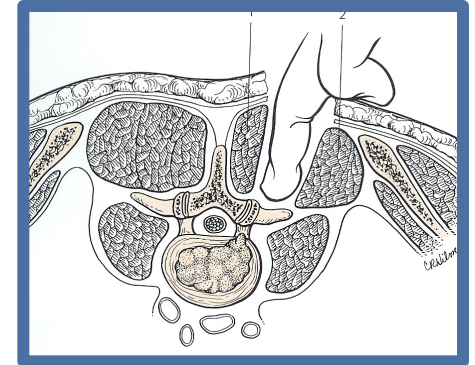
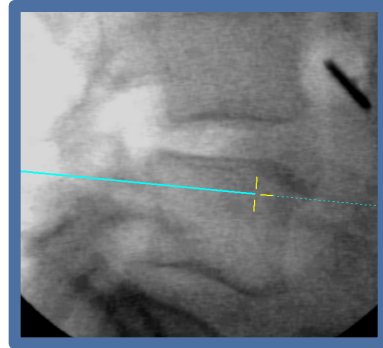


Becoming a Spine Center of Excellence



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Spine Institute of San Diego

Associate Clinical Professor, UCSD



Minimally Invasive Spine

CENTERS OF EXCELLENCE

DISCLOSURE

CONSULTANT/SPEAKER

- Globus
- Joimax
- K2M
- Allen Hill-Rom
- Zimmer-Biomet
- Nutech
- Spinal Elements
- OR Hub

ROYALTIES

- Globus (Caliber, Intercontinental, MIS Creo)
- Nutech (SI Fix)

MEDICAL BOARD of DIRECTORS

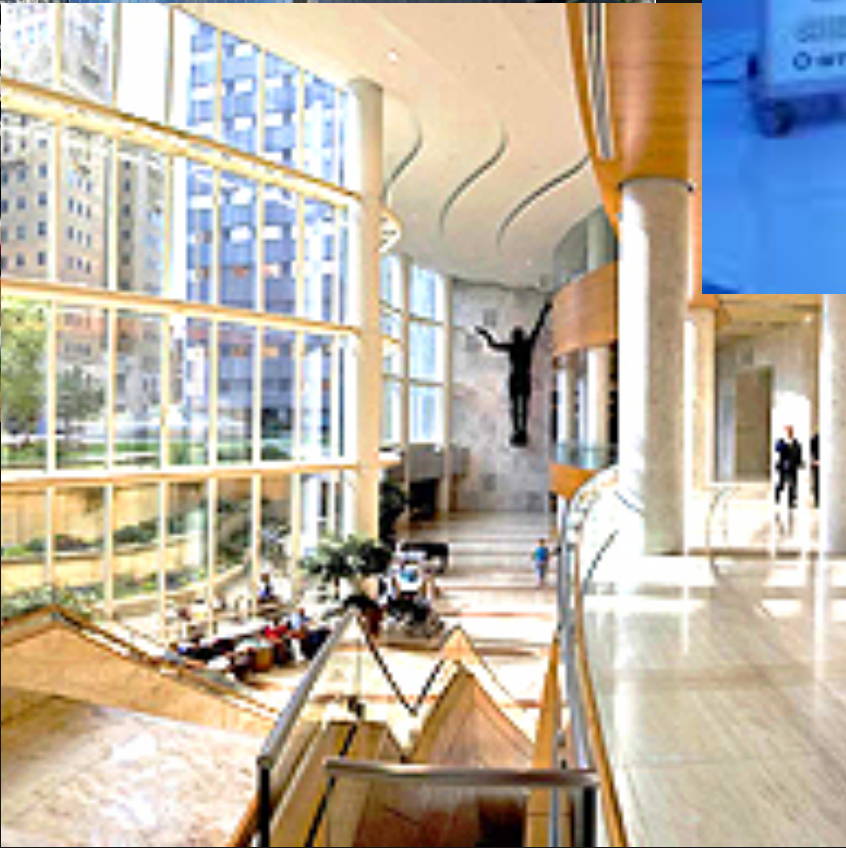
- Globus Medical



**What does it mean to
be a
*Center of Excellence?***



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My Journey *So Far...*

Call to Action!!!



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Spine Surgery *Center of Excellence*

1. State-of-the-Art Technology
 - a) *MIS*
 - b) *Navigation*
2. Customer Service
3. Outreach, community service
4. And... **Cost effectiveness**



Why should I care?

- 1. I want a new O-Arm***
- 2. I want the OR to be remodeled***
- 3. I want a customer service liason***
- 4. I want a “heart” team***
- 5. etc., etc., etc...***



We have been trying:
Marshall Steele Program...

But with very little
success...

