5 Keys to Success in Same Day Joint Replacement Surgery: The Private Practice Perspective

Nader A. Nassif MD
Disclosure

• Depuy Education Panel
• Institutional Education and Research Support
  – OREF Omega Grant
  – Depuy-Synthes
  – Zimmer-Biomet
  – Corin
  – The Hoag Foundation
<table>
<thead>
<tr>
<th>Location</th>
<th>Past</th>
<th>Present</th>
<th>Tomorrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of Stay</td>
<td>7 Days</td>
<td></td>
<td>Outpatient</td>
</tr>
<tr>
<td>Discharge Dispo</td>
<td>SNF/Acute Rehab</td>
<td>Home/SNF</td>
<td>Home</td>
</tr>
</tbody>
</table>

**Total Joint Replacement**

Past, Present and Future
- Shorter Hospital Stay
- Discharge to home
- Same day/Next day discharges to home
- In-patient Hospital
- Long Hospital Stay
- Discharge to SNF/AR
- In-patient Hospital
- Strictly Outpatient
- Discharge to home/care suites
- ASC

**Value**
Outpatient Total joints*

* Statement may not be valid in Canada.
Total Knee Arthroplasty (TKA) Removal from the Medicare Inpatient-Only (IPO) List and Application of the 2-Midnight Rule

MLN Matters Number: SE19002 Reissued Related Change Request (CR) Number: N/A
Article Release Date: January 24, 2019 Effective Date: January 1, 2018
Related CR Transmittal Number: N/A Implementation Date: N/A

Note: This article was reissued on January 24, 2019, to clarify information.

ASC covered procedures list: TKA

TKA proposed for ASC CPL in CY 2020
CMS continues to promote site-neutrality between HOPD, ASC setting
Price differential for TKA not drastically different across sites of care

Proposal removes THA¹ from IPO list for CY 2020
THA: Where OP shift and payment equalization efforts converge
The current market

<table>
<thead>
<tr>
<th>Factors “Pushing” and “Pulling” Site of Joint Replacements</th>
<th>Inpatient</th>
<th>HOPD</th>
<th>ASC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS Initiatives</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Health System Strategy</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Medicare Reimbursement</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
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<tr>
<td>Inpatient Only List</td>
<td>↓</td>
<td>↑</td>
<td>?</td>
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<tr>
<td>RAC Audits</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Physician Ownership</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Physician Employment</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Insurance Incentives</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Medicare Copays</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
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<tr>
<td>Patient Preference</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
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<tr>
<td>Program Infrastructure</td>
<td>↑</td>
<td>↑</td>
<td>↓</td>
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<tr>
<td>Post-Acute Care Infrastructure</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Medical Risk/Complications</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Legal Risk</td>
<td>↑</td>
<td>↑</td>
<td>↓</td>
</tr>
<tr>
<td>Local Political Pressure</td>
<td>?</td>
<td>?</td>
<td>?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>States with Highest/Lowest HOPD Joint Replacements, 2018</th>
<th>Medicare Cases</th>
<th>% HOPD Cases</th>
<th>Change 2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Average</td>
<td>577,596</td>
<td>14%</td>
<td>+ 12</td>
</tr>
<tr>
<td>Largest Joint Replacement States</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>40,905</td>
<td>15%</td>
<td>+ 13</td>
</tr>
<tr>
<td>Florida</td>
<td>37,662</td>
<td>12%</td>
<td>+ 9</td>
</tr>
<tr>
<td>Texas</td>
<td>35,471</td>
<td>14%</td>
<td>+ 12</td>
</tr>
<tr>
<td>New York</td>
<td>25,916</td>
<td>5%</td>
<td>+ 4</td>
</tr>
<tr>
<td>Illinois</td>
<td>24,587</td>
<td>13%</td>
<td>+ 12</td>
</tr>
<tr>
<td>Highest HOPD Penetration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td>3,873</td>
<td>30%</td>
<td>+ 29</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1,299</td>
<td>29%</td>
<td>+ 21</td>
</tr>
<tr>
<td>Georgia</td>
<td>14,908</td>
<td>29%</td>
<td>+ 28</td>
</tr>
<tr>
<td>North Dakota</td>
<td>3,236</td>
<td>28%</td>
<td>+ 27</td>
</tr>
<tr>
<td>Maryland</td>
<td>13,149</td>
<td>24%</td>
<td>+ 2</td>
</tr>
<tr>
<td>Lowest HOPD Penetration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>9,007</td>
<td>3%</td>
<td>+ 2</td>
</tr>
<tr>
<td>Connecticut</td>
<td>6,672</td>
<td>3%</td>
<td>+ 2</td>
</tr>
<tr>
<td>Minnesota</td>
<td>18,273</td>
<td>5%</td>
<td>+ 4</td>
</tr>
<tr>
<td>New York</td>
<td>27,809</td>
<td>5%</td>
<td>+ 4</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>9,909</td>
<td>6%</td>
<td>+ 4</td>
</tr>
</tbody>
</table>

