Don't Blame the Duodenoscope Elevator, the Channels Are Contaminated as Well: A Systematic Review and Meta-Analysis

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Our analysis demonstrates that 19.98% of reprocessed patient-ready GI endoscopes may be contaminated. The contamination rate was lower among US studies, which may be attributed to the actions taken in the US to overcome this issue. However, our findings highlight that the elevator mechanism is not the only obstacle when replicating endoscopes. More studies are needed to fully determine the role of contaminated endoscope channels in the cross-transmission between the patients.

### Table 1. Study characteristics of included studies.

<table>
<thead>
<tr>
<th>Study design</th>
<th>Country</th>
<th>Sampled channel/areas</th>
<th>Positive cultures</th>
<th>Sample size</th>
<th>Type of intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival 2018</td>
<td>Netherlands</td>
<td>Endoscopy channel</td>
<td>9</td>
<td>285</td>
<td>NA</td>
</tr>
<tr>
<td>Bolivia, 2017</td>
<td>USA</td>
<td>Working channel</td>
<td>51</td>
<td>390</td>
<td>NA</td>
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<tr>
<td>Bulgaria, 2017</td>
<td>USA</td>
<td>Working channel</td>
<td>47</td>
<td>412</td>
<td>NA</td>
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<tr>
<td>Chile, 2017</td>
<td>Italy</td>
<td>Endoscopic channel</td>
<td>35</td>
<td>82</td>
<td>NA</td>
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<tr>
<td>China, 2019</td>
<td>Taiwan</td>
<td>Working channel</td>
<td>41</td>
<td>135</td>
<td>NA</td>
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<tr>
<td>8.01%</td>
<td></td>
<td></td>
<td>0.01</td>
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</tbody>
</table>