Metric	Q3 2016	Q4 2016	Q1 2017	Q2 2017	M S Avg
Case volume	98	80	94	82	112
Length of stay	2.57	2.36	2.71	2.55	2.64
Discharge home %	82%	91%	94%	82%	87%
Complication rate	1.06%	1.25%	2.15%	0.00%	4.21%
Blood transfusion rate	5.32%	1.25%	1.08%	4.88%	3.12%

Quarterly Performance Dashboard

Contribution margin	\$23,653	\$15,364	\$23,864	\$17,023	\$10,769
Total direct cost	\$27,774	\$26,734	\$27,454	\$31,790	\$14,294
Implant cost	\$17,193	\$15,293	\$15,806	\$18,358	\$11,383
Reimbursement	\$46,840	\$39,242	\$50,587	\$45,000	\$24,763
Commercial payor mix %	22%	29%	27%	29%	41%
Overall satisfaction	73%	94%	75%	58%	85%
Likelihood to recommend	65%	75%	65%	75%	86%

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Too little...

Duration accuracy	45	46	41	45	49
Prep time	49	49	50	51	39
Surgery time	173	154	169	164	123
Exit time	9	10	9	10	10
PACU time	132	129	127	131	101

Too Late!!!

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***Pathologic focus on...
implant costs!!!***

Contribution margin	\$25,055	\$19,504	\$25,004	\$17,025	\$10,705
Total direct cost	\$27,774	\$26,734	\$27,454	\$31,790	\$14,294
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My Hosp

Other

Total direct cost	\$27,454	\$14,294
Implant cost	\$15,806	\$11,383

My hospital: Δ Total vs. Implant = \$11,000

Others: Δ Total vs. Implant = \$3,000

**My implant cost are
reasonable compared to
other hospitals?**

***But...my hospital's
non-implant costs
are much higher...Why???***



Why non-implant costs are much higher:

1. *Time in surgery/hospital*
2. *Ancillary materials used*
3. *Ancillary services used*
4. *Surgeon ignorance of costs*



Could I be more cost-effective if I knew how much things cost in the OR?

How much does Floseal (5mL) cost?

1. ~ \$25

2. ~ \$75

3. ~ \$150

4. ~ \$300

5. ~ \$500

\$165



Cost of DBM (10cc)?

1. ~ \$100
2. ~ \$250
3. ~ \$500
4. ~ \$1000
5. ~ \$2000

\$1402



Cost of other items I usually don't care about:

- 1. *Cell saver ~ \$1600***
- 2. *Neuromonitoring (~ \$800/case)***
- 3. *PCA ~ \$200 per day***
- 4. *Postop labs ~ CMP vs. BMP***
- 5. *Oxcontin vs. Percocet***



Yes!!!
I can be more
cost-effective,
IF...

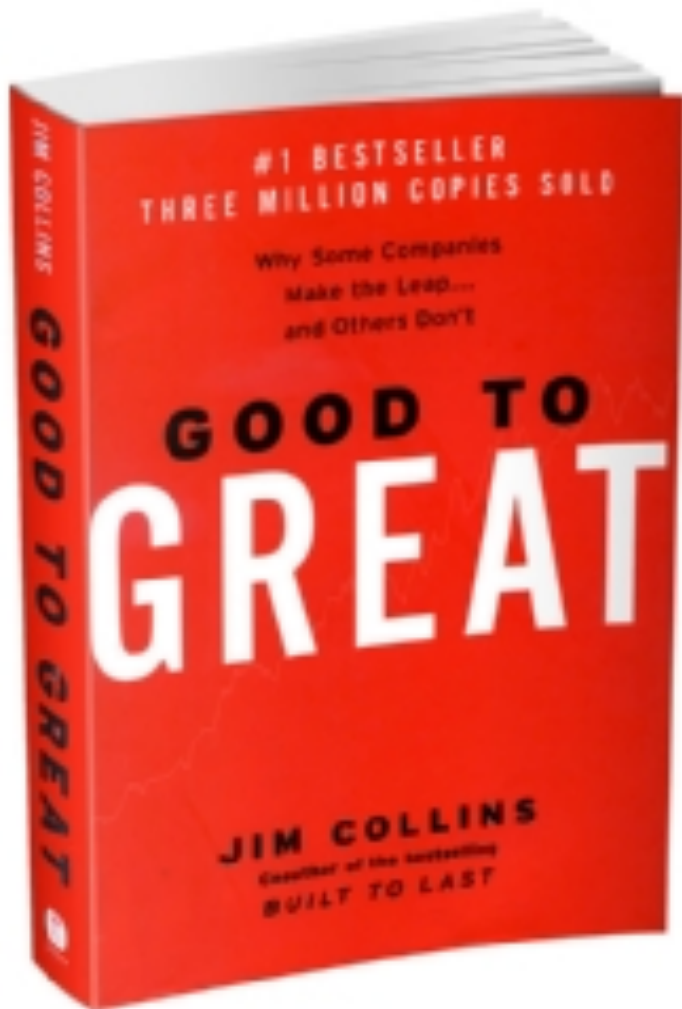


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Understanding costs of care:

1. *Surgeon-friendly format*
2. *Accurate, granular, timely*
3. *Real-time results*
4. *Results that are actionable!*





*do not rely on
more information,
they generate
information that
cannot be
IGNORED...*

ACTIONABLE!!!

