

## **AUTOMATIC INTERPRETATION OF URODYNAMIC TESTS: PRESENTATION OF NEW SOFTWARE**

### Hypothesis / aims of study

Urodynamic study is an essential tool in the evaluation and management of patients with lower urinary tract symptoms. Interpreting these tests may be difficult for occasional users and require significant expertise.

We propose to create new software able to automatically interpret urodynamic parameters, to generate a final report and to assess the quality of the study.

### Study design, materials and methods

We design software that extract urodynamic parameters from free uroflow, cystometry and pressure flow study and interpret these parameters based on normal urodynamic values. These normal values had been defined from published literature articles. This new software has been designed based on the "C++ software" program. It extracts urodynamic parameters from urodynamic report which generated by Kalhei Dolphin software (Laborie Medical Technology). Validation of results generated by the new software has been made in comparison with reports produced by urodynamic experts using the same terminology than the device.

### Results

34 urodynamic studies were interpreted by urodynamic expert and compared with the automatic report given by the new software. The software program gave the same report than expert for each measured parameter in 98% of cases. It was able to perform as well for normal and abnormal tests. The quality of the test in term of calibration and control of transducers position was also monitored and reported accurately.

### Interpretation of results

We have shown the accuracy of this new software which can be very useful in clinical practice for non expert urodynamic specialist. It allows a good screening of abnormal urodynamic data and dysfunctional storage and voiding.

### Concluding message

This work showed that this new urodynamic-interpreting program is as accurate and precise as experienced clinician.

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>NONE</b>