A preoperative smoking intervention decreased postoperative complications in elective knee or hip replacement


QUESTION: In patients having elective knee or hip replacement, is a preoperative smoking intervention more effective than usual care for reducing postoperative morbidity and mortality?

A modified version of this abstract also appears in Evidence-Based Nursing.

### Outcomes to time of discharge

<table>
<thead>
<tr>
<th>Outcomes to time of discharge</th>
<th>Intervention</th>
<th>Usual care</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any postoperative complication</td>
<td>18%</td>
<td>52%</td>
<td>65% (42 to 83)</td>
<td>3 (2 to 6)</td>
</tr>
<tr>
<td>Wound related postoperative complication</td>
<td>5%</td>
<td>31%</td>
<td>83% (48 to 95)</td>
<td>4 (2 to 8)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary.
§CI calculated from data in article.

### Commentary

Preoperative assessment seeks to reduce postoperative morbidity or mortality. These assessments are typically for patients with increased risk for cardiac and pulmonary complications. Smoking within 8 weeks of surgery increases postoperative pulmonary, cardiovascular, infectious, and wound complications. Although patients are encouraged to stop smoking before elective surgery, no prospective data exist to validate this advice. The study by Møller et al showed that a formal smoking cessation programme reduced postoperative complications and wound related complications in motivated patients having elective hip or knee replacements.

In this small study population, no deaths occurred before discharge so that no conclusions for effects on mortality could be drawn. The 120 patients who entered the study were those who agreed to participate among the 166 who were eligible, and the study was done in Denmark, so generalisability of the results may be somewhat limited. For example, the median hospital stay in this study was 12 days compared with 5 days in the USA. The patients were given an American Society of Anesthesiology Physical Status Score classification, which is a subjective risk assessment; an objective cardiac or pulmonary risk assessment would have reassured me that the intervention and control groups were similar in overall medical health.

Any intervention that reduces postoperative morbidity warrants attention. The study should be replicated in other settings, and a cost-benefit analysis should be done. Meanwhile, patients who are scheduled for elective surgery and who currently smoke should be encouraged to quit smoking by using whatever formal smoking cessation interventions are available locally.

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1 UpToDate. Wellesley, MA: UpToDate Inc, 2002 (wwwuptodatecom/subscribers/indexasp).
2 HCUPnet, Healthcare Cost and Utilization Project, Rockville, MD, Agency for Healthcare Research and Quality (wwwahrqgov/data/hcup/hcupnethtm).
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