Cost-effectiveness Program:

- 1. *NOT our existing system***
- 2. *Hoag Experience***
- 3. *OR Hub******



My Cost-effectiveness Program:

- 1. Real-time data processing***
- 2. Review every case***
- 3. Correlate with goal (actionable)***



UFC FIGHT NIGHT | SAT. OCT. 26 | MACHIDA VS. MUNOZ

3PM/12PM ETPT | Manchester, England

FIGHT CARD

LIVE STATS

TICKETS

HOW TO WATCH

PROGRAM

VIDEOS

NEWS

PRINT

W - SCOTT
KUIPER
R1 / 0:33 / SUB

STATS

W - HETTES
WHITEFORD
R2 / 2:42 / SUB

STATS

OGLE
W - MILLER
R3 / 0:00 / DEC

STATS

SEXTON
W - ANDRADE
R3 / 0:00 / DEC

STATS

W - BARNATT
CRAIG
R2 / 2:48 / SUB

STA

FOX SPORTS 2

DASHBOARD

LIVE SCORING

TWITTER

**LYOTO
MACHIDA**

ROUND 1
1:44

**MARK
MUNOZ**

WINNER
KO/TKO

Result

1 Knockdowns **0**

5 Total Strikes **0**
of 10 50% of 3 0%

5 Significant Strikes **0**
of 10 50% of 3 0%

0 Takedowns **0**
of 0 0% of 0 0%

0 Submission Attempts **0**

View

Chart View

Fight Rhythm

Machida vs. Munoz

TOTAL STRIKES LANDED

5

DIFFERENTIAL

TARGET Q

50%	Head	33%
20%	Body	0%
0%	Leg	0%

POSITION Q

100%	Distance	100%
0%	Clinch	0%
0%	Ground	0%

Case Receipt

*Pricing may change after procurement reconciliation.

Case Total: \$1,572.00

Material Type Legend: I = Implant T = Tool B = Biologics M = Medication D = Disposable

“CASE RECEIPT”

Case total

Type	Vendor	Catalog #	Category	Description	QTY	Unit Price	Line Total
I	Globus	194.510	ExpandableTLIFCageSpacer	CALIBER Spacer 10 x 22mm, 7-10mm	1	\$59.00	\$59.00

Implants:	\$59.00
Tools:	\$0.00
Biologics:	\$0.00
Medication:	\$0.00
Disposables:	\$0.00
Total:	\$59.00

SPINE POSTERIOR LUMBAR (L4 - L5)

Fused Levels:

Type	Vendor	Catalog #	Category	Description	QTY	Unit Price	Line Total
I	Globus	5119.1646S	SetScrew	6.5x45 HA Coated Screw, Preassembled, CREO 5.5mm	4	\$38.00	\$152.00
I	Globus	7134.8035	Less300mmRod	CREO MIS 6.0mm Curved Rod, Cobalt Chrome, 35mm Length	2	\$50.00	\$100.00
I	Globus	1119.0000	ScrewCap	5.5 Locking Cap, CREO	4	\$39.00	\$156.00
D	Globus	685.065	DisposableTap	6.5mm Cannulated Tap	1	\$116.00	\$116.00
I	Globus	594.284	ExpandableTLIFCageSpacer	CALIBER Spacer 12 x 30mm, 8, 0°-12°	1	\$59.00	\$59.00
B	OssiMend	PS-MCC2050	SyntheticBiologics	Bone Graft Matrix, 2 strips (5cc each), 2x5x0.5cm strip	1	\$127.00	\$127.00
M	Baxter	1501262	MedicationOther	TISSEEL Fibrin Sealant Pre-Filled Syringe Frozen - 4.4L	1	\$102.00	\$102.00
B	Medtronic	7510800	HumanDerivedBiologicsAllograft	BONE GRAFT KIT 7510800 INFUSE LARGE II	1	\$128.00	\$128.00
D	Ethicon	VCP376H	DisposableOther	Antibiotic Synthetic Absorbable Suture Violet Braided 27in 36mm 5/8c Taper	2	\$121.00	\$242.00
B	MTF	410105	HumanDerivedBiologicsAllograft	Trinity Evolution allograft, Extra Large, 5cc	1	\$331.00	\$331.00

