Rapid Discharge and Outpatient Total Joint Arthroplasty Introduce a Burden of Care to the Surgeon

Vasili Karas, MD, MS, AAHKS Health Policy Fellow 2018-2019

Authors
Roshan P. Shah MD, JD; Vasili Karas, MD, MS; Richard A. Berger, MD

Health Policy Mentor
Craig Della Valle, MD
Disclosures

Pertinent to present study

Richard Berger, MD, Craig Della Valle, MD
Ownership at North Shore Surgical Suites and Munster Speciality Surgery Center

I (and/or my co-authors) have something to disclose.

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Printed Final Program; or
AAOS Orthopaedic Disclosure Program on the AAOS website at
http://www.aaos.org/disclosure
Introduction

- Steady decline in LOS over the last decade
- National focus on value furthers this trend
- Consequence of this shift to rapid discharge?
Introduction: Burden of Care

Traditional LOS TJA

Surgeon Practice

Burden of Care
- Disposition
- Education
- Therapy
- Rx
- DME
- Home care
- Questions

Hospital
Social Workers
Discharge Planners
Nurses
Nurse aids
SNF
IP Therapist
Dieticians
Medical Consultants
Introduction: Burden of Care

Rapid Discharge LOS TJA

Burden of Care
- Disposition
- Education
- Therapy
- Rx
- DME
- Home care
- Questions

**Driven by surgical staff on telephone

Hospital
- Social Workers
- Discharge Planners
- Nurses
- Nurse aids
- SNF
- IP Therapist
- Dieticians
- Medical Consultants
Purpose

Primary: Quantify patient touches through telephone calls, within the first 7 days post-operatively in patients who underwent rapid discharge TJA (LOS = POD 0 or 1)

Secondary: Compare same day (POD 0 discharge) and inpatient (POD 1 discharge) patient touches

**Drive Policy and help guide surgeons transitioning to shorter LOS**
Methods

• Retrospective Review of 103 patients
  • Outpatient (POD 0)
  • Short stay (POD 1)

• All patient touches studied from POD 0-POD 7
  • Phone calls (in/out)
  • Office visits

Standard of care

Initial visit
- Informed consent
- Initial education
- Informational booklet

Pre-op Phone call
- Questions answered
- Education reinforced
- Expectations managed
- Home preparations confirmed
- 7 minutes

Phone Call
- Reinforce instructions
- Modify pain management
- Identify problems
- Give reassurance

Patient touches included in data collection
Results

• Entire Cohort (103 surgeries) required:
  • 253 total patient touches (calls)
  • 83 hours of total staff time required over the study period

• 49 minutes per rapid discharge arthroplasty patient

• No difference in number of calls or duration between short-stay (POD 1) patients and outpatient (POD 0) patients (p=0.31)
Results

Table 3
Subject Matter of the Perioperative Telephone Touches.

<table>
<thead>
<tr>
<th>Issues</th>
<th>Number</th>
<th>Percentage</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>34</td>
<td>23.0%</td>
<td>20</td>
<td>19.0%</td>
</tr>
<tr>
<td>Nausea</td>
<td>17</td>
<td>11.5%</td>
<td>6</td>
<td>5.7%</td>
</tr>
<tr>
<td>Medication questions</td>
<td>11</td>
<td>7.4%</td>
<td>25</td>
<td>23.8%</td>
</tr>
<tr>
<td>Sleep problems</td>
<td>9</td>
<td>6.1%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Urinary burning, frequency, retention</td>
<td>9</td>
<td>6.1%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Leg swelling</td>
<td>7</td>
<td>4.7%</td>
<td>15</td>
<td>14.3%</td>
</tr>
<tr>
<td>Skin rash</td>
<td>5</td>
<td>3.4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Physical therapy scheduling</td>
<td>5</td>
<td>3.4%</td>
<td>13</td>
<td>12.4%</td>
</tr>
<tr>
<td>Administrative forms request</td>
<td>5</td>
<td>3.4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fever</td>
<td>4</td>
<td>2.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Implant clicking questions</td>
<td>3</td>
<td>2.0%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Ice machine (cryotherapy) issues</td>
<td>2</td>
<td>1.4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Drain site bleeding</td>
<td>2</td>
<td>1.4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Muscle spasms</td>
<td>2</td>
<td>1.4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Syncope</td>
<td>1</td>
<td>0.7%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Driving questions</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Showering questions</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Numbness</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Dizziness</td>
<td>1</td>
<td>0.7%</td>
<td>3</td>
<td>2.9%</td>
</tr>
<tr>
<td>Blurry vision</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Sciatica pain</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Dental questions</td>
<td>1</td>
<td>0.7%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Calf pain</td>
<td>1</td>
<td>0.7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>0</td>
<td>0%</td>
<td>3</td>
<td>2.9%</td>
</tr>
<tr>
<td>Wound concerns</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Bite from pet cat</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Fig. 2. Distribution of incoming and outgoing phone calls following rapid-pathway arthroplasty surgery.
Discussion

