OutPatient Hip and Knee replacement
Saint Cloud MN experience and future trends

Joseph Nessler MD

Saint Cloud Orthopedics
Sartell MN, USA

Saint Cloud Hospital

Saint Cloud Surgical Center
Saint Cloud MN, USA

Disclosures

Consultant - Stryker
Medical Advisor - Vomaris Innovations Inc.
Consultant/Speaker - Surgical Care Affiliates
US Patent Innovations
Outpatient Joint Replacement - Why?

Wellness model: sick people go to the hospital

Reduction of hospital acquired infections

Cost savings

Better patient experience (home is the best place to recover)

Ambulate faster, faster recovery

OP is for healthy, motivated patients

Outpatient Joint Replacement - Safety/Can it be done?

Comparison of Outpatient versus Inpatient Total Knee Arthroplasty

Frank R. Kolisek, MD,1 Mike S. McGrath, MD,2 Nenette M. Jessup, MPH,1 Eric A. Monesmith, MD,1 and Michael A. Mont, MD                   CORR 2009 June

Only LOS significantly different

AAOS 2014, 243 pts

• 10.2 percent of the patients who underwent outpatient procedures were readmitted within 30 days of surgery, compared to 6.6 percent of the inpatient procedure group. • The hospital length of stay didn’t have an impact on patient satisfaction measurements. • Outcomes were comparable between the two groups.
Outpatient Joint Replacement - Who’s doing it?

Advisory Board Hospitals
2014 - 23% some OP TKA/Uni
7% someTHA

June 2016 Modern Healthcare Magazine
ASCA-estimated 40 freestanding ASC’s doing outpatient TJA
(TJA hospital service line)

August 2017 - 200 ASC’s

Sg2 between 2012 to 2015, there was a “47% increase in elective outpatient hip and knee replacement procedures”

Outpatient Joint Replacement - Who’s going to be doing it?

Experts said providers should prepare for the shift as soon as Jan. 1, 2018, for total knees. "It's pretty clear that regardless of provider sentiment, CMS is looking to move ahead with this," said Eric Fontana, managing director of research for the Advisory Board Co.

Beckers ASC 2/2017
according to SG2 - % outpatient joints

- 2018: 25 percent
- 2020: 32 percent
- 2022: 37 percent
- 2024: 43 percent
- 2026: 51 percent
- over next 10 years expected increase of 77% joint volume (3% inpatient volume growth)
Outpatient Joint Replacement - Effects on Hospitals

Expect higher acuity patients
co-morbidities
revisions
increasing average age

Bundle effect!

Outpatient Joint Replacement in Saint Cloud MN

Outpatient Joint Replacement

Robotics. Why Robotics?

Our practices bias towards technology >12yrs

Patient demand, drives market share

Differentiator from competition
(pays for itself)

Better for the patient
Outpatient joint replacement - Patient education/Awareness

Outpatient - who and how?

- TKA, THA now all insurers except medicare/medicaid/Federal programs
- Uni knees all comers
- Patient selection - ASA class 1, and stable class 2
- NO restriction on BMI (within reason) Sleep apnea, NIDDM and well controlled IDDM ok.
- Smoking cessation REQUIRED, A1C <7.5

Pending CMS taking joints of IP only list
Possibly all medically qualified patients within next year
Outpatient - who and how?

Anesthesia - general/spinal
TKA and uni’s, Adductor canal block pre-op

All joints, periarticular injection

Infection prevention - CHG showers, Betadine nasal swabs

Pre-medicate all
Offirmev 1000mg IV
Celebrex 400mg
Neurontin 300mg
Oxycontin 10mg
Dexamethasone 10mg IV (nausea and pain)
Ceftriaxone 2gm IV pre-op

Post-op

IV Offirmev 1000 mg
Toradol 15 mg IV once
Recovery unit IV dilaudid dose if necessary

Oxycontin 10mg bid x 5 days
Ultracet 1-2 q6 hours prn for hips
Norco 5/325 1-2 q6 hours prn knees
Outpatient - who and how?

Blood management

Tranexemic Acid - topical or IV, oral

Devices - Hybrid Argon gas plasma scalpel (Canady)
Radiofrequency sealers (Aquamantys, Peak)

Transfusion rates should be 1-2% or less all comers
Outpatient transfusion rates 0%

St. Cloud Total Joint Program

**Success Factors**
- 2 physician champions and 8 total contributing orthopedic surgeons
- Innovative and flexible anesthesia group
- SCA-led contracting and payer innovation
- Multi-faceted marketing campaign

**Impact & Outcomes**
- $5.9M Est. payor savings to date
- 95%+ Patient Satisfaction (joints only)
- 98% Physician Satisfaction (total facility)
- 0% Falls/Transfers
- 2% Infections/Wound Dehiscence
- <1% Hospitalizations within 48hrs
- 2.6% Overnight stays

(213 total hips, 81 total knees, 218 uni-knees, 1 total shoulder)

Based on 533 joint procedures from inception through Mar 2017

Source: SCA internal data.
## Quality Metrics for Joint Replacements through August 2017