Implants:	\$467.00
Tools:	\$0.00
Biologics:	\$586.00
Medication:	\$102.00
Disposables:	\$358.00
Total:	\$1,513.00

Compare with previous data

Individual costs

Discounts:

DR TOVEY

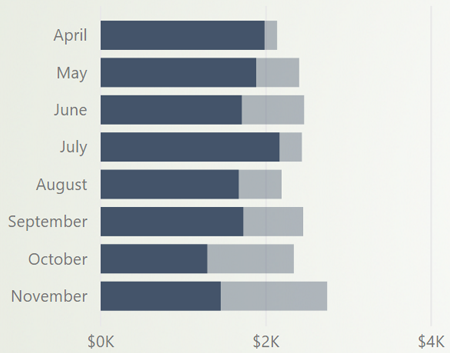
CLEAR SIGNATURE

CLOSE



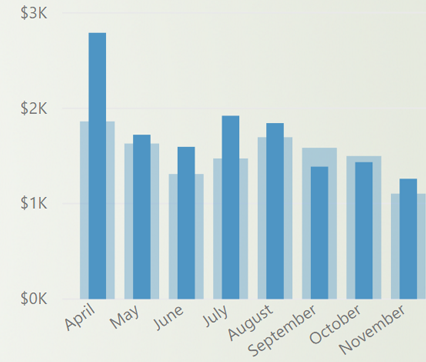
Surgeon 06

Total Materials

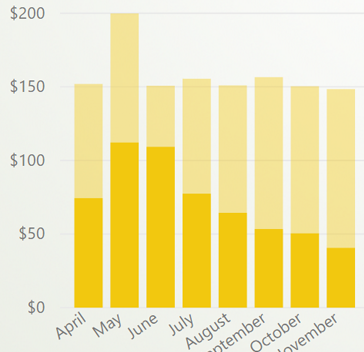


Average Costs per Level

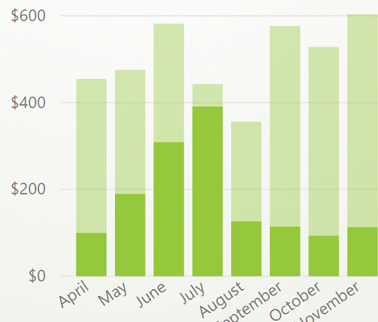
OR Time Cost



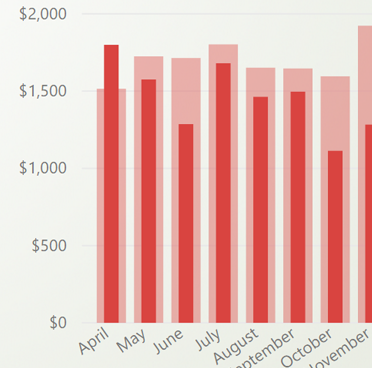
Medication



Biologics



Implants





April - July 81 Cases

Q2 vs. Q3

86 August - November Cases

Material Type	Avg Cost per Level
biologics	\$254.63
disposable	\$7.68
implant	\$1,564.33
medication	\$96.89
Total	\$1,923.53

\$354,000 materials cost savings / 1 year
 \$361,400 OR Time cost savings / 1 year
 = **\$715,600** cost savings / 1 year

1 high-volume surgeon
 ~250 cases
 ~900 levels

Material Type	Avg Cost per Level
biologics	\$111.63
disposable	\$15.12
implant	\$1,334.61
medication	\$53.13
tool	\$16.02
Total	\$1,530.51

\$393.02 materials cost savings per level

\$1,506.47

\$1,907.96 Avg OR Time Cost per Level

Costs & Or Time

Avg OR Time Cost per Level \$401.49 OR Time cost savings per level

My Goal: Save \$500/case

Material Type	Avg Cost per Level
biologics	\$254.63
disposable	\$7.68
implant	\$1,564.33
medication	\$96.89
Total	\$1,923.53

\$354,000 materials cost savings / 1 year
 \$361,400 OR Time cost savings / 1 year

200 cases/year

~250 cases
 ~900 levels

Material Type	Avg Cost per Level
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disposable	\$15.12
implant	\$1,334.61
medication	\$53.13
Total	\$1,530.51

\$393.02 materials cost savings per level

\$1,907.96
 Avg OR Time Cost per Level

\$100,000/year

\$1,506.47
 Avg OR Time Cost per Level
 \$401.49 OR Time cost savings per level

SUMMARY

- Becoming a Center of Excellence is not a destination - it is a journey!!!
- Cost-effectiveness cannot be ignored



SUMMARY

- Becoming a Center of Excellence is a journey!!!
- Cost-effectiveness cannot be ignored
- Surgeons must be more involved in this process
- Surgeons must work together





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CENTERS OF EXCELLENCE