Umbilical Conditions
(belly button or navel: hernia, infection, granuloma, drainage)

Patient and family information, brought to you by the Education Committee of APSA

Overview - "What is it?"

The umbilicus (belly button or navel) is a structure in the middle part of the belly. During the development of the baby in the mother's womb, the umbilical cord connects the baby to the mother. Through blood vessels in the umbilical cord, the mother supplies the baby with nutrients and oxygen and the baby releases waste products.

After birth, the umbilical cord is cut. The baby takes over the functions of providing nutrition and oxygen for himself or herself, as well as getting rid of waste. In most cases, the muscles around the belly button close within days after birth.

Definitions:

Umbilical hernia: When the muscles around of the belly button don't fuse, there is a defect allowing inside contents (such as intestine) to pop out in a skin covered bulge. This can be very large. This usually does not cause the baby pain.

Umbilical granuloma: Moist, red tissue causing crusting of the belly button. This can get bigger without treatment. A granuloma does not cause the baby pain but can occasionally cause minor bleeding and drainage. Umbilical granulomas happen in 1 out of 500 babies

Umbilical infection (omphalitis): Infection of the belly button. This can cause pain and discomfort. It represents a serious condition needing prompt medical therapy. This is rare, and in the past has been associated with home births under non-sterile conditions. Umbilical infections happen in 1 out of 200 babies.

Umbilical drainage: Fluid coming from the belly button.

About 20% of babies have umbilical hernias. About 85% of belly button hernias close on their own by the time the child is about three years of age.

Signs and Symptoms - "What symptoms will my child have?"

Umbilical hernia: Bulge occurs in the belly button, may get bigger when the baby bears down with increasing pressure in the belly, such as when the baby is crying or bearing down. In extremely rare cases, the contents of the bulge can get stuck in the defect. In this case, the belly button becomes tender and painful. This situation requires the child to be seen immediately—either the doctor's office or emergency room.

Umbilical granuloma: Small, round, wet tissue that can happen after the belly button stump falls off.

Umbilical infection: Redness and swelling around the belly button. The child may have a fever and fussiness. If the infection is uncontrolled, the area of redness may spread to a larger area or have streaks.

Umbilical drainage: Fluid that comes out of the belly button. If the fluid is yellow and thin, may signal a communication to the bladder (urachal remnant). If the fluid is thick and smells bad, may be an infection. If green, doctors will consider abnormal connection to the intestine.

Diagnosis - "What tests are done to find out what my child has?"

The conditions that can occur with the belly button are usually diagnosed on examination. In some cases, if there is a question regarding abnormal connection to the bladder or intestine, an ultrasound may be used. The ultrasound uses sound waves to create an image and does not use radiation.

Treatment - "What will be done to make my child better?"

Umbilical hernias: About 85% of belly button hernias close on their own. Since umbilical hernias do not cause pain and rarely get stuck, it is very safe to wait until the child is 5 years old to repair a hernia if it has not closed yet.

Surgery: The goal of the operation is to close the hole in the muscle underneath the belly button. A cut is made around (usually below) the belly button. Stitches are used to close the hole. The skin is usually closed using dissolvable stitches.

> **Benefits:** Closing the hernia decreases the chance of organs in the belly getting stuck. The hernia is not able to get bigger as the child grows. Recovery from this surgery is usually more rapid in children than adults.
>
> **Risks:** Bleeding, infection, fluid under the incision. Recurrence of the hernia is rare.

Preoperative preparation: You may be asked to give the child a bath the night before or the morning of the operation. The child should have nothing solid to eat for at least eight hours before surgery.

Postoperative care: Most patients are discharged the same day after surgery. The child should be able to tolerate liquids before leaving.

Umbilical granulomas:

> **Medical treatment:** Most umbilical granulomas are treated with silver nitrate, or not treated at all as many will resolve on their own. Silver nitrate chemically burns the moist tissue, shrinking it and allowing the area to heal more rapidly. Silver nitrate can burn normal skin as well, so one must be careful to apply the material on the granuloma only. Sometimes, petroleum jelly (Vaseline®) is applied to the normal skin around the granuloma to protect it. Repeated applications of silver nitrate may be needed.

Umbilical infections: Umbilical infections are very rare and can be very serious, especially in small babies. It is very important to seek medical attention if this is a concern.

> **Medical treatment:** Antibiotics are medicines that fight bacteria. These can be given by mouth or through the vein depending on how severe the infection is.
>
> **Surgical treatment:** If antibiotics cannot control the infection, the child may need to have surgery to treat the infection. This usually involves drainage of pus but can be more extensive.
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> **Postoperative care:** If surgical drainage was done, the wound is usually left open or packed with gauze. It is then allowed to close slowly on its own.

Umbilical drainage: The doctors will try to determine the cause of the drainage. Depending on the source, the treatments are different.

Surgical treatment: If the doctors determine that there is an abnormal connection to the bladder or the intestines, surgery will be needed to find the connection and close it. This is usually done by making a cut by the belly button.

- **Benefits:** The source of the drainage is found and controlled.
- **Risks:** Bleeding, infection, fluid under the incision, recurrence of the hernia.
- **Preoperative preparation:** You may be asked to give the child a bath the night before or the morning of the operation. The child should have nothing solid to eat for at least eight hours before surgery.
- **Postoperative care:** Most patients are discharged the same day after surgery or a few days later depending on the extent of surgery. The child should be able to tolerate a regular diet before leaving.

Home Care - "What do I need to do once my child goes home?"

Umbilical Hernia Repairs

Diet: Most patients are able to eat a general diet.

Activity: No activity limitations.

Wound care: The patient can shower in three days but may want to wait 5-7 days after surgery before soaking the wound.

Medicines: Medication for pain such as acetaminophen (Tylenol®) or ibuprofen (Motrin® or Advil®) or something stronger like a narcotic may be needed to help with pain for a few days after surgery. Stool softeners and laxatives are needed to help regular stooling after surgery, especially if narcotics are still needed for pain.

What to call the doctor for: Problems that may indicate infection such as fevers, wound redness and drainage should be addressed.

Follow-up care: The patient should be seen by a surgeon or pediatrician/family practice doctor at least once to check the surgical wound.

Abscess Drainage

Diet: Most patients are able to eat a general diet.

Activity: No activity limitations.

Wound care: If the child was discharged the same day after the drainage, the packing gauze should be removed the following day or as directed by the surgeon. The child may and should shower with soap and water daily. Apply a dry gauze to the area and change as needed. Sometimes additional imaging may be needed to ensure the condition is completely treated after the infection is gone.

Medicines: Medication for pain such as acetaminophen (Tylenol®) or ibuprofen (Motrin® or Advil®) or something stronger like a narcotic may be needed to help with pain for a few days after surgery. Stool softeners and laxatives are needed to help regular stooling after surgery, especially if narcotics are still needed for pain.

What to call the doctor for: If the child has such as fevers, wound redness and drainage should be addressed.

Follow-up care: The patient should be seen by a surgeon or pediatrician/family practice doctor at least once to check the surgical wound.

Long Term Outcomes - “Are there future conditions to worry about?”

Complications following umbilical surgery are very uncommon. Children with umbilical hernias, umbilical granulomas, umbilical infections and umbilical drainage do well. Sometimes, umbilical infections can be severe and may involve removal of skin and muscle. Severe infections can be life-threatening.

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