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Incidence</th>
<th>Total Cases Completed</th>
<th>Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surgical Site Infections</strong></td>
<td>9</td>
<td>640</td>
<td>0.0140</td>
</tr>
<tr>
<td><strong>Hospital Admission/Transfers</strong></td>
<td>0</td>
<td>640</td>
<td>0</td>
</tr>
</tbody>
</table>

- 1 – syncopal episode
- 1 – stroke, not surgery related
- 9/22/16 weak confused fall at home. Hosp. 2 days observation rehab 10 days

<table>
<thead>
<tr>
<th>Hospitalizations within 48 hours of discharge</th>
<th>640</th>
<th>0.0078</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 9/21/16 hip replaced, popped back in by itself in 66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 – patient fell at home (did not ask for assistance) – I&amp;D and reclosure performed at hospital</td>
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<tr>
<td><strong>Wound Dehiscence</strong></td>
<td>8</td>
<td>640</td>
<td>0.0125</td>
</tr>
<tr>
<td><strong>Patient Falls in Facility</strong></td>
<td>0</td>
<td>640</td>
<td>0</td>
</tr>
<tr>
<td><strong>DVT/PE</strong></td>
<td>0</td>
<td>640</td>
<td>0</td>
</tr>
<tr>
<td><strong>Overnight RCU stays</strong></td>
<td>15</td>
<td>640</td>
<td>0.0234</td>
</tr>
</tbody>
</table>

## Quality Metrics for Joint Replacements – Joseph Nessler, MD

### October 2014 to August 2017

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<tr>
<td><strong>Surgical Site Infections</strong></td>
<td>1</td>
<td>307</td>
<td>0.0032</td>
</tr>
<tr>
<td><strong>Hospital Admission/Transfers</strong></td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
</tbody>
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- 1 – syncopal episode
- 1 – stroke, not surgery related
- 1 – patient fell at home (did not ask for assistance) – I&D and reclosure performed at hospital

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<th>Hospitalizations within 48 hours of discharge</th>
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<th>0.0097</th>
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<tbody>
<tr>
<td><strong>Wound Dehiscence</strong></td>
<td>2</td>
<td>307</td>
<td>0.0065</td>
</tr>
<tr>
<td><strong>Patient Falls in Facility</strong></td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
<tr>
<td><strong>DVT/PE</strong></td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
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<td>6</td>
<td>307</td>
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### Program growth - SCSC

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017 est</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL HIPS</td>
<td>6</td>
<td>62</td>
<td>122</td>
<td>145</td>
</tr>
<tr>
<td>UNI KNEES</td>
<td>2</td>
<td>72</td>
<td>131</td>
<td>110</td>
</tr>
<tr>
<td>TOTAL KNEES</td>
<td>2</td>
<td>15</td>
<td>47</td>
<td>95</td>
</tr>
<tr>
<td>All Joints</td>
<td>10</td>
<td>149</td>
<td>300</td>
<td>350</td>
</tr>
</tbody>
</table>

### Program growth - SCSC

#### Uni Knees

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>70</td>
<td>140</td>
<td>105</td>
</tr>
</tbody>
</table>

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10/20/2017
Program growth - SCH

Outpatient Joint Replacement
Feb 2016 - June 2017

<table>
<thead>
<tr>
<th>Type of Joint Replacement</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>TKA</td>
<td>599</td>
<td>533</td>
<td>575</td>
</tr>
<tr>
<td>UNI</td>
<td>20</td>
<td>48</td>
<td>50</td>
</tr>
<tr>
<td>Revision TKA</td>
<td>28</td>
<td>36</td>
<td>47</td>
</tr>
<tr>
<td>Revision THA</td>
<td>473</td>
<td>460</td>
<td>500</td>
</tr>
<tr>
<td>All knee/hip</td>
<td>1207</td>
<td>1162</td>
<td>1247</td>
</tr>
</tbody>
</table>

Revision

Type of Outpatient Joint: FY16 3rd QTR through FY17-4th Qtr (Feb 2016-June 2017):
- 66 Outpatient Joint Replacements: TKA-20, Unicompartmental/Partial Knee-13, THA-21; TSA-12
- TSA outpatient joints started in November 2016

Graph B

3.7% 7.3%
Program growth - All Saint Cloud

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<tr>
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<th>2016</th>
<th>2017 est.</th>
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<tr>
<td>KNEE</td>
<td>642</td>
<td>616</td>
<td>717</td>
</tr>
<tr>
<td>UNI</td>
<td>92</td>
<td>179</td>
<td>160</td>
</tr>
<tr>
<td>HIP</td>
<td>622</td>
<td>867</td>
<td>720</td>
</tr>
<tr>
<td>All knee/hip</td>
<td>1356</td>
<td>1462</td>
<td>1597</td>
</tr>
<tr>
<td>% outpatient</td>
<td>11%</td>
<td>20.5%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

My assessment - my experience to date

- >300 outpatient Uni knee/THA/TKA
  - Less rounds/paperwork
  - happy patients
  - excellent outcomes

***25-30% of my practice now outpatient TJA
COULD BE 40-50+%***