

Deflux[®]

Brochure for Caregivers



The Minimally Invasive
Treatment for Vesicoureteral
Reflux (VUR)

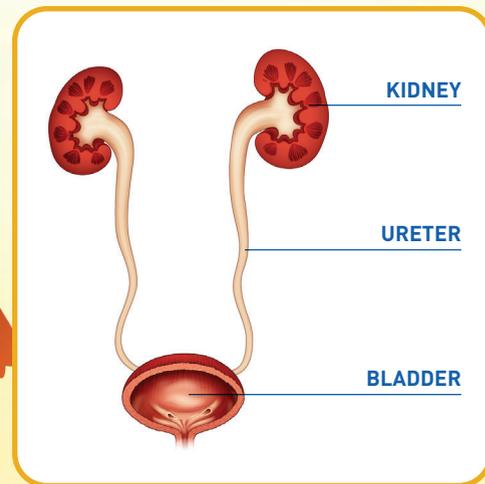
Your child has a condition known as vesicoureteral reflux (VUR). There are treatments that can help. In this brochure, you'll learn about VUR and how it can be treated.

Understanding VUR

About 1% of children in the world have VUR¹

Urine is made in the kidneys. Normally, it only flows one way: down the ureters and into the bladder. VUR occurs when urine flows back from the bladder through the ureters. This can happen in one or both sides.

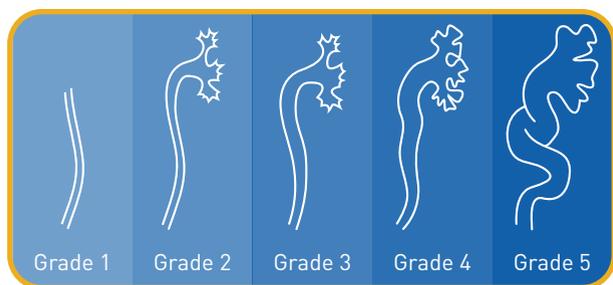
Some children are born with VUR. It results when the connection between the bladder and ureter is not normal. The lower part of the ureter tunnels through the muscle of the bladder. If this tunnel is too short or is located too much to one side, VUR may occur. Behaviors such as infrequent or incomplete urination and related constipation are also associated with VUR.



Understanding VUR

Is VUR Serious?

Using X-rays of the urinary system, your doctor can tell you how serious your child's VUR is with a grading scale. This scale ranges from grade 1 (mild) to grade 5 (severe). Most of the time, milder grades of VUR will go away on their own. However, the more severe the VUR, the less likely it will go away on its own.²



There can be serious consequences of VUR. Kidney infections can occur when infected urine flows back into the kidneys. These infections can lead to scarring and damage to the kidneys. This damage could cause poor kidney function and high blood pressure later in life.

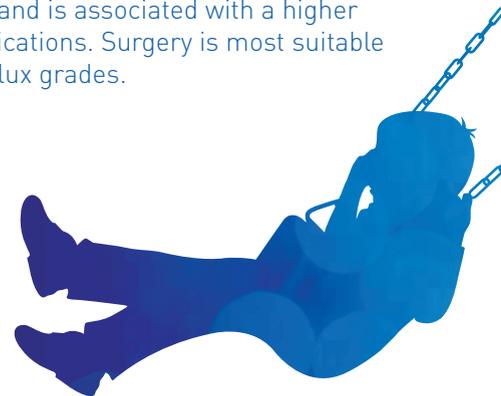
VUR Symptoms – What to Look For

VUR itself does not show symptoms. However, VUR presents itself most commonly with recurrent urinary tract infections (UTIs) accompanied by a fever, or what your doctor may call febrile urinary tract infections (fUTIs). Among children with a first-time febrile UTI, up to 40% have VUR.³

There is Help for VUR

It is important to treat VUR to prevent possible UTIs and kidney damage. There are a few options for managing or treating VUR:

- **Antibiotics** may be used to prevent UTIs until VUR goes away by itself. This treatment may take several years, and children must take medicine every day. These children must be retested for VUR on a regular basis. Antibiotics are most suitable for milder grades of VUR. However, long-term treatment with antibiotics may cause the bacteria to become resistant, leading to more infections.
- **Endoscopic treatment** is minimally invasive and can provide an immediate cure with minimal side effects. Deflux endoscopic treatment usually takes about 15 minutes and allows children to go back to normal activities the next day.⁴ Deflux endoscopic treatment is indicated for children with VUR grades 1-5.
- **Surgery** can fix the ureters to stop VUR. This type of treatment cures most children. However, the operation can be stressful and painful to the child, may require a prolonged hospital stay and is associated with a higher risk of complications. Surgery is most suitable for higher reflux grades.



The Deflux Advantage

NASHA®- The Natural Solution

Deflux is made from two tissue-friendly polysaccharides (types of sugar molecules) — hyaluronic acid (HA) and dextranomer. The HA in Deflux is Non-Animal Stabilised Hyaluronic Acid (NASHA) and is naturally broken down (biodegraded) over a short time and replaced by the body's own material, while the dextranomer remains in place longer. NASHA is a patented technology and is designed for optimal biocompatibility and stability.

The Deflux Procedure

Deflux gel is injected at the spot where the ureters connect to the bladder. This will help keep urine from flowing back into the ureters and kidneys. Eventually, new tissue grows around the gel providing long-term results for many children.

Your doctor will use a small camera called a cystoscope (a thin tube used to view the bladder) to properly place the Deflux. During the procedure, your child may be under general anaesthesia.

Following the Procedure

There is usually no pain after the procedure. Your child may feel some stinging during the first few times he or she urinates. Be sure to call your doctor if your child cannot urinate, feels pain in his or her tummy, or has a fever after returning home.

After the procedure, your doctor will determine what type of follow-up is needed and if additional treatment is required.

Deflux- Effective Treatment for VUR

Deflux works well to stop VUR in children. Many children have success after one injection. It may be comforting to know that in studies, one-time treatment with Deflux has been proven effective in up to 93% of children with VUR grades 2-4.⁵

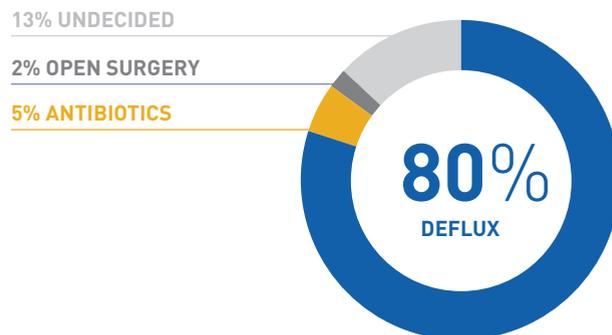
Deflux- Safe Treatment for VUR

Deflux has been used safely for over two decades in children with VUR, and the NASHA in Deflux has been used in more than 40 million procedures worldwide,⁶ often as a dermal filler for wrinkle correction.

Deflux- The Parents Preferred Choice

94% of parents reported high satisfaction with Deflux treatment⁷

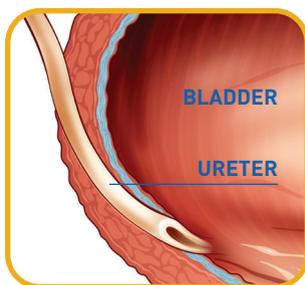
In a study involving children with moderate VUR, **80%** of parents preferred endoscopic treatment over antibiotics or open surgery.⁸



Answers to Questions About VUR

What is VUR?

Urine is made in the kidneys. Normally, it only flows one way: down the ureters and into the bladder. VUR occurs when urine flows back from the bladder through the ureters. This can happen in one or both sides.



Close-up view of where the ureter enters the bladder.