Includes inpatient cases assigned to MS-DRG 469-470 and outpatient CPT 27130, 27446, and 27447
Source: www.dexur.com
Keys to Success!

Right Patient

Right Surgeon

Right Institution
#1: Picking the Right patient
Who is the Right Patient?

Same Day Discharge

Potential Same Day Discharge/short stay

Traditional Pathway

15%

15%-55%

30%-60%

Gromov Act Ortho Oct 2017

Kingery JOA 2017
Total Joint Arthroplasty in Ambulatory Surgery Centers: Analysis of Disqualifying Conditions and the Frequency at Which They Occur

Matthew T. Kingery, BA a, Germaine E. Cuff, PhD, BSN b, Lorraine H. Hutzler, MPA a, *, Jovan Popovic, MD b, Roy I. Davidovitch, MD a, Joseph A. Bosco, MD a

a Department of Orthopaedic Surgery, NYU Hospital for Joint Diseases, New York, New York
b Department of Anesthesiology, NYU Langone Medical Center, Perioperative Care and Pain Medicine, New York, New York

Results: Overall, 70.03% of all patients undergoing TJA were eligible for ASC. Of the ASA class 3 patients who did not meet any exclusion criteria but had systemic disease (51.11% of all ASA class 3 patients), 53.69% were deemed ASC-eligible because of sufficiently low severity of comorbidities. The most frequent reasons for ineligibility were body mass index >40 kg/m² (32.66% of ineligible patients), severity of comorbidities (28.00%), and untreated obstructive sleep apnea (25.19%).

Conclusion: A large proportion of TJA patients were found to be eligible for surgery in an ASC, including over one-third of ASA class 3 patients. ASC performed TJA provides an opportunity for increased patient satisfaction and decreased costs, selecting the right candidates for the ambulatory setting is critical to maintain patient safety and avoid postoperative complications.
Which Postoperative Day After Total Joint Arthroplasty Are Catastrophic Events Most Likely to Occur?

Daniel J. Johnson, MD*, Matthew J. Hartwell, MD, Joseph A. Weiner, MD, Kevin D. Hardt, MD, David W. Manning, MD

*Department of Orthopedic Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL

• NSQIP database
• 341,000 patients
  – POD#0 – cardiac events more likely
  – POD#2 – PE more likely
• Risk Factors
  – Age
  – Male Sex
  – Higher ASA score
First do no Harm

Table 5
Subanalysis of Catastrophic Events in Inpatients and Outpatients.

<table>
<thead>
<tr>
<th>Catastrophic Complication</th>
<th>Inpatients (N = 304,000)</th>
<th>Outpatients (N = 37,462)</th>
<th>P Value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulmonary embolism</td>
<td>1570 (0.52%)</td>
<td>60 (0.16%)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Cardiac event</td>
<td>963 (0.32%)</td>
<td>70 (0.2%)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Cerebrovascular accident</td>
<td>288 (0.09%)</td>
<td>13 (0.02%)</td>
<td>.0002</td>
</tr>
<tr>
<td>Death</td>
<td>566 (0.19)</td>
<td>40 (0.11)</td>
<td>.0006</td>
</tr>
</tbody>
</table>

<sup>a</sup> P values < .0125 considered significant after Bonferroni correction.
Our Patient Selection in 2019

• No Age ceiling (Rec: less than 75)

• Healthy, Motivated Patients

• Social Support!

