com/journals/jama/fullarticle/181453

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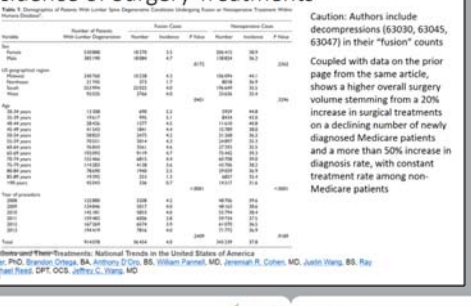
Rising Incidence of Surgery Treatments



Caution: Authors include decompressions (63030, 63045, 63047) in their "fusion" counts

Coupled with data on the prior page from the same article, shows a higher overall surgery volume stemming from a 20% increase in surgical treatments on a declining number of newly diagnosed Medicare patients and a more than 50% increase in diagnosis rate, with constant treatment rate among non-Medicare patients

Spine Degenerative Conditions and Their Treatments: National Trends in the United States of America
Show all authorsZorica Buser, PhD, Brandon Ortega, BA, Anthony D'Oro, BS, William Parnell, MD, Jeremiah R. Cohen, MD, Justin Wang, BS, Ray Golish, MD, PhD, MBA, Michael Reed, DPT, OCS, Jeffrey C. Wang, MD
First Published April 7, 2017

ASC Growth Stalled

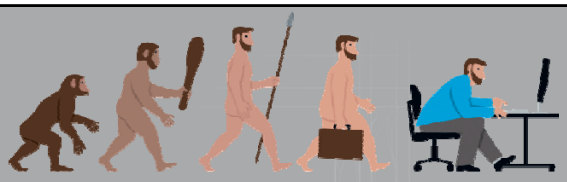
Construction and licensing of new ASCs has slowed significantly. Until 2014, growth was 2.4% per year. In 2016, net increase was less than 1%.

More new ASCs and surgery centers are built/owned by hospitals rather than physician groups.

Much of new construction represents new and emerging specialties: pediatric, orthopedic, etc.

CMS has tempered some of the economic incentives to move surgeries to ASCs since 2003 – lower reimbursements relative to HOPD, especially in Spine – which, paradoxically created incentives for hospitals to acquire ASCs and re-badge as HOPD.

Growth is fueled by patient empowerment



Patients are more involved in their health care than EVER BEFORE

- While growth opportunities will always be influenced by state regulations and policy makers, greater participation and treatment choices by patients could be the overarching factor

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Dr. Google is in

86%
of patients conduct an online search before making an appointment with a physician

1.4 million
US Google searches for **"back pain"** in 2016
Google

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Online education is ubiquitous in health care

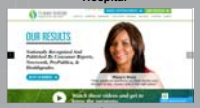
Mayo Clinic

Johns Hopkins

Tampa General Hospital

Texas Back Institute

neoSpine



BioSpine Institute

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Medical tourism is gaining popularity

- Why are patients willing to travel?
  - Specialty treatments and clinical trials
  - Better quality and patient-empowered care
  - Health insurance plans exclude some treatments
  - Shorter waiting periods
  - Cost savings

1.25 million
Americans traveled abroad for medical treatment in 2014

https://www.health-tourism.com/medical-tourism/usa-research/

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Patient advantages of ACS

- MORE people get BETTER care
- Patients are better educated to understand treatment options
  - Educated patients are more compliant to postoperative instructions
- Facility and staff focused on superior patient experience
  - Facilities designed to enable better care
  - Medical team focused on needs of patients
- Optimized surgeon productivity

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ASC,s expanding spectrum of types of surgery

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Case Study — history

- 56-year-old male with a BMI of 35.95 presenting for evaluation of the lumbar spine
  - Motor vehicle accident in January 2016
    - His pain has been intractable and unresponsive to conservative measures entirely concordant with the deformity, hyperostosis, fibrosis, scarring and malalignment with stenosis of the spine as seen on MRI
    - Pain radiates into right buttock and lower extremity
- Symptoms

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Physical examination

Spinal exam

Scar		No scar
Deep tendon reflexes		
Patellar:		Left: 2+ Right: 2+
Achilles:		Left: 2+ Right: 2+
Pedal pulses		
Posterior tibial:		Left: 2+ Right: 2+
Dorsalis pedis:		Left: 2+ Right: 2+
LE edema:		No LE edema
UE edema:		No UE edema
Atrophy		No atrophy
Heel walk	Left: Normal	Right: Normal
Toe walk	Left: Normal	Right: Normal
Gait		Normal

Sensory/palpation

Dermatomes
L1: Left: Normal, Right: Normal
L2: Left: Normal, Right: Normal
L3: Left: Normal, Right: Normal
L4: Left: Normal, Right: Normal
L5: Left: Normal, Right: Normal
S1: Left: Normal, Right: Normal

Spinal tenderness

L1/2: No pain
L2/3: No pain
L3/4: No pain
L4/5: No pain
L5/S1: No pain
SIJ: No pain

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Physical examination continued

Range of motion

Lumbar:thoracic
Flexion: Normal
Hyperextension: Normal
Lateral flexion: Normal
Rotation: Normal

Provocative tests

Lumbar tests
Babinski's test: Left: Negative Right: Negative
Straight leg raise (Seated): Left: Negative Right: Negative
Cervical/lumbar tests
Romberg: Negative
Dejerine's triad (cough/sneeze/Valsalva maneuver): Negative