What causes VUR?

Some children are born with VUR. It results when the connection between the bladder and the ureter is not normal. The lower part of the ureter tunnels through the muscle of the bladder. If this tunnel is too short or too much to one side, VUR may occur. Behaviors such as infrequent or incomplete urination and related constipation are also associated with VUR.

How is VUR evaluated?

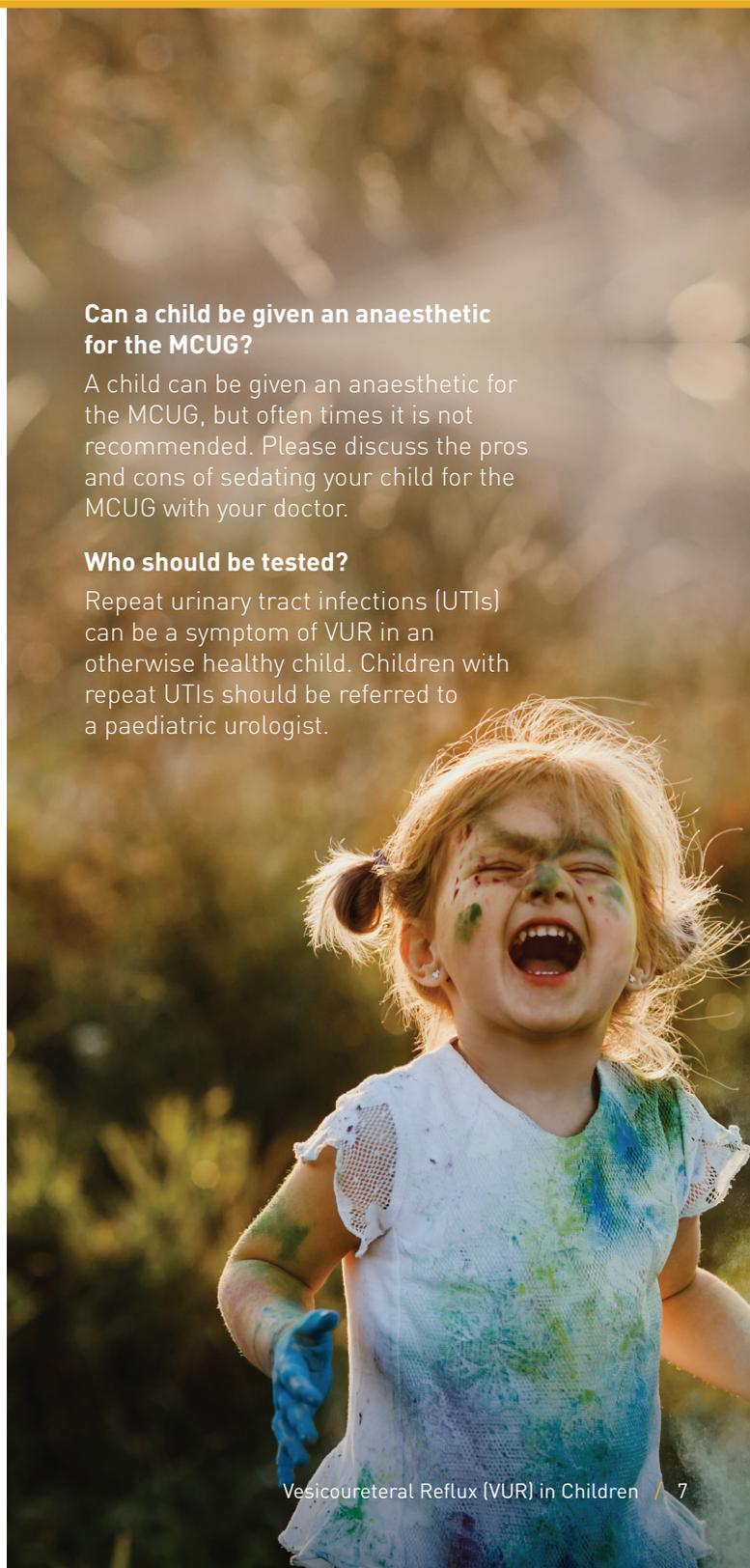
VUR is diagnosed using an X-ray of the bladder. This X-ray is called a micturition cystourethrogram (MCUG). In the MCUG test, a thin, soft tube (catheter) is placed in the bladder through the urethra (the tube we urinate through). Dye is then placed into the bladder through the tube. X-ray pictures are taken to see if the dye flows back into the ureters. The severity of VUR is determined by the amount of urine flowing back through the ureters. The most common grading system includes 5 grades, with grade 1 being the least severe and grade 5 being the most severe. If both ureters reflux, each side may have a different grade.

