



## **MALROTATION AND VOLVULUS**

### **What are malrotation and volvulus?**

Malrotation is a condition that occurs when a baby is developing inside the mother. Before birth, the baby's intestines are supposed to grow and then stick in a certain position so they cannot twist around inside the baby's belly. With malrotation, the intestines do not stick in the right spot and get twisted. Volvulus is a kinking of the twisted intestines which cuts off their blood supply causing them to become damaged or even to die.

### **Who gets malrotation and volvulus?**

Most children who have symptoms of malrotation and volvulus are less than 1 year old and most babies with volvulus are less than one week old.

### **How are malrotation and volvulus diagnosed?**

The most common sign of malrotation and volvulus is vomiting which is green in color. At first, the vomiting may be clear or milk colored but turns green very quickly. The baby's belly may swell up and become painful to touch. If the intestines are badly damaged, then the baby will look sick and have problems breathing. At the hospital, the baby will have X-rays that use dye to look at the intestines and see if they are twisted.

### **How is the decision made that surgery is needed?**

Once the diagnosis of volvulus is made, the baby must have emergency surgery. There is no other way to save the intestines. If the baby or child has malrotation without volvulus then the surgeon will speak to you about the possibility of surgery, but it will not be emergency surgery as with volvulus.

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

Surgery for volvulus is an emergency procedure called a Ladd's procedure (named after the surgeon who first developed the operation). Before surgery, things will be happening very quickly. The baby will need blood tests, an intravenous tube (IV) to put back fluid that is lost from vomiting, and antibiotics. The operation will take at least an hour and may be longer depending on how much damage the intestines have suffered. The baby may need a blood transfusion during the operation if the intestines are badly injured. The surgeon will make a small cut just above the belly button and take out all the intestines to look at them and untwist them. The intestines will be put back into the belly in a special way so they cannot twist or kink again. The surgeon may also remove the baby's appendix because after surgery, it will not be in the usual spot in the lower right side; it will be in the left upper part of the belly. This could be confusing in the future if

the child gets appendicitis. However, some surgeons do not remove the appendix, so this is something important for you to know after the operation. The surgeon will also remove any bowel that has died. If there is a lot of injury to the bowel, the baby may have an ostomy—an opening on the belly from the intestines where stool can drain into a pouch.

**When will my child be able to go home?**

This will depend on how much damage the baby's intestines had from the volvulus and how much work the surgeon had to do during the operation. If the intestines were not badly hurt from the volvulus, your baby will be able to go home when he is eating normally for his age.

**What care is needed at home after surgery?**

*Care of the incision:* Keep the dressing clean and dry. The surgery team will give you more instructions before you leave the hospital.

*Bathing:* The baby needs to take a sponge bath for 7 days after the operation. After 7 days, the baby should be able to bathe in the tub.

*Activity:* His/her activity should be normal for age.

*Diet:* There is no special diet needed.

*Medication:* If the baby has pain, you can give Tylenol.

**When should I call the surgery team?**

You should call the surgeon if the baby has a fever, vomiting, or pain that does not go away with Tylenol. You should also call if the incision, or cut from the operation, looks red, swollen, or has liquid coming from that spot.

**What should I call my pediatrician for, and when should we see him/her?**

You should see your pediatrician for any problems the baby has that do not relate to the surgery such as cough, cold, runny nose, rash or diarrhea. Your baby needs to continue with regular, well-baby visits.

**When can my child return to school or daycare?**

Your baby may return to daycare after the surgeon gives permission. This is usually about 2 weeks after the operation, if there are no complications.

**What are the long term consequences?**

This depends on how much damage was done to the intestines during the volvulus. If the intestines are healthy, there are no long term consequences.

**Will this affect growth and development?**

This also depends on how much damage the intestines suffered. Longer hospitalizations usually result in some degree of delay in growth and development.

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