Economic Performance of Oblique Lateral Lumbar Interbody Fusion (OLLIF) with a Focus on Hospital Throughput Efficiency

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Introduction

Cost Burden of Spinal Fusions 1998-2008¹
Number of Fusions ↑ 2.4 x
Cost Per Fusion ↑ 3.3 x
Total Cost to U.S. ↑ 7.9 x

A new MIS fusion: Oblique Lateral Lumbar Interbody Fusion (OLLIF)

Can OLLIF reduce perioperative costs relative to TLIF?
- Kambin’s triangle approach
- No direct visualization
- Technically straightforward
- Fast OR time (<1 hr for 1 level)
- Minimal Blood loss

Methods

Study Design
- Retrospective chart review
- All surgeries were single surgeon procedures
- All TLIF cases completed before surgeon started performing OLLIF
- Recorded Surgery Time, Length of Stay

Study Population
- 69 OLLIF patients and 58 open TLIF controls
- All patients underwent full course of conservative therapy
- Indications: Degenerative Disk Disease, Disk Herniation, Listhesis, Stenosis

Cost Calculation
- OR Time: $ 83.51/minute²
- Hospital stay: $ 2197/day³

Results

Surgery Time

<table>
<thead>
<tr>
<th>Number of Levels</th>
<th>OLLIF</th>
<th>TLIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td>400</td>
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<tr>
<td>4</td>
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Hospital Stay

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<tbody>
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<td>6</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
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Cost Per Surgery

<table>
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<th>TLIF</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>2</td>
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<tr>
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</table>

OLLIF vs. TLIF Cost Reduction
- $11,834 per surgery

Discussion and Conclusion

Potential Impact on U.S. Healthcare Spending
- Lumbar fusions per year (2008 data)¹
- Cost reduction per surgery
- Potential for OLLIF U.S. health care cost reduction

Detailed Study Currently in Progress
- Direct health care costs: provider visits, injections, diagnostic tests, medication, devices
- Indirect health costs and productivity loss due to disability
- QALY analysis

Conclusion: OLLIF is a new Minimally Invasive Spinal Fusion that reduces perioperative costs relative to open surgery