

## HOW IS URODYNAMICS CARRIED OUT FOR THE TIME BEING?

### Hypothesis / aims of study

Herein we report a census data on the activity of 22 urodynamic (UD) laboratories in the North-East of Italy collected by a questionnaire sent via E-mail.

### Study design, materials and methods

In the questionnaire technical, economical and organisational aspects of UD were enquired through 16 questions.

### Results

Out of the 73% of UD laboratories which use ultrasound to evaluate the bladder residual after uroflowmetry, 41% answered they "always" use it whereas 32% answered "sometimes".

Micturition charts are routinely asked before UD in 64% of the labs.

VideoUD is not performed at all in 27% of the laboratories while it is used routinely in 41% of them. Disposable pressure-transducers are mainly used (73% of the cases). Two labs have adopted air-charged catheters (T-doc, Mediwatch Plc ©), which need a definitive pressure-transducers.

In the evaluation of stress urinary incontinence 1 laboratory uses the urethral pressure profilometry (PPU), 2 no examination at all, 6 the abdominal leak point pressure (ALPP) and 13 both PPU and ALPP. Five out of 14 units use only the static PPU.

Nineteen labs perform perineal electromyography (EMG), 6 by both needle and surface electrodes, the others only by surface electrodes.

Uninvasive UD is seldom performed in 5 centers and usually in 3; half of these laboratories checks the bladder wall thickness.

Two laboratories use mini-invasive UD by the cup-system.

UD is booked through the Centralized Booking Office (CUP) in 64% of cases, by the urological department itself in 23% and by both modalities in 13% of cases.

The average expectation time to perform UD is 2.5 months (range 15 days-8 months) and in 5 laboratories there are nurses only dedicated to this activity

The mean cost of materials for cystometry or pressure-flow examination - pressure transducers, infusion tubing set, transurethral catheters and abdominal pressure catheters - is € 51 (min 26, max 78). These data come from the answers of 12 labs because the others omitted this question. The prices for each device are the following: pressure transducers € 29 (range 10-51), infusion tubing set € 11 (range 4.6-18.4), urethral catheters € 9 (range 1-15), abdominal pressure catheters € 8 (range 1.8-19.3).

Triple lumen T-doc catheters seem to allow also PPU evaluation at a good price.

See tables 1 and 2 as regards the UD equipment and the type of urethral catheters used.

Tab 1: UD equipment

Medtronic Duet	7
Siem Urobenchmark	5
Phoenix Medical S.	1
Medimar Andromeda	1
MMS Solar 1	3
Albin Medical	1
Life-tech Urolab 1	1
Pyco Memphis	1
No answer	2

Tab 2: Type of urethral catheters used for cystometry/pressure-flow examinations

Catheter	n. lab
Double lumen	17
Triple lumen	1
2 Feeding tubes	2
Microtransducers	1
Double lumen microtransducer	1

### Interpretation of results

UD standards are high in the North-East of Italy, where many labs routinely use the ultrasound evaluation of bladder residual after the uroflowmetry, the videoUD and the surface EMG. In spite of that, more than 1/3 of the labs do not ask micturition charts before UD, in contrast with the international guidelines that advise their use for the management of the bladder dysfunctions (1, 2).

The needle-EMG and the uninvasive UD are performed in few centers, probably the most specialized ones, while the mini-invasive UD did not enter the clinical practice.

Significantly the ALPP is now more used than the PPU and especially the dynamic PPU is going to be abandoned.

The costs for materials are various and many labs did not answer about the economical data. The most expensive accessories are the pressure-transducers. The double lumen catheters are preferred in 77% of the centers. Two Feeding-tubes (really cheap, 0.25 € each) are used in 2 labs trained above all in the evaluation of neurogenic bladder that does not usually need the voiding phase (most of patients void by clean intermittent catheterisation).

### Concluding message

The survey shows the "state of the art" about UD practice with important changes.

Almost everywhere double-lumen catheters are used and PPU is going to be replaced by ALPP.

Uninvasive and mini-invasive UD have not entered the routine practice.

Micturition charts before-UD are used in many labs but they are not as common as expected yet.

References

1. 1) Schroeder A, Abrams P, Andersson KE, Artibani W, Chapple CR, Drake MJ, Hampel C, Neisius A, Tubaro A, Thuroff JW
2. 2) Stoher M, Blok B, Castro-Diaz D, Chartier-Kastler E, Del Popolo G, Kramer G, Pannek J, Radziszewski P

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***Is this a clinical trial?***

**No**

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***What were the subjects in the study?***

**NONE**

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