

Name of Operation: **Ureteric re-implantation for reflux
(re-plumbing into the bladder the bottom part of the
ureter [urine-tube from the kidney to the bladder]).**

Main issues:

- Where the ureter (the tube that carries urine from the kidney) drains into the bladder, there is normally a one-way “valve.” If this valve is “loose,” it can cause kidney-reflux (some urine going the wrong way back up to the kidney). This can lead to several problems: recurrent urine infections, kidney damage and, rarely, stones or wetting.
- A loose valve may improve on its own in early childhood. If not, there is unfortunately no medication to cure this problem. However, this loose valve can be “tightened” by camera-surgery to inject around it with a “bulking agent” called Deflux® (a “STING” procedure), or by re-plumbing it during open surgery (ureteric reimplantation).
- Wound across the lower tummy, hidden by underwear:
- Dissolving stitches (no removal).
- A bladder drainage-tube (“catheter”) is often needed for several days.
- Sometimes also 1-2 small drainage-tubes (“stents”) in the ureter(s) for several days.
- Urine is quite blood-stained for a week or so (usually settles if your child drinks plenty).
- Bladder-spasms from the catheter, which usually settle with medication.
- Sore to pee for a few days after the catheter is removed (regular pain-killers will help).
- Likely post-operative schedule and recovery-time.

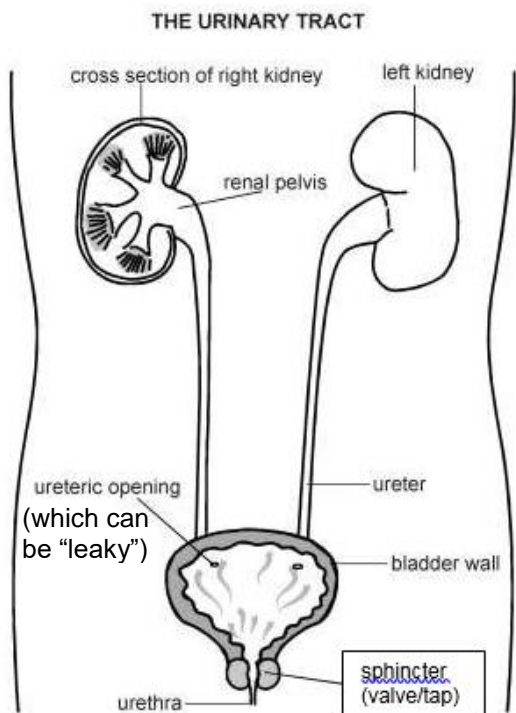


Intended benefits:

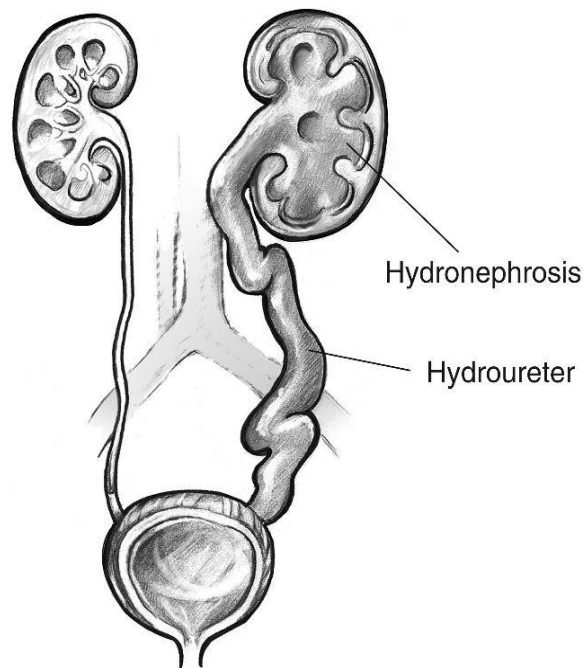
- To tighten up the “valve,” to stop/reduce the amount of reflux of urine to the kidney(s).
- This should reduce (but may not completely get rid of) the risk of serious urine infections or kidney stones, and may help the bladder to work better (so may also reduce any wetting).
- However, research suggests that this operation will *not* reduce the risk of future damage to the kidneys any better than preventative antibiotics do.
- Unfortunately, this operation will also not reverse any previous damage to the kidneys.

