Meckel's Diverticulum

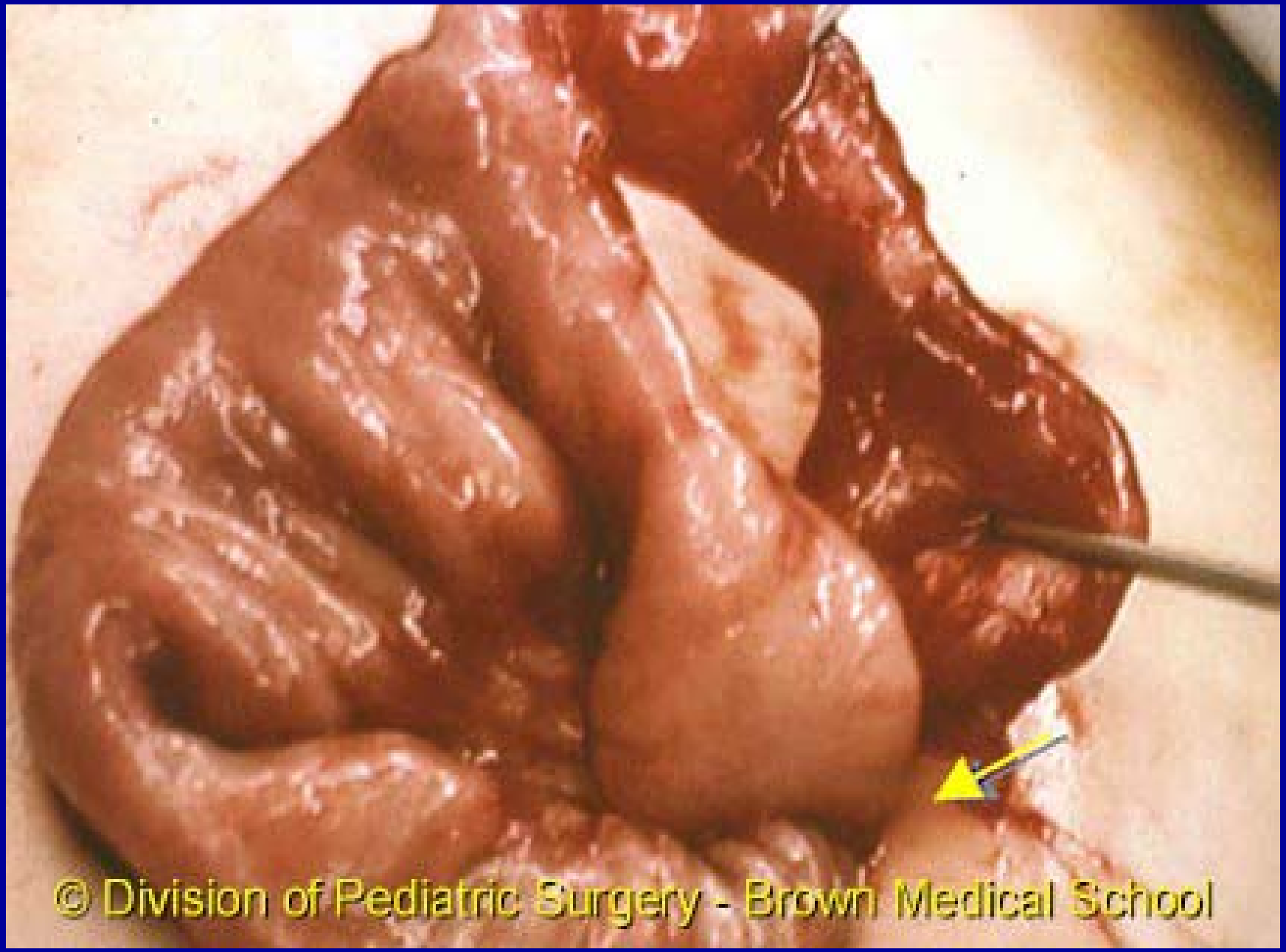
Nolan Ortega Aludino, M.D.

Definition

- Meckel's diverticulum
  - congenital pouch (diverticulum) approximately two inches in length and located at the lower (distal) end of the small intestine.
  - named for Johann F. Meckel, a German anatomist who first described the structure.

