URETEROPELVIC JUNCTION OBSTRUCTION (UPJ)

What is a UPJ? The UPJ is where the collecting system of the kidney connects to the ureter that drains urine into the bladder for storage.

An irregular narrowing of this region can result in an obstruction of urine flow and dilation of the kidney. The amount of dilation and/or damage to the kidney depends on the severity of the narrowing. Sometimes UPJs are caused by a crossing blood vessel from the kidney that is lower than usual. This then kinks the ureter when the renal pelvis is full.

What are the signs/symptoms of a UPJ
UPJs are usually asymptomatic and cause no discomfort. Obstructions are often suspected prenatally but may also present after birth with a large observable kidney or infection. Occasionally, a child may present with episodes of side pain that could be associated with large fluid intake.
Is a UPJ dangerous?
Depending on the amount of obstruction, the function of the kidney may or may not be affected. However, without good drainage, the kidney can lose function and possibly become prone to infection, which could lead to kidney loss. This does not affect the other kidney.

What is the treatment for a UPJ?
1) Many obstructions are not complete and do not result in kidney damage. These can be monitored closely with repeat ultrasounds and may not need surgery.
2) Generally, if the UPJ causes decreased renal function, increased swelling in the kidney, or if infections become a problem then surgical correction is recommended. Surgery consists of removal of the stenotic segment of the ureter and reattachment to the kidney called a dismembered pyeloplasty. This can be performed in open surgery or sometimes laparoscopically.

What can I expect after surgery

Open surgery
There will be several small steri-strips over the incision with a clear plastic dressing over on top.
A small amount of blood or fluid collection under the dressing is not uncommon.
The dressing should come off on its own after about 7 days. If it has not come off completely, it is okay to remove it.
Stitches are under the skin and will dissolve on their own.
Shower or sponge bath 24 hours after surgery is permitted.
A Foley catheter will be placed during surgery and removed the following morning.
Your child will need to void every 2 hours after the catheter is removed.
Your child may have a Penrose drain placed during surgery that will be removed after 8 days in the clinic.
Your child may have a stent placed during surgery (a tube from the kidney to the bladder on the inside of the body) that will be removed in the operating room 3 – 4 weeks after surgery. Your child will be allowed to drink fluids the night after surgery and typically return to a normal diet in the morning. Hospital stay is approximately 1-2 days. Constipation is very common after surgery, but it is important to try and avoid. High water intake and stool softeners will help avoid constipation.

**Follow-up**
Clinical visit 8 days after surgery for drain removal and inspection of wound. 3 months from surgery there will be a Renal Ultrasound and Nuclear Renal Scan DTPA lasix with catheter. Annual follow-up with renal ultrasound will continue for 5 years.

**Medication**
Most children do well with Ibuprofen (and Tylenol for pain, we recommend that you alternate these every 2 hours for the first 24 to 48 hours (only when child is awake) to keep your child comfortable. (Remember, never give the same medicine type more than every 4 hours)

<table>
<thead>
<tr>
<th>Dosing chart (for Tylenol and Ibuprofen)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 lbs 50mg</td>
<td>8:00 am Tylenol</td>
</tr>
<tr>
<td>15-19 lbs 75mg</td>
<td>10:00 am ibuprofen</td>
</tr>
<tr>
<td>20 lbs 100mg</td>
<td>12:00 pm Tylenol</td>
</tr>
<tr>
<td>25 lbs 120mg</td>
<td>2:00 pm ibuprofen</td>
</tr>
<tr>
<td>30 lbs 130mg</td>
<td>4:00 pm Tylenol</td>
</tr>
<tr>
<td>35 lbs 150mg</td>
<td></td>
</tr>
<tr>
<td>40 lbs 180mg</td>
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<tr>
<td>50 lbs 220mg</td>
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</tbody>
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For children older than 1 year, you will have a prescription for Tylenol with codeine for more severe pain.

**Laparoscopic Surgery**
There will be 3 or 4 small, thumb tack-sized abdominal incisions covered with a thin layer of skin glue; these are occasionally covered with a bandage. Skin glue will dissolve on its own within 5-10 days. Shower or bath 24 hours after surgery is permitted.
A stent will be placed during surgery (a tube from the kidney to the bladder on the inside of the body) that will be removed in the operating room 3 – 4 weeks after surgery. A Foley catheter will be placed during surgery and removed the following morning. Your child will need to void every 2 hours after the catheter is removed. Your child will be allowed to drink fluids the night after surgery and typically return to a normal diet in the morning. Hospital stay is typically 1-2 days.

**Follow-up**

4 weeks from surgery, stent removal will be scheduled in the operating room (this will be a 15 minute procedure). 3 months from stent removal there will be a Renal Ultrasound and Nuclear Renal Scan DTPA lasix with catheter. Annual follow-up with renal ultrasound will continue for 5 years.

**After Surgery**

Bloody urine should be expected and can last for several days after surgery. Encourage lots of water intake to help flush the urine. Constipation is very common after surgery, but it is important to try and avoid. High water intake and stool softeners will help avoid constipation. You may resume daily activity and diet as tolerated.

**Long term**

- In some cases, previously lost renal function is recovered after repair. Generally 50% recover, 30% stay the same, 20% will have worsening function.

It is important to remember that very often your child’s kidney will not “look normal” on imaging even after the problem has been corrected. As is often the case, when a kidney has been severely dilated and the renal pelvis stretched out, it will maintain some dilation even after the obstruction is relieved. It is important to remember that this is normal and it does not mean that the kidney is still obstructed. It will simply represent a new baseline or normal for that kidney. This may become an issue if your child has some imaging (i.e. CT scan or ultrasound) done later in his/her life. If the physician is not informed of this history or not familiar with this condition, they may become very concerned about the kidney. Therefore, it is important to keep records and copies of the radiographs obtained after surgery to avoid potential unnecessary evaluations and procedures in the future.

**Contact information**

University of Oklahoma Children’s Hospital Out-patient surgery 405-271-4130
Weekdays 8am – 5pm Pediatric Urology Clinic 405-271-3800
After 5 pm and weekends Hospital operator 405-271-5656
(ask for pediatric Urology Doctor on-call)