Muscle strength

Lumbar
Hip abduction: Normal. Left: 5 Right: 5
Hip adduction: Normal. Left: 5 Right: 5
Knee flexion: Normal. Left: 5 Right: 5
Knee extension: Normal. Left: 5 Right: 5
Gastrocnemius: Normal. Left: 5 Right: 5
Tibialis anterior: Normal. Left: 5 Right: 5
Peroneals: Normal. Left: 5 Right: 5
Extensor hallucis longus: Normal. Left: 5 Right: 5

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Imaging dictation

- L1-2: Normal.
- L2-3: Minimal concentric disc bulge and left>right facet arthrosis.
- L3-4: Concentric disc bulge and facet arthrosis.
- L4-5: Concentric disc bulge, facet arthrosis and ligamentum flavum thickening.
- L5-S1: Bilateral pars defect at L5. Concentric disc bulge with superimposed central protrusion, right>left facet arthrosis and ligamentum flavum thickening. Resultant severe right>left neural foraminal and lateral recess stenosis contacting the descending S1 nerve roots. Mild spinal canal stenosis.

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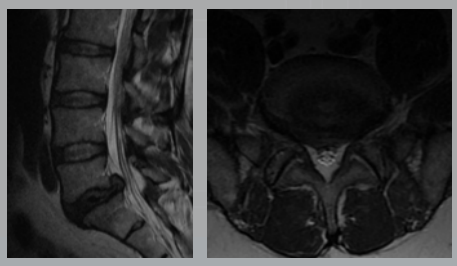
Preoperative imaging



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Preoperative imaging continued

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Surgery

- L5-S1 partial Gill procedure, transforaminal lumbar interbody arthrodesis, placement of biomechanical device for fusion, titanium spacer. L5-S1 non-segmental instrumentation using Pathfinder rods and screws.
  - Harvesting of local bone for morselized arthrodesis, bone marrow aspiration
  - Microscopic dissection, correction of deformity
  - Lysis of epidural adhesions and fibrosis
  - Hemilaminectomy, medial facetectomy and foraminotomy for decompression above and beyond
  - Simple exposure for posterolateral fusion
- The length of surgery was 187 minutes
- Estimated blood loss was 50 mL
  - No complications to report

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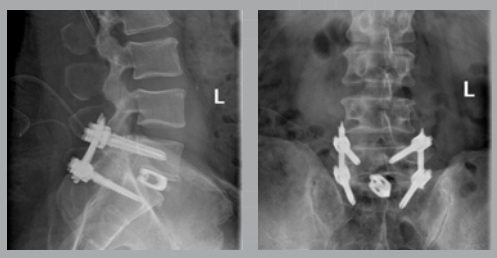
Postoperative Imaging



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Multilevel Case in an ASC?
No Problem.

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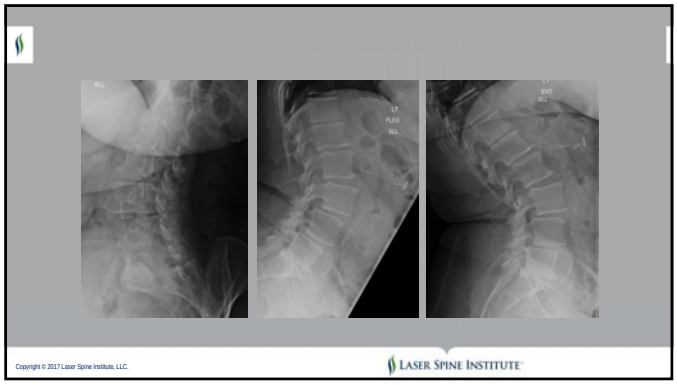
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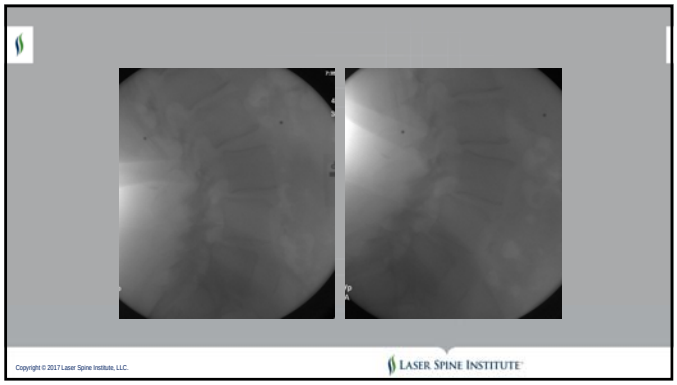
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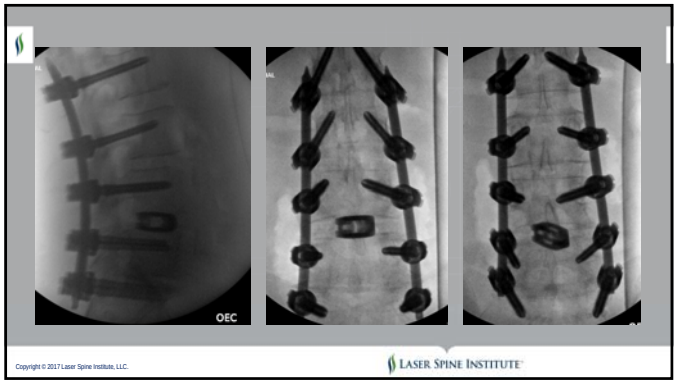
OEC
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EBL: 200 mL
LOS: 4hr 22min
Discharge: 4hr 29min after surgery

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Conclusion

- The growth in the number of procedures performed at ASCs in the past is a good indication of the ability of the market to expand quickly when there are sufficient incentives.
- Ultimately the future of ASC,s will be determined by the intricate dance between patients, doctors, hospitals, and policy makers.

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