• Rapid discharge TJA adds **49 minutes per patient** of telephone touches

• This is time **interacting with patient only**
  excludes log-in time, recording conversations
  into EMR, fulfilling patient requests.

• Equivalent to **3 office visits per patient** (49 minutes per patient at 15min
  billed on time for a level III)
Conclusions

• The burden of perioperative care is transferred from hospitals and post-acute care facilities to surgeon’s team and results in previously undocumented patient touches in the form of phone calls and education.

• Policy makers should understand that modern arthroplasty has new and increased management burdens that fall heavily on surgical practices.

• Valuation of arthroplasty should consider these patient touches as they increase, both physician work as well as practice expense, two of the three components included in the assignment of RVUs by the Relative Value Scale Update committee (RUC) that provides recommendations to CMS.
Thank you!
Vasili Karas, MD
vasili.karas@gmail.com
847.903.1971
www.karasmd.com
Introduction

- Traditional Pathway
  - Nurse- Education
  - Nurse aid- Education
  - Case manager- Discharge setup
  - Inpatient PT/OT- Therapy
  - Inpatient pharmacist- prescriptions

**Driven by in person hospital staff

- Rapid Discharge Pathway:
  - Nurse-Education, discharge setup, therapy appointments, prescriptions, questions

**Driven by surgical staff on telephone
Results: Demographics

Table 1
Demographics.

<table>
<thead>
<tr>
<th></th>
<th>Outpatient TJA (n = 57)</th>
<th>Inpatient TJA (n = 46)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>60.3</td>
<td>62.4</td>
<td>.19</td>
</tr>
<tr>
<td>Male</td>
<td>33 (57.9%)</td>
<td>21 (45.7%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>24 (42.1%)</td>
<td>25 (54.3%)</td>
<td></td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>28.4 (SD 5.2)</td>
<td>31.1 (SD 6.3)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Charlson Comorbidity Index</td>
<td>1.8 (SD 1.0)</td>
<td>2.5 (SD 1.4)</td>
<td>&lt;.017</td>
</tr>
<tr>
<td>TKA</td>
<td>38 (66.7%)</td>
<td>40 (87.0%)</td>
<td></td>
</tr>
<tr>
<td>THA</td>
<td>19 (33.3%)</td>
<td>6 (13.0%)</td>
<td></td>
</tr>
</tbody>
</table>

TJA, total joint arthroplasty; SD, standard deviation; BMI, body mass index; TKA, total knee arthroplasty; THA, total hip arthroplasty.
Results

Table 2
Touches Required in the First 7 D After Surgery.

<table>
<thead>
<tr>
<th></th>
<th>Outpatient TJA (n = 57)</th>
<th>Inpatient TJA (n = 46)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outgoing calls</td>
<td>92 (1.6/patient)</td>
<td>68 (1.5/patient)</td>
<td>.82</td>
</tr>
<tr>
<td>Incoming calls</td>
<td>56 (0.98/patient)</td>
<td>37 (0.8/patient)</td>
<td>.14</td>
</tr>
<tr>
<td>Total calls</td>
<td>148 (2.6/patient)</td>
<td>105 (2.3/patient)</td>
<td>.31</td>
</tr>
<tr>
<td>Duration of calls (min)</td>
<td>4.9 (SD 2.2)</td>
<td>4.2 (SD 2.4)</td>
<td>.08</td>
</tr>
</tbody>
</table>

TJA, total joint arthroplasty; SD, standard deviation.

**No Difference in number of calls or call duration when comparing outpatient (POD 0) and inpatient (POD 1) groups.

Fig. 3. Distribution of the number of touches per patient in the first week after surgery.