Non-invasive urodynamics (serial bladder scanning) in children

Introduction

Bladder and voiding (weeing) problems are common in children. To help assess your child’s problems and the type of management or treatment required, your child will need to have some tests. Non-invasive urodynamics, also called ‘serial bladder scanning’ assesses the bladder function. This leaflet explains what non-invasive urodynamics involves, what happens before, during and after admission and who to contact if you have further questions.

Why is non-invasive urodynamics needed?

The bladder, along with the kidneys, ureters, and urethra, is a part of the body’s urinary system.

![Diagram of Urinary System]

Each part of the urinary system has an important job to do. The bladder stores urine and its muscles work to empty the urine out.

Non-invasive urodynamics helps to answer questions that relate to your child’s bladder function such as:

- How much urine does the bladder hold?
- How well does the bladder empty?
- Is there any ‘residual urine’ (that is, urine left in the bladder after the child has passed urine) and if so, how much?
What does non-invasive urodynamics involve?

Your child will be admitted to one of our children’s wards for the day. It is important that your child continues to eat and drink normally during the day, both before and during admission.

Each time that your child needs to void (wee) you will need to collect the urine in a container, which we will provide, so it can be measured. Immediately after your child has passed urine a member of the children’s urology nurse specialist team will scan your child’s bladder with a portable bladder ultrasound machine to determine if there is any urine left in the bladder. If the scan identifies that some urine is left in the bladder your child will be asked to void again and then be re-scanned. Urine left in the bladder after a child has passed urine is referred to as ‘residual volume’.

For some children it may be beneficial to also scan their bladder prior to each void for example, in children who void infrequently or do not know when they need to void.

What is a portable bladder ultrasound scan?

A portable bladder ultrasound scan is a type of ultrasound. Gel is placed on your child’s lower abdomen over the bladder and then a transducer (see picture below) is passed over the abdomen so any urine in the bladder can be seen. The gel used does feel a bit cold but no part of the scan is painful.

On arrival your child’s nurse specialist will show you and your child the bladder scanner and undertake a practice scan so your child gets used to how it feels.
Will any other tests be undertaken as part of non-invasive urodynamics?

Your nurse specialist will ask detailed questions about your child’s problems, symptoms and treatment so far. This will include questions about your child’s voiding and stooling ('pooing') habits.

On arrival your child’s urine will be tested on the ward for any signs of infection. If signs of an infection are identified the urine will be sent to the laboratory for a more comprehensive test. However, it may be necessary to postpone the non-invasive urodynamic study for a number of weeks, until the infection has been treated, as results can be altered by the presence of an infection.

During the day of admission an uroflowmetry test may also be undertaken.

What is an uroflowmetry test?

Uroflowmetry (also called a ‘flow rate test’) involves passing urine into a machine which has the same appearance as a portable toilet. The machine has a computer attached which measures how much urine your child passes and how quickly. Uroflowmetry is not required for every child, for example, those children who are not toilet trained.

Are there any risks with these investigations?

No - neither the ultrasound nor uroflowmetry test have any risks. Some children may feel a little uncomfortable when they are scanned with a full bladder.

How is admission arranged?

Your child will be referred to the children’s urology nurse specialists by your GP or Hospital doctor. On receipt of the referral the nurse specialist will phone you to arrange a mutually agreeable date for admission.

Once a date has been agreed you will receive a confirmation letter which contains the date, time to arrive, ward and which member of the nurse specialist team will be on duty to undertake the investigations. The letter also contains contact details for the nurse specialist team so, if you have any further questions or need to change the date you can contact us.

Is there anything to do prior to admission?

You are likely to be asked to fill in a bladder diary (also called a voiding diary) unless you have already completed one recently.
This means that you will need to write down when your child:

- drinks, what they drink and measure how much
- voids and measure the volume
- has any wetting accidents
- opens their bowels

If you need to complete a voiding diary, we will send one to you with your confirmation letter along with full instructions. The voiding diary must be completed prior to your child’s admission and brought with you on the day of admission. Failure to return the completed bladder diary will result in an incomplete assessment.

**How long will my child need to stay on the ward?**

In order to obtain accurate information on your child’s bladder capacity and emptying it is necessary to carry out regular scans of their bladder throughout the day. Therefore we admit children for the whole day (usually from 09:00) and ask you to encourage them to drink well. Discharge is usually late afternoon/early evening.

Our children’s ward has a play room with a variety of toys to suit all ages and the children’s ward will supply your child’s drinks and food for the day. However, if you wish to leave the ward for short periods of time between scans, for example to visit the gardens or go to the shopping concourse, your child can leave the ward with you. It is however essential that, should your child need to void whilst off the ward that you return immediately.

**What should we do if the date arranged becomes inconvenient or my child becomes unwell?**

It is essential that you contact the nurse specialist team to discuss and rearrange. To obtain accurate results it is essential that your child is well at the time of these tests.

**What happens after non-invasive urodynamics?**

At the end of the day when non-invasive urodynamics have been completed the nurse specialist will discuss the results with you and provide some advice to help your child.

The nurse specialist will write a detailed report including information on your child’s voiding and stooling history, all results from the day, whether complete bladder emptying was demonstrated and any advice provided. The report is sent to the doctor (or nurse specialist) that requested the tests and copies are sent to your child’s GP and to you.

The doctor or nurse specialist that requested that your child attend for non-invasive urodynamics will then decide what follow up is appropriate; this usually involves your child attending clinic to discuss the results.
For further information/queries please contact:

Your nurse specialist (Mon to Fri 08:00 to 18:00)…01223 586973………………

The ward you were on……………………………………………………………………

We are a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

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