Automatic Reference Height Correction For A Water-Filled Urodynamic System
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Introduction & Aims
ICS recommends the use of water-filled catheters to measure pressure in urodynamics [1]. However, when this method is used the external transducers must be placed at reference height throughout the study which is time consuming and difficult to estimate.

This pilot study trialled a new feature on the urodynamics system produced by Medica Menfis [2], which automatically corrects for changes in reference height by using a third transducer. The accuracy of both this feature and manually estimating reference height were compared.

Method
1) Each staff member estimated reference height on a model patient in 3 positions.
2) On 20 patients having standard urodynamics, the reference transducer was taped at bladder height (Figure 1) and it’s accuracy calculated.

Results
The manual estimation results (graph 1) showed a 3.5% error with a mean difference of 4.5cm (SD 3), this difference is statistically significant (p=0.0027).

The automatic reference height results (graph 2) show a 3% error and mean difference of 1.5cm (SD 0.9), this difference if not statistically significant (p=0.3157).

Conclusion
The new feature measures changes in reference height accurately and eliminates the need for the transducers to be moved during the test.

References

Disclosures
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