Quantifying Surgeon Work in TJA: Where Do We Stand Today?

Mo Halawi, MD
Chief Quality Officer
Director, Outcomes Center
Disclosure

I and my co-authors have something to disclose.

Detailed disclosure information is available via:

“My Academy” app;

Printed Final Program; or

AAOS Orthopaedic Disclosure Program at

http://www.aaos.org/disclosure
Evaluation of TJA CPT Codes is Underway!

• CPT codes 27130 and 27447 have been identified by CMS as potentially misvalued.

• CPT codes are maintained by AMA and used by CMS for reimbursement.

• The evaluation process occurs every 5 years and is unpredictable.

• There is concern that the intent is to ultimately lower reimbursement to surgeons.
CPT Codes Evaluation

• Of nearly 2,100 potentially misvalued services that were reviewed between 1993 and 2018, over half were either decreased or deleted.

• Primary target of the evaluation is physician work.
  – Physician work accounts for 50.9% of the total relative value for each service.
  – ? TJA is now performed faster.

Deleted 43%
Decreased 18%
Reaffirmed 29%
Increased 10%

Physician Work, 50.90%
Practice Expense, 44.80%
Professional Liability Insurance, 4.30%
Study Objective

To quantify the physician work component for CPT codes 27130 (THA) and 27447 (TKA).

1. Preoperative period following the decision to proceed with surgery and leading to the day before surgery.

2. Immediate 24 hours preceding surgery (preservice time).

3. Operative time (skin incision to dressing application, aka intraservice time).

4. Postoperative work in including day of surgery and the following 90 days.
Methods

• Retrospective review of from one academic center.

• All patients who underwent primary THA and TKA from January 1, 2014 to December 31, 2018.

• Exclusions: complex primaries, those requiring co-surgeon assistance, intraoperative complications, and outliers (greater than 2 standard deviations from the mean operative time).

• 666 procedures met the above criteria: 379 THAs and 287 TKAs.

• All surgeries were performed by fellowship trained surgeons.
## Results

<table>
<thead>
<tr>
<th>Phase of Care</th>
<th>2019 CMS PFS</th>
<th>Present Study</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservice time (minutes)</td>
<td>75</td>
<td>84</td>
<td>9 (+12%)</td>
</tr>
<tr>
<td>Intraservice time (median, minutes)</td>
<td>100</td>
<td>111</td>
<td>11 (+11%)</td>
</tr>
<tr>
<td>Postservice time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate (minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitalization and global 90-day period (minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient visits</td>
<td>3</td>
<td>5 ±2</td>
<td>2 (+66.7%)</td>
</tr>
<tr>
<td>Outpatient visits</td>
<td>3</td>
<td>2.5 ±1</td>
<td>0.5 (-16.7%)</td>
</tr>
<tr>
<td>Preoperative care coordination (following decision to proceed with surgery and excluding preservice time, mean, minutes)</td>
<td>N/A</td>
<td>22±10</td>
<td>-</td>
</tr>
<tr>
<td>Total time for THA and TKA (mean, minutes)</td>
<td>407</td>
<td>405 ±41</td>
<td>(- 0.5%)</td>
</tr>
</tbody>
</table>

### Table 1: Comparison of Time for THA and TKA

<table>
<thead>
<tr>
<th>Phase of Care</th>
<th>THA</th>
<th>TKA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservice time (minutes)</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>Intraservice time (median, minutes)</td>
<td>109</td>
<td>113</td>
</tr>
<tr>
<td>Postservice time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate (minutes)</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Hospitalization and global 90-day period (minutes)</td>
<td>140±35</td>
<td>162±36</td>
</tr>
<tr>
<td>Inpatient visits</td>
<td>5 ±2</td>
<td>5 ±2</td>
</tr>
<tr>
<td>Outpatient visits</td>
<td>2 ±1</td>
<td>3 ±1</td>
</tr>
<tr>
<td>Preoperative care coordination (following decision to proceed with surgery and excluding preservice time, mean, minutes)</td>
<td>21±9</td>
<td>23 ±11</td>
</tr>
<tr>
<td>Total time for THA and TKA (mean, minutes)</td>
<td>393 ±38</td>
<td>420 ±40</td>
</tr>
</tbody>
</table>
Results: Trend Over Time

[Bar chart showing time trend over years (2014-2018) for different categories: Preoperative Care Coordination, Preservice, Intraservice, Immediate Postservice, 91-Day Global Period, Total.]
Results: Trend by Payer Type
Limitations

• Retrospective review from a single tertiary public academic hospital.

• We used very conservative estimates for certain tasks and could not quantify a number of other tasks (e.g., completing medical leave paperwork, coordination of care with other providers, administrative burden for regulatory compliance, collection of quality metrics, etc.).
Compared to Previous Studies

No Evidence to Support Lowering Surgeon Reimbursement for Total Joint Arthroplasty Based on Operative Time: An Institutional Review of 12,567 Cases

Morad Chughtai, MD a, Atul F. Kamath, MD b, *, on behalf of the Cleveland Clinic Arthroplasty Group

Average Operative Times for 1,313 Primary Total Hip Arthroplasty and 1,300 Primary Total Knee Arthroplasty Over 39 Months Are Roughly Equal to Medicare Attributed Operative Times

Roshan P. Shah, MD, JD *, David Lauthen, MHA, Jeffrey A. Geller, MD, H. John Cooper, MD

Quantifying the Perioperative Work Associated With Total Hip and Knee Arthroplasty: The Burden Has Increased With Contemporary Care Pathways

Amy S. Wasterlain, MD, P. Maxwell Courtney, MD, Michael F. Yayac, MD, David G. Nazarian, MD, Matthew S. Austin, MD *
Conclusions

• This study shows that the 2014 evaluation of TJA codes is still accurate.

• Physician work is a moving target that is more complex than what is captured in the RUC model (e.g., preoperative optimization).

• There is need for innovative reimbursement assessment that reflect the changing role physicians play in value-based care.
Thank You

• Mohsin Mirza, BS
• Nebiyu Osman, MD
• Mark P. Cote, DPT
• Joshua Kerr, MA
• James I. Huddleston, MD
• AAHKS Health Policy Fellowship