Is the sensitivity of T-DOC air-charged catheters stable enough for ambulatory urodynamics monitoring?

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Introduction

<table>
<thead>
<tr>
<th>Solid state catheters</th>
<th>Air charged catheters</th>
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<tbody>
<tr>
<td>Reusable</td>
<td>Disposable</td>
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<tr>
<td>Needs sterilising</td>
<td>Artifact resistant</td>
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**Aim**

To investigate whether T-DOC catheters are stable enough for ambulatory urodynamics.

**Methods**

1) Test 10 T-DOC catheters under known pressure for 6 hours
2) Recharge T-DOC every hour

**Results**

1) T-DOC catheters measure slowly changing pressure to +/- 5 cmH2O
2) T-DOC catheters leak slightly
3) Pressure measurements change by < 4 % per hour

**Conclusion**

T-DOC catheters leak slightly but are metrologically suitable for ambulatory urodynamics.

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**Fig 1:** Experimental setup.

**Fig 2:** Reference pressure in chamber over time.

**Fig 3:** Deviation from reference pressure as measured by T-DOC catheter in a single ramp.

**Fig 4:** Sensitivity change of 10 T-DOC catheters over 6 hours.