Q Does subglottic secretion drainage (SSD) prevent ventilator associated pneumonia (VAP) in critically ill patients?

### MAIN RESULTS

5 RCTs (n = 896) met the selection criteria. SSD involved intermittent wall suction in 2 RCTs, continuous wall suction in 2 RCTs, and hourly syringe suction in 1 RCT. In 4 RCTs, patients were expected to be intubated for >72 hours. Patients who received SSD had reduced risk of VAP (table), required fewer days of mechanical ventilation (3 fewer d, CI 2.1 to 3.4) than patients who received standard endotracheal tube care. Groups did not differ for mortality (table) or hospital LOS (3 fewer d, CI 2.1 to 3.9), and prolonged duration, and time from intubation to diagnosis of pneumonia.

### CONCLUSION

In critically ill patients, subglottic secretion drainage reduces ventilator associated pneumonia and decreases duration of mechanical ventilation and intensive care unit length of stay.

†Information provided by author.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Number of trials (n)</th>
<th>SSD</th>
<th>No SSD</th>
<th>WMD (95% CI)</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilator associated pneumonia</td>
<td>5 (896)</td>
<td>12%</td>
<td>19%</td>
<td>-1.8 (CI -2.1 to -1.5)</td>
<td>49% (29 to 63)</td>
<td>14 (9 to 31)</td>
</tr>
<tr>
<td>Mortality</td>
<td>4 (823)</td>
<td>16.5%</td>
<td>16.3%</td>
<td>-0.2 (CI -0.4 to 0.0)</td>
<td>7% (-19 to 42)</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary. Weighted event rates, RRR, RRI, NNT, NNH, and CI calculated from data in article using a fixed effects model. Follow up was to discharge or death.

**Data sources:** Medline, CINAHL, EMBASE/Excerpta Medica, Cochrane Library, Current Contents, and Biological Abstracts (1966 to May 2003); reference lists of retrieved studies and reviews; and authors of identified studies.

**Study selection and assessment:** randomised controlled trials (RCTs) that compared SSD with no SSD in mechanically ventilated patients and reported pneumonia as an outcome. Methodological quality of individual studies was assessed based on allocation concealment and blinding.

**Outcomes:** VAP. Secondary outcomes were mortality, intensive care unit (ICU) length of stay (LOS), hospital LOS, ventilation duration, and time from intubation to diagnosis of pneumonia.
Review: subglottic secretion drainage reduces ventilator associated pneumonia

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