

What is it?

“Botox” is the common name for a medication made from the toxin of a bacterium *Clostridium botulinum*. It is a neurotoxin (nerve ‘poison’), used for a range of medical and cosmetic purposes.

Botox injections work by weakening or paralysing certain muscles or nerves. The effects last up to 6 months.

Use in Urology

The bladder is a stretchy but muscular bag, which stores the urine until it is time to void. When the bladder is full, it begins to contract. If it is not a good time/ place to void, the brain will tell the bladder to stop contracting. At the appropriate time to void, the brain tells the bladder to contract whilst relaxing the sphincter so the urine can come out.

Some children have an abnormality in the nerve supply to the bladder (neuropathic bladder) which can cause problems with the bladder relaxing, or contracting and/or the sphincter relaxing.

Some children have increased contractions of the bladder, even when it is not full (overactive bladder).

Botox can be injected into the bladder muscle to help it relax. This can decrease bladder pressure, thereby reducing back-pressure on kidneys. It can also make the bladder ‘calmer’ and thus treat incontinence due to overactivity or ‘instability’.

Some of the urological conditions for which Botox may be beneficial include:

- neurogenic bladder
- idiopathic detrusor overactivity
- detrusor sphincter dyssynergia

What tests are performed?

If your child has incontinence or bladder problems, they should be assessed by a paediatrician. A range of tests may be appropriate, depending on your child’s symptoms. These may include:

- voiding diary
- urine flow studies
- ultrasound of urinary tract
- X rays or imaging of the spine
- micturating cystourethrogram
- urodynamics

There are individual information sheets on these.

What are the treatment options?

If the bladder is overly active, anticholinergic medications (eg oxybutinin) is usually first line if drug treatment is indicated. These are available as slow-release patches, or as oral medication.

Botox may be recommended if other forms of treatment have not worked or have side effects.

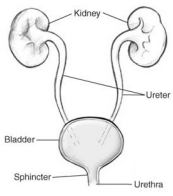
How is it used?

The Botox agent needs to be injected directly into the muscle. For the bladder, this means a cystoscopy (telescope examination of the bladder) is performed, to guide injection.

Your child will be admitted to hospital on the day of the procedure, and they will have a general anaesthetic.

The cystoscopy is performed by insertion of a cystoscope (telescope) through the urethra into the bladder. A very thin needle is placed through the cystoscope and the Botox is injected under vision all around the bladder.

Injection of Botox is usually performed as day case surgery, so your child will go home after recovering from the anaesthetic.



What are the complications?

Infection

A urinary tract infection can occur whenever any procedure is done on the urinary tract. The procedure may also cause pain, fever and urgency to pass urine. If symptoms suggest urinary tract infection, urine needs to be tested and treatment commenced with antibiotics.

Pain

“Dysuria” is pain when passing urine. This is common for the first day after a cystoscopy, due to minor trauma of the procedure. This should improve in 2 days. Encourage lots of water.

Bleeding

Blood in the urine can occur after any cystoscopy, and is more likely when injections have been performed. Expect urine to be pink-red. The amount of blood lost is rarely significant, and the urine should clear in a few days. If clots are being passed, or the child cannot wee, this is cause for concern.

Rare problems

- Headaches
- Fever
- Abdominal pain
- Diarrhoea
- Problems emptying the bladder

What are the outcomes?

It usually takes a few days for the Botox to have effect. Botox has a good success rate for calming the bladder and reducing incontinence from overactivity.

The duration of effect (how long it lasts) is different for different patients, but usually constant for each individual. It usually works for 3-6 months.

What is the follow-up?

You will need to attend follow-up appointments to assess the efficacy (success) of the Botox injection. Your child may need repeated investigations.

Your child may need repeated injections with Botox to maintain the effect, once the effect begins to wear off. After the first round of treatment, it is possible to predict how quickly retreatments will be needed.

When to worry/ come back or call?

Your child develops a fever >38.5 degrees

Your child doesn't pass urine for 8-12 hours

Your child bleeds a lot when passing urine

Your child has pain that you can't control with oral medications

Come back, or call the paediatric surgical registrar through the Monash Childrens' Hospital switch board 03 9594 6666