• Hospital Setting or ASC
  – 23 Hour Stay or less

• 1\textsuperscript{st} and 2\textsuperscript{nd} Case of the day – Time for PT

Exclusion Criteria:

• ASA 3 or greater*
• Hemoglobin <12
• BMI > 40*
• Unstable, poorly controlled disease (AFIB, COPD, ESRD, CAD with prior PCI)*
• Chronic Pain management
• h/o DVT and PE
• Anxiety Disorders
• Cognitive Impairment / movement disorders

• Poor Community Ambulator
• No care at home for the first 72 hours post discharge.

* Obstructive sleep Apnea: require overnight stay and discharge in AM.
#2: Pre-Operative Education

patient and Family Preparedness

- Mandatory
- Small Class Size (patient and recovery buddy)
- Hands-On Teaching (*Pre-hab*)
  - Basic use of FWW
  - Getting in and out of bed
  - Car transfers
  - Stairs
- Additional Handouts
  - Nutrition (Protein Rich foods, Healthy Meals)
  - Medication Side Effects
  - Getting the Home ready
  - Fall Prevention Guidelines in the Hospital
#3: Social Support

- Patient’s can’t do it alone
- Family or Friend buy-in is **required** to participate in the program
- 72 hour of direct support is needed
- Physician and hospital messaging should be consistent
#4: The Right Surgeon/Team

- No data
- Consistent Results with inpatient stays
- Good clinical judgement with patient selection
- Baseline low to acceptable complication rate for the local community
- Able to champion change at the hospital/surgery center level
# 5: Right Institution

- Streamline clinical care pathways
- Buy-in from Anesthesia, Nursing, Physical therapy and case management
- Alignment of Hospital system/surgeons
Anticipating Delay of Discharge

• Blood pressure (hypertension and hypotension)

• Over sedation

• Postoperative urinary retention

• Postoperative nausea

• Pain Control

• Social support issues
Anticipating Delay of Discharge

• Coordinating Anesthesia Pathways:
  – Preoperative Hydration (morning of surgery)
  – Minimize length of spinals
  – Eliminating Foley catheters
  – Regional Blocks for extended pain relief
  – Multimodal pain management, minimizing narcotics

• Consistent OR Team to minimize blood loss and surgical time and eliminate drains.
Post Discharge Care

• Patient comfortable

• PT milestones met.

• Next Day home health evaluation

• Phone call from Surgeon and Nursing

• Constant communication with patient engagement tool
• 103 consecutive OP TJA
• Looked at burden on staff in first 7 days post op
• Results
  – Average 2.5 touches/pt
  – 48.4 minutes/pt
A private Practice Experience

- 1 Specialty hospital 2015-2019 (Q2)
- 1345 Rapid Recovery Joints (989 Hips, 356 Knees)

Enhanced Recovery Protocol in Total Hip Arthroplasty (TKA) is Safe and Cost Effective
Travis Scudday, Zachary Thielen, Robert Gorab, Nader Nassif AAHKS Poster # 53
A private Practice Experience

• Length of Stay (2019)
  – THA 7.3 Hours
  – TKA 8.6 Hours

• Same Day discharge Home
  – THA 89%
  – TKA 77%
A private Practice Experience

• Readmissions
  – THA 0.27% (constipation, gastric ulcers, 1 PJII)
  – TKA 0.84% (Altered Mental status and abdominal pain)

• ER visits (30 days – all causes)
  – THA 2.5%
  – TKA 4%
549 consecutive patients, ASC Setting
10% outpatient of all TJA
Average LOS 7.5 hours
1 ER visit (0.2%)
3 Re-admissions (0.5%)
Outpatient Total Hip Arthroplasty Performed at an Ambulatory Surgery Center vs Hospital Outpatient Setting: Complications, Revisions, and Readmissions

