

EU-Ukraine Webinar Series on Spinal Dysraphisms



Questions

Session 5: Urodynamics

Responses by

**Prof. Rien Nijman &
Dr. Giovanni Mosiello**



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Session 5 Q&A / Сесія 4 Питання та відповіді

1. What do you recommend for urodynamics studies in patients with Autism?

In patients with autism, it will be more difficult to perform invasive evaluation, with a transurethral catheter. Suggestion is to use non-invasive urodynamic, Bladder US, surface EMG, FLW, PVR. For invasive urodynamics in selected cases consider to use suprapubic access, to introduce the day before in sedation.

2. What are the absolute contraindications for UDS in children and what is the lower age limit for performing UDS in children?

Absolute contraindications are limited to UTI.

Regarding age: you could perform a UDS even in the first days of life, it depends on the aim, and you must consider the risk of artifacts. In newborns with spina bifida aperta, the first UD should be performed after the phase of spinal shock after closure, usually between the second and third months of life. Especially in newborns, performing and interpretation of UD may be difficult, as bladder function may have some immature signs, such as detrusor-sphincter dyscoordination, high voiding pressure and very low bladder capacity.

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3. About the bladder filling phase in the videourodynamic examination: when to stop filling the bladder if we observe the appearance of uni/bilateral VUR? Is it when VUR increases or at the beginning just after VUR appears? Or does it depend on Pves or Pdet?

Sometimes there is the risk of transient minimal reflux during filling because of increased Pdet. It is useful to record when VUR appears, but it is better to stop filling when VUR increases and see what happens. If VUR disappears again you can continue filling. You must consider always Pdet (Pves-Pabd).

4. How do you evaluate sphincter competency?

Measuring Leak point pressure (LPP and the appearance of bladder neck on videourodynamics).

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5. Is it mandatory to measure the urethral pressure profile in children and why?

No, it is not significant as in adults, and there is a high risk of artifacts. Urethral pressure measurement is indicated in very, very selected cases in adolescents.

6. In which impairments, in addition to neurogenic bladder, is a urodynamic examination indicated?

In Bladder exstrophy, epispadias, posterior urethral valves, severe reflux (better videoUD), and in all patients before major surgery for continence.

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7. Preparation of children for urodynamics and timing of premedication?

Before any UD, a urine analysis should be undertaken, the first assessment should be done under antibiotic prophylaxis. A Cochrane analysis showed, that the administration of prophylactic antibiotics compared to placebo reduced the risk of significant bacteriuria from 12% to 4% after UD studies. However, this was without significant difference for symptomatic UTI (20% vs. 28%), fever or discomfort. If there is significant bacteriuria, antibacterial treatment should be discussed; especially in older patients a single dose may be sufficient.

Administering bowel management has a positive effect on bladder function and urodynamic findings (better rectal pressure measurement).

Regarding premedication ,midazolam could be useful in some cases, and remember that you must record the emptying phase and your patient must be awake.

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8. Does the normative value of pressure in the bladder during cystometry depend on the age of the child and the device on which it is performed?

You must consider the correct capacity/age (see presentation) in order to define correct filling rate, and understand when you can stop the filling if micturition does not occur.

Furthermore, you have seen that the high-risk value is with EFP or LPP > 40 cmH₂O, but in pediatrics only values < 25 H₂O are safe: value between 25-40 cmH₂O are low risk area. Also, boys < 1 year have higher voiding pressures than girls and they will normalize when they get older.

No difference is related to urodynamic equipment, and when comparing results pay attention to always use the same kind of transducer, water or air.

9. From what age performing uroflowmetry is informative?

Normally after 3 years of age, after daily pad removal