Introduction:
Sleep disturbances in ICU patients are frequent and associated with complications. Goal of the study is to evaluate qualitative and quantitative alterations of sleep architecture under different regimes of sedation.

Methods:
Nine tracheostomized COPD patients ready to be weaned from ventilation were enrolled. For each patient, the sleep architecture was studied by polysomnography (Sleep Profiler-Advanced Brain Monitoring) performing 3 recordings: basal registration, continuous infusion of propofol or dexmedetomidine from 22 pm to 6 am. Rass target was 1/2.

Results:
The mean dose was 0.8 mg/kg/h for propofol and 0.7 mcg/kg/h for dexmedetomidine. Quantitative analysis showed, a statistically significant longer Total Sleep Time (TST) and less sleep fragmentation (awakenings/hour) using dexmedetomidine. Qualitative analysis showed non statistical differences between the two regimens: longer N1 and N3 stage with propofol and a longer N2 and REM phase with dexmedetomidine. Furthermore, a reduced number of dosage adjustment was needed during dexmedetomidine sedation (tab 1).

Conclusion:
Our study confirms the presence of disturbance of sleep architecture in ICU patients. The use of sedatives could help to reduce sleep qualitative and quantitative disorder. Dexmedetomidine seems to reduce the wakefulness time and the sleep fragmentation but, while we haven’t found differences in sleep architecture using dexmedetomidine or propofol.

References:
Laura Pasin et al. PLOS ONE | Volume 8 | Issue 12 | 2013

<table>
<thead>
<tr>
<th></th>
<th>propofol</th>
<th>dexmedetomidina</th>
<th>P value</th>
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<tbody>
<tr>
<td>Total Sleep Time (mean)</td>
<td>55%</td>
<td>73%</td>
<td>&lt;0.05</td>
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<tr>
<td>Sleep fragmentation (awakenings/hour)</td>
<td>5,3</td>
<td>4,8</td>
<td>&lt;0.05</td>
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<tr>
<td>N1(%)</td>
<td>15,2</td>
<td>11,3</td>
<td>NS</td>
</tr>
<tr>
<td>N2(%)</td>
<td>64,7</td>
<td>69</td>
<td>NS</td>
</tr>
<tr>
<td>N3(%)</td>
<td>7,6</td>
<td>5,8</td>
<td>NS</td>
</tr>
<tr>
<td>REM(%)</td>
<td>12,5</td>
<td>13,7</td>
<td>NS</td>
</tr>
</tbody>
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*tab.1*