Description

- blind pouch
- remnant of the omphalomesenteric duct or yolk sac that nourished the early embryo
- contains all layers of the intestine
- may have ectopic tissue present from either the pancreas or stomach


© Division of Pediatric Surgery - Brown Medical School

- **How often does Meckel's diverticulum occur?**
  - most common birth defect of the digestive system
  - present in 15 to 30 out of every 1,000 births
  - Most people with Meckel's diverticulum will never have any symptoms or problems

- **Who is at risk for Meckel's diverticulum?**
  - One to three percent of all infants have symptoms of Meckel's diverticulum
  - The peak age for symptoms to occur is 2 years old
  - Children over age 10 rarely have symptoms of Meckel's diverticulum
  - Boys develop symptoms of Meckel's diverticulum three times more often than girls.

- **Why is Meckel's diverticulum of concern?**
  - Cause of anemia (low numbers of red blood cells in the bloodstream)
  - Can shock, which is a life-threatening situation
  - serious infection can occur if the intestine perforates and leaks waste products into the abdomen.

- **What are the symptoms of Meckel's diverticulum?**
  - passage of a large amount of dark red blood from the rectum (most often)
  - brick-colored, jelly-like stool present
  - Passing the blood is usually painless
  - some children experience abdominal pain.

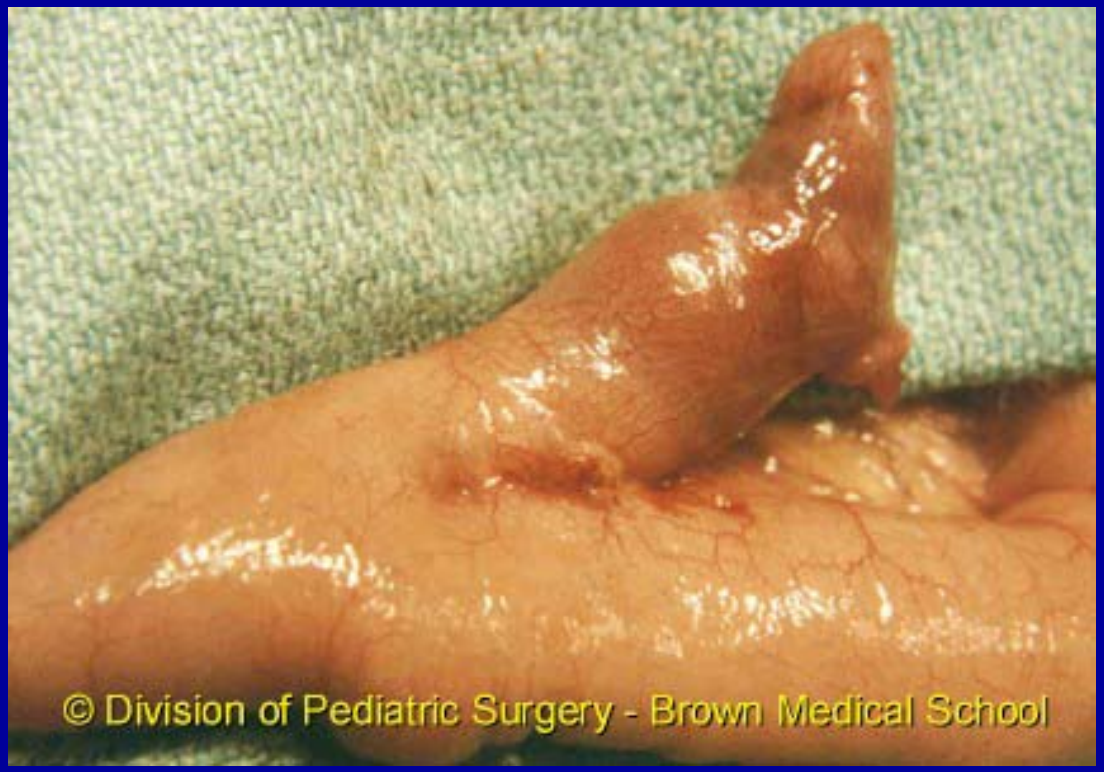
- **How is Meckel's diverticulum diagnosed?**
  - complete medical history and physical examination
  - imaging tests may be done to evaluate the intestinal tract.

