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


QUESTION: Does a preoperative smoking intervention reduce postoperative morbidity and mortality in patients having elective knee or hip replacement?

Design
Randomised [allocation concealed]*, blinded (outcome assessor), controlled trial with follow up to discharge.

Setting
3 university affiliated hospitals in Copenhagen, Denmark.

Patients
120 patients who were scheduled for primary elective hip or knee replacement and were daily smokers. Patients with a weekly alcohol intake > 35 units were excluded. 108 patients (90%) were included in the analysis (median age 65 y, 57% women).

Intervention
At 6–8 weeks before surgery, 60 patients were allocated to the smoking intervention and were offered a weekly meeting with the project nurse. At the first meeting, a Fagerstöm test was done to estimate the patient’s nicotine dependence. Test results and patient preference were used to devise a personalised nicotine substitution schedule. Patients were strongly encouraged to stop smoking, but had the option to reduce tobacco consumption by ≥ 50%. Smoking status was monitored, and nicotine substitution products were provided free of charge. At subsequent meetings, tobacco consumption was recorded and patients were given advice about smoking cessation or reduction, benefits and side effects, and management of withdrawal symptoms and weight gain, 60 patients were allocated to usual care (little or no information or counselling on smoking).

Main outcome measure
Postoperative complications (death or postoperative morbidity requiring treatment within 4 wks after surgery).

Main results
Analysis was by intention to treat. No patients died before discharge. Rates of any postoperative complication and of wound related complications were lower in the smoking intervention group than in the usual care group (table).

Conclusions
A preoperative smoking intervention was more effective than usual care for reducing rates of any postoperative complication and wound related complications in patients having elective knee or hip replacement. No deaths occurred before discharge.

*Information provided by author.

Smoking intervention v usual care in patients having elective knee or hip replacement†

<table>
<thead>
<tr>
<th>Outcomes to time of discharge</th>
<th>Smoking intervention</th>
<th>Usual care</th>
<th>RRR (95% CI)‡</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any 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</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.