**Cost study: reusable flexible ureteroscopes vs single-use in a healthcare facility**

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### Background & importance

We would like to increase the activity of flexible ureteroscopy in our centre to take care of renal lithiasis, a procedure with a high risk of material breakage. With 6 adult ureteroscopes often undergoing disinfection or repair and 1 almost obsolete paediatric ureteroscope, our equipment is insufficient. Knowing that we have a disinfection centre for endoscopes, should we move to single-use?

### Aim & objectives

**To compensate for the unavailability of reusable ureteroscopes, should we switch completely to single use or use them in addition?**

### Materials & methods

We compared the annual cost per 300 procedures of reusable and single-use ureteroscopes. The cost of reusable ureteroscopes includes the purchase price of the 7 devices amortized over a 3-year life span, the cost of disinfection, the maintenance contract and repairs. The cost of single-use ureteroscopes is the purchase price of 300 units.

### Results (table 1)

<table>
<thead>
<tr>
<th>Costs (€/year)</th>
<th>Reusable</th>
<th>Single-use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase price/amortization</td>
<td>27,813€</td>
<td>184,500€</td>
</tr>
<tr>
<td>Disinfection cost</td>
<td>18,953€</td>
<td>NA</td>
</tr>
<tr>
<td>Maintenance contract</td>
<td>66,000€</td>
<td>NA</td>
</tr>
<tr>
<td>Repair cost</td>
<td>20,594€</td>
<td>NA</td>
</tr>
<tr>
<td>Total</td>
<td>133,360€</td>
<td>184,500€</td>
</tr>
</tbody>
</table>

Table 1: Yearly costs of reusable and single-use ureteroscopes’ utilization

The results show that the annual cost of reusable ureteroscopes would be **€133,360** excluding tax. The cost of single use would be **€184,500** excluding tax. If we replaced our entire fleet with single-use ureteroscopes, the additional cost would be **€51,140** per year, excluding taxes.

### Conclusion & relevance

In our case, reusable ureteroscopes are cheaper. In addition, the video quality of single-use ureteroscopes is lower.

We therefore decided to increase our stock to 8 devices and to reserve the occasional purchase of single-use ureteroscopes for emergencies when reusable ureteroscopes are unavailable and for procedures with a high risk of material breakage.

Thus the purchase was limited to 4 adult single-use ureteroscopes and 2 paediatric ureteroscopes in one year.