Common or serious risks:

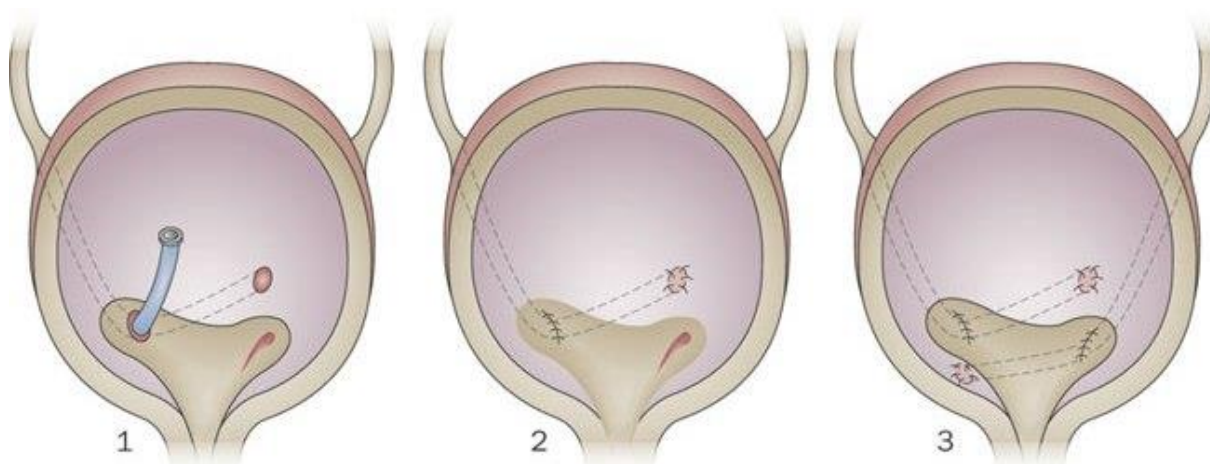
- Overall success-rate for preventing reflux of about 9 out of 10 children (90 %).
- Bleeding (rarely serious, but occasionally a blood transfusion is needed). If blood appears in the urine a week or so later, a urine sample should be checked for infection via your family-doctor.
- Infection: usually prevented by the antibiotics given in hospital, and by drinking plenty afterwards, and by the preventative antibiotics your child is already on. If you are worried later at home, a urine sample should be checked for infection via your family-doctor or, if your child is very unwell, via your local hospital (sometimes such a urine infection can be quite serious).
- Wound infection: rarely serious, but if the wound becomes more sore, red, swollen and/or hot, you should check if extra antibiotics are needed or if any pus needs released.
- Damage to the pee-pipe (urethra), bladder, ureters, kidneys, or bowel: unlikely to be serious, but occasionally further urgent surgery may be needed.
- Damage to the sperm-tube in a boy: rare, and should not usually affect his future fertility.
- Early leak of urine from the bladder: usually settles with the catheter.
- Blockage of the ureter: rare, but further urgent surgery may be needed.
- Continuing kidney-reflux in about 1 out of 10 cases (10%): sometimes this can lead to serious kidney infections and kidney damage. Further surgery may be needed later.
- On-going kidney damage, urine infections, kidney stones, or high blood-pressure, sometimes for other reasons despite a technically successful operation. Further surgery may be needed later.
- Poor healing of the wound: unusual, but occasionally may need later surgery.
- Anaesthetic problems (rarely serious, but around 1 in 250,000 general anaesthetics in children can be fatal).



1. A diagram of normal waterworks
(based on www.fermelumic.com/urinary.html#)



2. A diagram of a kidney stretched by reflux
(from <https://www.niddk.nih.gov/news/media-library/7683>)



3. A diagram showing the steps of re-plumbing (re-implanting) both ureters into the bladder
(from C. Cooper, *Nat Rev Urol*, 2009, 6: 481–489. <https://doi.org/10.1038/nrurol.2009.150>)