Robert A. Sershon, MD a,b, James F. McDonald III b,*, Henry Ho, MS b, Nitin Goyal, MD a,b, William G. Hamilton, MD a,b

a Inova Mount Vernon Hospital Joint Replacement Center, Alexandria, VA
b Anderson Orthopaedic Research Institute, Alexandria, VA

• 965 patients (335 ASC, 630 HOPD)
• 2013-2018,
• Results:
  – No Difference in complications (3.9% vs 3.8%)
  – No Difference in Reoperations (0.3 vs 0.8%)
  – No Difference in Readmissions or ED visits (0.9%, vs 0.3%)
The Shift to Same-Day Outpatient Joint Arthroplasty: A Systematic Review

Jeffrey D. Hoffmann, MD, Nicholas A. Kusnezov, MD, John C. Dunn, MD, Nicholas J. Zarkadis, DO, Gens P. Goodman, DO, Richard A. Berger, MD

1 Department of Orthopaedic Surgery and Rehabilitation, William Beaumont Army Medical Center, El Paso, Texas
2 Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, Illinois

- 10 manuscripts (2000-2016)
- 1009 patients
- 94.7% discharged home
- 1 major complication
- 2% readmissions

Table 2: Patient Selection and Preoperative Counseling.

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Preoperative Medical Clearance From IM Provider</th>
<th>Preoperative Surgeon, Nurse, and/or Coordinator Teaching</th>
<th>Preoperative PT Teaching</th>
<th>Family Member Identified for Help Perioperatively</th>
<th>Excluded Patient with Cardiac History (MI, Cardiac Surgery/Stents)</th>
<th>Excluded Patient with Pulmonary History (COPD, Pulmonary Disease)</th>
<th>Excluded Patient with Prior DVT/PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berger [10]</td>
<td>2006</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Berger [11]</td>
<td>2009</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Berger [12]</td>
<td>2009</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Kolisek [13]</td>
<td>2009</td>
<td>NR</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Dorr [14]</td>
<td>2010</td>
<td>NR</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Chen [15]</td>
<td>2013</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Gondusky [16]</td>
<td>2014</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Cross [17]</td>
<td>2014</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<td>Parcell [18]</td>
<td>2016</td>
<td>NR</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Goyal [19]</td>
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<td>NR</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

COPD, chronic obstructive pulmonary disease; DVT, deep venous thrombosis; IM, internal medicine; MI, myocardial infarction; PE, pulmonary embolism; PT, physical therapy; Y, yes; N, no; NR, not reported.

Separate cardiac clearance if cardiovascular history.
Total Hip Arthroplasty and the Medicare Inpatient-Only List: An Analysis of Complications in Medicare-Aged Patients Undergoing Outpatient Surgery

Max R. Greenky, MD *, William Wang, MD, Danielle Y. Ponzio, MD, P. Maxwell Courtney, MD

Department of Orthopaedic Surgery, Thomas Jefferson University Hospital, Rothman Institute, Philadelphia, PA

• ACS-NSQIP database 2015-2016
• 34,416 Medicare-aged patients
  – 1% discharged on POD # 0
  – 16.5% discharged on POD #1
• Shorter length of stay associated with
  – lower complication rates, transfusions, readmissions
Factors associated with inpatient stay

- General Anesthesia
- BMI > 35
- Diabetes
- COPD
- CHF, HTN
- Malnutrition
- Age > 75
- ASA 4
- Minority ethnicity
• NSQIP data 2005-2014
• 112,922 total Knees
• 642 outpatient Knees performed (0.57%)
• Average Age 64
• BMI 33
• ASA 2
• *higher rate of post-discharge transfusions
Outpatient Joints

• Natural trending towards the out patient space

• Require MORE effort on the surgeon’s part

• do NOT increase risk of complications or readmissions post operatively.
5 Keys to Success
(AAHKS position statement)

1. Patient selection (on medical grounds)
2. Patient education and expectation management.
3. Social support and environmental factors (family or professional outpatient support)
4. Clinical and surgical team expertise
5. Institution facility or surgery center factors (history of successful team work)

Thank you