



Crohn's Disease

Crohn's disease causes inflammation and irritation in the gastrointestinal tract, most commonly in the ileum. Unexplained abdominal pain, diarrhea, rectal bleeding, weight loss and fever are all symptoms of Crohn's disease and are very similar to those of ulcerative colitis.

Your doctor will likely perform a physical exam to evaluate your condition and use blood and stool tests to look for signs of bleeding and rule out other underlying causes, such as infection. You may also undergo flexible sigmoidoscopy, colonoscopy, body CT, body MRI, MR enterography, upper GI, small bowel follow-through, or lower GI to confirm a diagnosis. No cure exists for Crohn's disease, but your doctor may prescribe medications, surgery or a special diet to help manage your condition.



What is Crohn's disease?

Crohn's disease is a type of inflammatory bowel disease (IBD) that causes inflammation and irritation in the gastrointestinal (GI) tract. It occurs most commonly in the end part of the small intestine, called the ileum.

The most common symptoms of Crohn's disease are abdominal pain, often in the lower right abdomen area, and diarrhea. Other symptoms include:

- Rectal bleeding
- Weight loss
- Fever

Symptoms of Crohn's disease result from an inappropriate activation of the immune system. The causes are unknown, but there is evidence that genetics plays a significant role.

The symptoms of Crohn's disease are very similar to those of ulcerative colitis, except that Crohn's

disease can happen anywhere along the digestive tract, from the mouth to the anus, while ulcerative colitis is restricted to the large bowel (colon). Crohn's disease may lead to deep ulcers in the intestinal tract, giving a "cobblestone" appearance. Inflammation can lead to a buildup of scar tissue over time, slowing the movement of food through the intestine and causing severe cramps.

Crohn's disease can affect both children and adults. Approximately 20 percent of those diagnosed have symptoms before age 20.

How is Crohn's disease evaluated?

Your primary doctor will begin by asking about your medical history and symptoms. You will also undergo a physical exam.

Blood and stool tests can be used to look for signs of bleeding and rule out other causes of GI diseases, such as infection.

Other common tests for Crohn's disease include:

- Flexible sigmoidoscopy, performed by inserting a sigmoidoscope (a flexible tube with a tiny camera on the end) into the rectum to view the lower colon and rectum.
- Colonoscopy—the most commonly used test for Crohn's disease—uses a lighted instrument called a colonoscope to view the rectum and the entire colon. The last part of the colon, the ileum, can also sometimes be seen.
- Body CT scan, a special type of x-ray imaging that creates detailed pictures of your pelvis, abdomen or chest. You may receive an injection of contrast material so that the GI tract and abdominal organs show up more clearly in the pictures. CT enterography is a special CT scan that is better able to visualize the small intestine. This test has replaced barium enema and small bowel follow-through in many medical centers.

For more information about CT exams performed on children, visit the [Pediatric CT](#) page.

- Body MRI is a large machine that uses a strong magnetic field and radio waves to create detailed pictures of organs and other soft tissues in the abdomen.
- MR enterography is a special type of MRI performed with a contrast material to produce detailed images of the small intestine.

Infants and young children usually require sedation or anesthesia to complete an MRI exam without moving. Whether a child requires sedation depends on the child's age, intellectual development and the type of exam. Moderate and conscious sedation can be provided at many facilities. A physician or nurse specializing in sedation or anesthesia for children should be available during the exam for your child's safety. You will be given special instructions for how to prepare your child for the sedation or anesthesia. Alternatively, certain pediatric facilities have child life personnel who can work with younger children to help avoid the need for sedation or anesthesia. They prepare the children for MRI by showing them a dummy scanner, play the noises that the child might hear during the MRI exam, answer any questions

and explain the procedure to relieve their anxiety. Some pediatric facilities also provide goggles or headsets so that the child can watch a movie while the scan is being performed. Thus, the child remains motionless allowing for good quality images.

- Upper Gastrointestinal Tract Radiography, also called an upper GI series, is an x-ray examination of the esophagus, stomach and first part of the small intestine (also known as the duodenum). Images are produced using a special form of x-ray called fluoroscopy and an orally ingested contrast material such as barium.
- Small Bowel Follow-Through, in which an oral contrast material such as barium is ingested and the lower parts of the small intestine (jejunum and ileum) are viewed using abdominal radiographs (x-rays) and fluoroscopy.
- Lower Gastrointestinal Tract Radiography, also called a lower GI or barium enema, is an x-ray examination of the large intestine, also known as the colon. This examination evaluates the right or ascending colon, the transverse colon, the left or descending colon, the sigmoid colon and the rectum. The appendix and the very end of the small intestine may also sometimes be seen.

Infants and children may undergo upper and lower GI radiography. Usually, there is no special preparation, but your doctor will give you detailed instructions if needed. The use of barium and the means of capturing x-ray images are similar to that described for adults.

How is Crohn's disease treated?

Though no cure exists for Crohn's disease, treatment can improve symptoms, control inflammation and correct nutritional deficiencies. Among the common treatments options are:

- Medications: Anti-inflammation medications and antibiotics can help control inflammation, suppress the immune system and treat bacterial overgrowth in the small intestine.
- Proctocolectomy: This surgical procedure involves removal of the rectum and part of the colon or the entire colon. After removing the colon, the surgeon will perform an ileostomy, a procedure in which the small intestine is joined to an opening in the lower abdomen. A pouch is then attached to the opening and worn outside the body to collect stool. Sometimes, the small bowel can be attached to the anus so that a pouch is not needed.
- Intestinal resection surgery: The diseased section of intestine is removed and the ends of the healthy sections are connected.
- Nutrition supplementation: High-calorie liquid formulas or intravenous nutrition are sometimes given to Crohn's disease patients to give the inflamed intestine a respite from solid food.

Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to

providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2017 Radiological Society of North America, Inc.