Can a child be given an anaesthetic for the MCUG?

A child can be given an anaesthetic for the MCUG, but often times it is not recommended. Please discuss the pros and cons of sedating your child for the MCUG with your doctor.

Who should be tested?

Repeat urinary tract infections (UTIs) can be a symptom of VUR in an otherwise healthy child. Children with repeat UTIs should be referred to a paediatric urologist.



Answers to Questions About VUR

Is VUR inherited?

VUR tends to run in families. VUR is present in about 35% of siblings with VUR, and in up to 50% of children whose parent had VUR.^{9,10}

The risk of kidney damage is greatest during the first 6 years of life. The goal is to find VUR early and prevent infection that could result in kidney damage.

Is VUR serious?

Treatment is important to protect the kidneys. Kidney infections may cause damage or scarring in the kidneys. This may result in poor kidney function and high blood pressure.

How do I know if my child has an infection?

Signs of urinary tract infections include:

- Foul smelling or cloudy urine
- Fever
- Stomachache
- Backache
- Side pain
- Burning or pain when urinating
- Frequent and urgent urination
- Headache
- Vomiting

Infants with infection may not show these signs. Instead, they may have diarrhea, poor feeding, fever, and increased irritability. If there is any question, call your doctor and have your child's urine checked. Children can quickly become very sick.

How do I decide what treatment is the best for my child?

You should discuss your treatment options in great detail with your doctor. Antibiotics, endoscopic treatment and surgery are all options available to you. Your family's personal views are most important.

Some families find it hard to do the routine X-ray test and daily medication required with antibiotic treatment. Surgery may be favored if VUR is severe or if there are related medical conditions.

Deflux is a 15 minute procedure with a clinical success rate of up to 93% after one injection.^{4,5} 80% of parents said they prefer endoscopic treatment over surgery or antibiotic treatment.⁸

Your concerns and beliefs matter. Therefore, it is important to discuss them with your doctor. Make sure you understand the risks, benefits, and follow-up of each treatment.



A Little Preparation Goes a Long Way

Before you visit your child's doctor, write down all the symptoms your child has had, how long your child has had them, and any other recent health issues. Document all medications, vitamins, and supplements your child is taking.

Questions for your doctor may include the following:

- What could be causing my child's symptoms?
- What else could be causing these symptoms?
- What can I do to reduce my child's risk of future urinary tract infections?
- Will my child get better on his/her own?
- Do you recommend that my child see a paediatric urologist?
- What are the treatment options?
- How will each treatment option affect my child?

You will want to have more specific questions for a paediatric urologist. During your visit, be sure to ask:

- What kinds of tests will you need to run?
- Is my child at risk of complications from this condition?
- Are my other children at increased risk of this condition?
- What are the treatment options?
- How will each treatment option affect my child?

There may be other questions you have. Make sure you ask them so you're comfortable with the treatment option you decide on with your doctor or paediatric urologist.



Important Information About Deflux¹¹

Indication

Deflux is indicated for VUR. It is a gel that is injected where the ureter connects to the bladder in children with VUR. It is placed to stop urine backflow to the kidneys.

