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

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Introduction

Solid state catheters	Air charged catheters
Reusable	Disposable
Needs sterilising	Artifact resistant

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 cmH_2O
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.

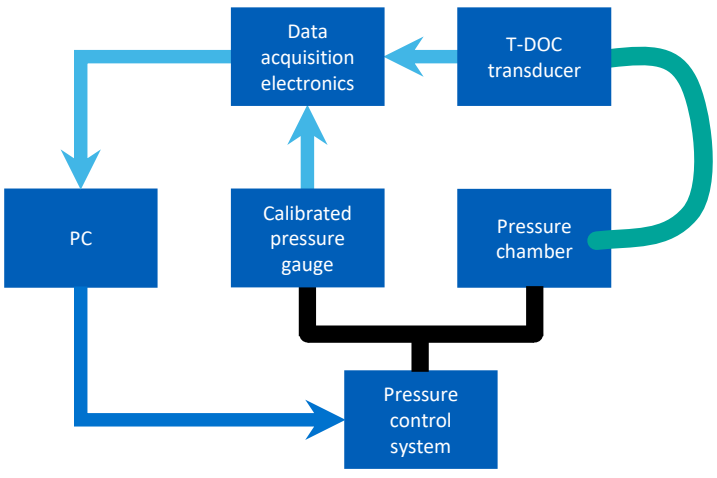

Fig 1: Experimental setup.

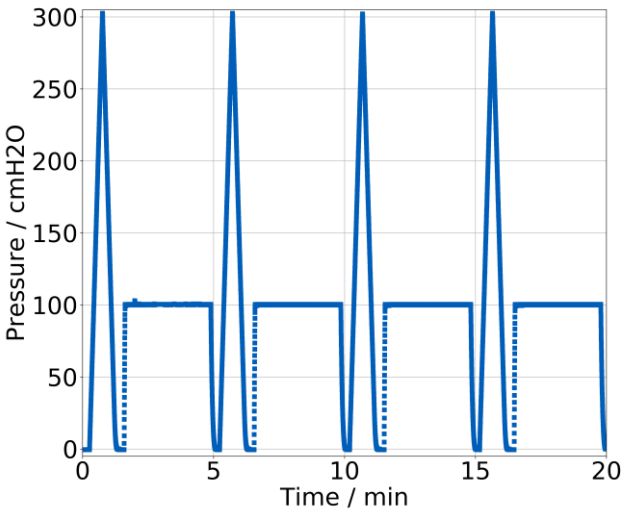

Fig 2: Reference pressure in chamber over time.

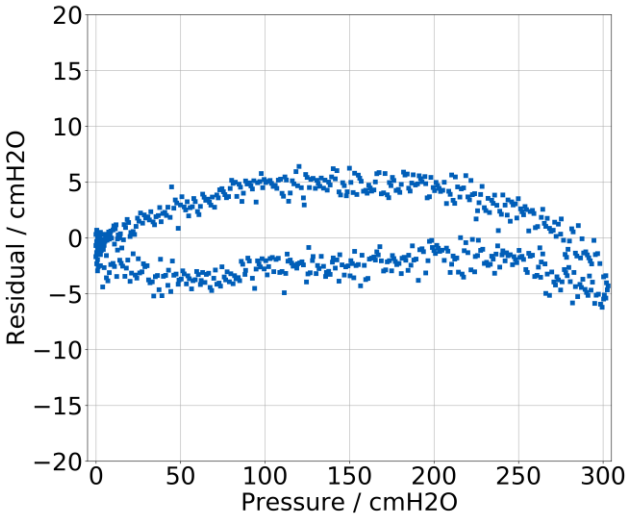

Fig 3: Deviation from reference pressure as measured by T-DOC catheter in a single ramp.

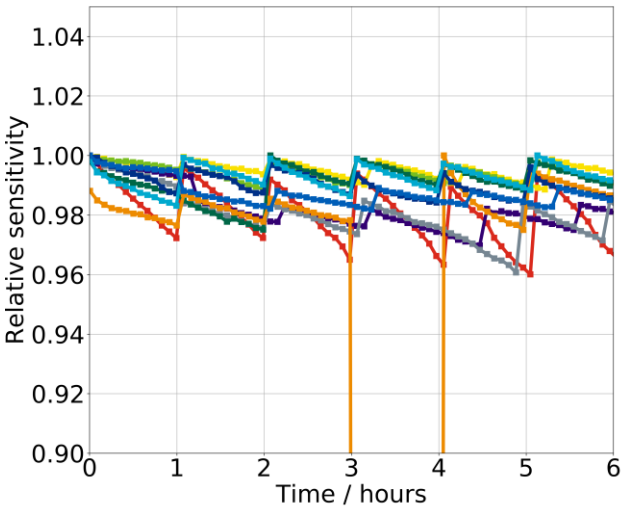

Fig 4: Sensitivity change of 10 T-DOC catheters over 6 hours.