

## **Bladder Augmentation Surgery**

### **What is bladder augmentation?**

This type of surgery is designed for the child whose bladder is too small or whose bladder pressure is too high to store urine safely. The primary goals of the surgery are to increase bladder capacity (size) and to establish low pressure urinary storage. In other words, after the augmentation, the size of the bladder will be greater and the pressure within the bladder will be lower.

### **Are any artificial parts used in the bladder augmentation surgery?**

No. A segment of the intestine (ileal augmentation) is removed and attached to your child's current bladder to create his or her new, bigger and healthier bladder.

### **What should I expect before the surgery?**

Your child will be admitted the day prior to the scheduled surgery. They will only be allowed to have a clear liquid diet (such as Jell-O, popsicles, soup) as part of the bowel prep. Your child will also have to drink some medicine called GoLYTELY that will cause them to have many bowel movements. Sometimes, a nasogastric tube (a small tube placed through the nose into the stomach) will need to be placed to administer the GoLYTELY. Antibiotics will be administered by IV and by mouth. An IV will be placed to administer fluids so your child will not get dehydrated.

### **Where is the incision?**

The incision will be on the abdomen. In most, that not all cases, it will be down the middle. The length of the incision will depend on the complexity of your child's surgery.

### **Are any tubes left in place after surgery?**

Bladder catheters (made of soft plastic) are left in to be sure the urine is draining well while healing takes place. A catheter will be placed in the lower abdomen (suprapubic catheter). The suprapubic catheter will be left in

place for at least 4 weeks. If your child has another catheter in the belly button or through another abdominal stoma (for example an appendicovesicostomy) this will be removed at the same time. This can be mildly painful, and may feel a bit strange when it is being removed. While the tube is in, a small amount of reddish-brown drainage around the tube at the skin is normal. It is also expected that the skin around the catheter reddens and may have some pus-like secretions. This is nothing to be alarmed about and is a natural reaction to the catheter. Before you take your child home, we will help you feel comfortable taking care of the tubes and catheters.

### **How long will the surgery take?**

The length of time for surgery varies. It may take anywhere from 4-8 hours. If it takes a little longer or shorter do not be alarmed. The operating room nurse, whom you will meet on the day of surgery, we'll give you periodic updates on the status of the surgery, and you are always free to ask the receptionist in the waiting room to call up to the operating room to get a status update.

### **What can I expect after surgery?**

For pain management, many children will have nerve blocks such as an epidural to minimize the pain felt after the procedure. The epidural catheter usually remains in place for about 48 hours. After this is removed your child is kept comfortable using IV pain medication and oral pain medication as tolerated.

For several days after the surgery, your child will have a tube in their nose called a nasogastric (NG) tube draining the secretions from the stomach. This is done because the bowels need to sleep after the surgery and do not function normally right away. Without the NG tube, which is placed during surgery, your child would experience a large amount of nausea and vomiting. This tube allows the bowels and stomach to recuperate and heal properly. During this period, your child will not be able to eat food. They will be receiving IV fluids to prevent dehydration. Once the NG tube is removed and the bowels are starting to function, your child will be started on a liquid diet and advanced to a regular diet as tolerated.

### **Will my child take bladder medicine after surgery?**

It is common after surgery of this type that your child will experience bladder spasms (intermittent cramping) and may even have episodes of urinary incontinence, losing small amount of blood-tinged or mucous urine. If the symptoms become a problem, a medication called Ditropan (oxybutynin) may be prescribed for the use of spasms. After the catheters are removed your child should no longer required the Ditropan.

### **What kind of side effects do the medications have?**

Ditropan may cause your child's cheeks to flush or their skin may feel warm. This does not mean that your child has a fever. Children taking Ditropan will often experience a dry mouth and may have a decrease in appetite. We ask that you continue to offer your child frequent fluids to maintain an adequate urine output.

Before discharge, your child's pain medication will be switched to an oral pain medication such as Tylenol with codeine, or Lortab. This comes in both tablets and liquid form and you can have the prescription filled at a pharmacy that is convenient to you. Stronger pain medications can make some children constipated, so it is important to encourage your child to be as active as possible and provide plenty of liquids. Some children require a laxative to help them through this time. Gradually you can start to manage your child's discomfort with plain Tylenol or ibuprofen as needed.

### **What is the follow-up after surgery?**

Your child will usually be discharged from the hospital 5-7 days after surgery. The catheters will be left in place when you leave the hospital, and the follow-up appointment to have the catheters removed will be approximately 4 weeks after surgery.

During your child's follow-up visit, they will have a cystogram (x-ray test of the bladder) to be sure healing is complete. This test shows the initial shape and size of your child's new bladder. Once the catheters are removed, we will then review catheterization technique through the new stoma (if there is one). Three months after surgery your child should have another ultrasound of the kidneys and bladder.

## **What are the long-term effects of having part of the intestines attached to the bladder (ileal bladder augmentation)?**

The intestines secrete mucus. This is not a problem, but it is important to be aware that the mucus can block the catheters and lead to stasis of urine, particularly in the early postoperative phase. Therefore it is important to irrigate the bladder frequently. We will review bladder irrigation with you several times while you are in the hospital. Your child will always have mucus in the urine after this type of operation. It is important to realize that this is not a problem as long as the bladder is empty on a regular and consistent basis.

## **Will my child have urinary tract infections after the surgery?**

Some children may be particularly prone to urinary tract infections. It is important to differentiate between bacteria in the urine and an “infection”. Children who catheterize will normally have some bacteria in their urine because they are constantly introducing a catheter into the bladder. This is not a problem as long as the urine is emptied out of the bladder every 3-4 hours on a consistent basis. If the urine begins to look cloudy or dark, simply increase the frequency of the catheterizations to every 2 hours for a few days and try to increase intake of fluids. This will usually help the urine become clear. If your child develops a fever, lack of appetite, or back pain and is generally not feeling well, it may be that more bacteria than normal is in the bladder. This would be an indication to take a urine specimen for culture and possibly initiation of antibiotic therapy. Please contact your primary care provider to evaluate your child immediately.

## **Are there other problems I should beware of after surgery?**

If your child has a temperature greater than 101°F, excessive bleeding from the incision (spotting is normal), catheters that are not draining or irrigating well, inability to tolerate liquids, continuous vomiting, or an inability to catheterize the stoma, then you should contact us immediately.

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