Who should not be treated with Deflux?

Patients with certain types of medical conditions should not be treated with Deflux:

- Primary refluxing megaureters with distal stenosis
- Uncontrolled voiding dysfunction

Your doctor will determine if these conditions are present. Ask your doctor if you have any questions about these conditions, or about how other conditions affect the use of Deflux.

Other Information

As with any urologic procedure, specifically an endoscopic injection procedure, there is a small risk of infection and bleeding.

Rare cases of postoperative dilation of the upper urinary tract and blockage of the ureters have been reported (occurring less than 1%). Deflux may appear on X-rays as ureteral stones. You should ask your doctor about these adverse events and other potential side effects.

Long-Term Safety Record

Deflux is a well-tolerated procedure with a low risk of associated complications⁵

In long-term studies, after one injection of Deflux:

93% had no febrile UTIs within 19 months⁵

89.2% had no febrile UTIs within an average of 8.4 years⁷

Deflux success for treating VUR is comparable with open surgery, but without the need for a prolonged hospital stay.³

For more information please visit deflux.com.

To learn more about VUR and its treatment, please visit deflux.com

Deflux is approved in the European Union for treatment of vesicoureteral reflux. Q-Med AB is the current legal manufacturer and holds the CE Mark.

References

- 1 Hensle TW, Grogg AL. Vesicoureteral reflux treatment: the past, present and future. In: Hensle TW. Challenges surrounding vesicoureteral reflux: fuel for a paradigm shift in treatment. *Curr Med Res Opin.* 2007;23(Suppl 4):S1-S6.
- 2 Elder JS, Peters CA, Arant BS, et al. AUA pediatric vesicoureteral reflux clinical guidelines panel: The management of primary vesicoureteral reflux in children. *American Urological Association Education and Research, Inc.* 1997.
- 3 Baskin LS, Kogan BA, Stock JA. *Handbook of Pediatric Urology Third Edition.* Philadelphia, PA: Wolters Kluwer; 2019.
- 4 Cerwinka WH, Scherz HC, Kirsch AJ. Endoscopic treatment of vesicoureteral reflux with dextranomer/hyaluronic acid in children. *Advances in Urology.* 2008; 1-7.
- 5 Kalisvaart JF. Intermediate to long-term follow-up indicated low risk of recurrence after double hit endoscopic treatment for primary vesicoureteral reflux. *J Ped Urol.* 2012;8(4):359-365.
- 6 Data on file.
- 7 Lightfoot MA, Bilgutay AN, Tollin N, et al. Long-term clinical outcomes and parental satisfaction after dextranomer/hyaluronic acid injection for primary vesicoureteral reflux. *Front Pediatr.* 2019;7:Article 392.
- 8 Capozza N, Lais A, Matarazzo E, et al. Treatment of vesicoureteric reflux: a new algorithm based on parental preference. *BJU International.* 2003; 92:285-288.
- 9 Elder JS. Vesicoureteral reflux. In: Kliegman R, Nelson WE, eds. *Nelson Textbook of Pediatrics.* 19th ed. Philadelphia, PA: Elsevier/Saunders; 2011:1834-1838.
- 10 Skoog SJ, Peters CA, Arant BS, et al. Pediatric vesicoureteral reflux guidelines panel summary report: clinical practice guidelines for screening siblings of children with vesicoureteral reflux and neonates/infants with prenatal hydronephrosis. *J Urol.* 2010;184:1145-1151.
- 11 Deflux [Package Insert]. Santa Barbara, CA: Palette Life Sciences, Inc.



For further information contact:

FR: +33 (0) 800 000 013
DE: +49 0 800 1813 334
IT: +39 800 785 440
ES: +34 900 993 304
UK: +44 080 823 4628
e: palettemc@dlss.com

© 2020 Palette Life Sciences, Inc.
All rights reserved. Deflux® and NASHA® are registered trademarks. APM063B