- **Diagnostic procedures**
  - **Blood test** - to check for anemia or infection. A stool sample may be checked for frank (obvious) or occult (hidden) blood.
  - **Barium enema and small bowel series** - a procedure performed to examine the large intestine for abnormalities. A fluid called barium (a metallic, chemical, chalky, liquid used to coat the inside of organs so that they will show up on an x-ray) is given into the rectum as an enema. An x-ray of the abdomen shows strictures (narrowed areas), obstructions (blockages) and other problems.

- **Diagnostic procedures**
  - **Meckel's scan** - a substance called technetium is injected into your child's bloodstream though an intravenous (IV) line. The technetium can be seen on x-ray in areas of the body where stomach tissue exists, such as the Meckel's diverticulum.
  - **Rectosigmoidoscopy** - a small, flexible tube with a camera on the end is inserted into your child's rectum and sigmoid colon (last part of the large intestine). The inside of the rectum and large intestine are evaluated for bleeding, blockage and other problems.

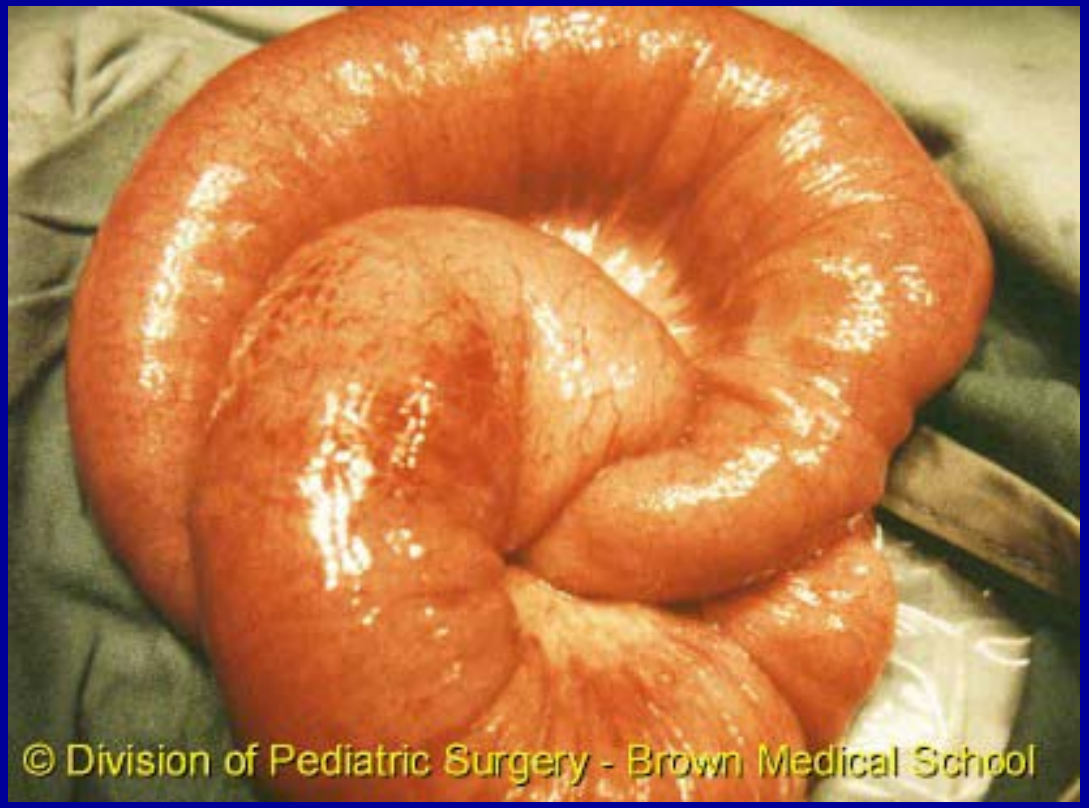
Complications

- **Diverticulitis**
  - Most common Inflammation of the diverticulum
  - Mimics appendicitis
- **Bleeding**
  - second most frequent problem
  - may be brisk or massive



Complications

- **Intussusception**
  - twist around a persistent connection to the abdominal wall
  - presents as a small bowel obstruction



Treatment

- A Meckel's diverticulum that is causing discomfort, bleeding, or obstruction must be surgically removed. This procedure is very similar to an **appendectomy**.

Prognosis

- The outcome after surgery is usually excellent.
- The source of bleeding, pain, or obstruction is removed so the symptoms also disappear.
- A Meckel's diverticulum will not return.