Is the Practice of Overlapping Surgery Safe in Total Knee and Hip Arthroplasty?

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Disclosures

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Background
Overlapping Definition

Practice When Surgeon Is Operating Two Procedures On Overlapping Time Frame

Attending Surgeon Operates On Key Or Critical Components Of Surgery Before Starting A Case In Another OR
Practice When Critical Components Of Two Surgeries For Which Single Attending Physician Is Responsible For Are Occurring At The Same Time
Increase Efficiency & Access To High Volume Quality Surgeons

Improve Surgical Competence Surgeons & Trainees

Cleveland Clinic
Florida
Concurrent surgeries come under new scrutiny

A Senate Finance Committee Staff Report

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Overlapping Surgery in the Ambulatory Orthopaedic Setting

Alan L. Zhang, MD, David C. Sing, BS, Debbie Y. Dang, MD, PhD, C. Benjamin Ma, MD, Dennis Black, PhD, Thomas P. Vail, MD, and Brian T. Feeley, MD

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Overlapping Surgery</th>
<th>Non-Overlapping Surgery</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intraoperative*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating room time (min)</td>
<td>105.4 ± 43.2</td>
<td>105.5 ± 44.2</td>
<td>0.949</td>
</tr>
<tr>
<td>Anesthesia time (min)</td>
<td>117.3 ± 43.9</td>
<td>117.8 ± 45.8</td>
<td>0.772</td>
</tr>
<tr>
<td>Procedure time (min)</td>
<td>70.7 ± 38.2</td>
<td>72.8 ± 40.2</td>
<td>0.116</td>
</tr>
<tr>
<td>Length of stay in facility (hr)</td>
<td>5.8 ± 3.3</td>
<td>5.9 ± 5.2</td>
<td>0.508</td>
</tr>
<tr>
<td>Postoperative at 30 days†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complications</td>
<td>28 (1.1)</td>
<td>15 (1.3)</td>
<td>0.811</td>
</tr>
<tr>
<td>Hospital readmission</td>
<td>14 (0.6)</td>
<td>9 (0.8)</td>
<td>0.612</td>
</tr>
<tr>
<td>Reoperations</td>
<td>13 (0.5)</td>
<td>5 (0.4)</td>
<td>0.893</td>
</tr>
<tr>
<td>Emergency department visit</td>
<td>6 (0.2)</td>
<td>1 (0.1)</td>
<td>0.547</td>
</tr>
</tbody>
</table>

*The values are given as the mean and the standard deviation. †The values are given as the number of cases, with the percentage in parentheses.
Objectives
To Evaluate

90-day Complication, Readmission Reoperation Rates

Overlapping & Non-overlapping TJA
Mean Operating Room Time
Types Of Complications That Lead To Readmissions Or Reoperations
Methods
2,833 Consecutive Primary 

THA/TKA 

Single Institution
Overlapping Surgeries

Attending Surgeon Had Separate Case In Another Room

Overlapping Room Time Of At Least 30 Minutes
Results
<table>
<thead>
<tr>
<th></th>
<th>Overlapping (N= 1,610)</th>
<th>Non-overlapping (N= 1,223)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating room time (min)※(^\wedge)</td>
<td>142.2 ± 18.4</td>
<td>136.4 ± 22.5</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Postoperative within 90 days(^\dagger) (yes or no)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complications</td>
<td>83 (5.2%)</td>
<td>81 (6.6%)</td>
<td>0.104</td>
</tr>
<tr>
<td>Hospital readmissions</td>
<td>55 (3.4%)</td>
<td>53 (4.3%)</td>
<td>0.235</td>
</tr>
<tr>
<td>Reoperations</td>
<td>50 (3.1%)</td>
<td>38 (3.1%)</td>
<td>1.000</td>
</tr>
<tr>
<td>Periprosthetic joint infection</td>
<td>13 (0.8%)</td>
<td>6 (0.5%)</td>
<td>0.359</td>
</tr>
<tr>
<td>Intraoperative fracture</td>
<td>17 (1.1%)</td>
<td>21 (1.7%)</td>
<td>0.140</td>
</tr>
<tr>
<td>Postoperative fracture</td>
<td>3 (0.2%)</td>
<td>2 (0.2%)</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* Mean ± standard deviation.  † Number of cases (percentages) within groups.  ^ Number of cases with data.
Operating room time (min)

- **Entire cohort**: Overlapping 142 minutes, Non-overlapping 136 minutes
- **Obese patients**: Overlapping 143 minutes, Non-overlapping 135 minutes
- **Patients ASA 3 or 4**: Overlapping 142 minutes, Non-overlapping 137 minutes
Conclusions
Overlapping Surgeries

No Increase In 90-day Complication Readmission Reoperation Rates
5-minute Increase
Mean Operating Room Time Of
Overlapping Surgeries
Overlapping Surgery Does Not Lead To Detrimental Outcomes
Thank You