

## Diverticular disease

Written by Administrator

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Diverticulosis, otherwise known as "diverticular disease", is the condition of having diverticula in the colon which are outpocketings of the colonic mucosa and submucosa through weaknesses of muscle layers in the colon wall. These are more common in the sigmoid colon, which is a common place for increased pressure. This is uncommon before the age of 40 and increases in incidence after that age.

### Causes

Diverticula are thought to be caused by increased pressure within the lumen of the colon. Increased intra-colonic pressure secondary to constipation may lead to weaknesses in the colon walls giving way to diverticula. Other causes may include a colonic spasm which increases pressure, which may be due to dehydration or low-fiber diets;<sup>[2]</sup> although this may also be due to constipation. Fiber causes stools to retain more water and become easier to pass (either soluble or insoluble fiber will do this). A diet without sufficient fiber makes the stools small, requiring the bowel to squeeze harder to remove the smaller stool.

### Risk factors:

- \* a diet which is low in fiber content or high in fat
- \* high intake of meat and red meat
- \* increasing age
- \* constipating conditions
- \* connective tissue disorders which may cause weakness in the colon wall (such as Marfan syndrome).

### Epidemiology

About 10% of the US population over the age of 40 and half over the age of 60 has diverticulosis. This disease is common in the US, Britain, Australia, Canada, and is uncommon in Asia and Africa. It is the most common cause for rectal bleeding in US adults over the age of 40 years.

Studies have identified dietary factors as potential explanations for the large variation in the disease. High intake of fiber, fruits and vegetables and brown bread was associated with approximately 40-50% reductions in the risk. On the other hand, higher intake of both red and processed meat increased the risk 2-4 fold in two studies, while a third study found a 24-fold increase in the risk with higher total meat intake. This could explain the lower risk among vegetarians.

Dr. Denis Burkitt (1911-1993), who was the main proponent of the fiber theory, also believed that the use of the unnatural sitting posture for defecation is a major contributing factor in diverticulosis and other GI disorders (including hiatus hernias.)

Contrary to a common recommendation to avoid eating popcorn, nuts and corn to prevent diverticular complications, a large prospective study of men indicates that the consumption of these foods does not increase the risk of diverticulosis or diverticular complications.

Large mouth diverticula are associated with scleroderma.

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### Symptoms

Often this disorder has no symptoms. The most common is bleeding (variable amounts), bloating, abdominal pain/cramping after meals or otherwise often in the left lower abdomen, and changes in bowel movements (diarrhea or constipation). Sometimes, symptoms include nonspecific chronic discomfort in the lower left abdomen, with occasional acute episodes of sharper pain. The discomfort is sometimes described as a general feeling of pressure in the region, or pulling sensation. A tickling sensation may be felt as the small pockets fill and empty; a feeling like gas may be moving in areas outside the colon. Symptoms of anemia may present: fatigue, light-headedness, or shortness of breath.

First-time bleeding from the rectum, especially if over age 40, could be due to colon cancer instead of diverticulosis.

### Testing

Colonoscopy is the most used test for diagnosis. This is important for treatment and investigation of other diseases. Other tests include abdominal X-ray, barium enema, CT, or MRI.

### Complications

Infection of a diverticulum can result in diverticulitis. This occurs in 10-25% of persons with diverticulosis (NIDDK website). Tears in the colon leading to bleeding or perforations may occur, intestinal obstruction may occur (constipation or diarrhea does not rule this possibility out), peritonitis, abscess formation, retroperitoneal fibrosis, sepsis, and fistula formation. Rarely, an enterolith may form.

Infection of a diverticulum often occurs as a result of stool collecting in a diverticulum.

### Treatment

Often no treatment is needed. Increases in hydration, increasing fiber content in the diet<sup>[10]</sup> (the American Dietetic Association recommends 20-35 grams each day), or removing factors resulting in constipation help decrease the incidence of new diverticula or possibly keep them from bursting or becoming inflamed (ADA website). Fiber supplements may aid if diet is inadequate. If the diverticula are unusually large (greater than 1 inch), often infected (see diverticulitis), or exhibit uncontrollable bleeding, surgery can be performed to decrease relapse or other complications. The NIDDK says foods such as nuts, popcorn hulls, sunflower seeds, pumpkin seeds, caraway seeds, and sesame seeds have traditionally been labeled as problem foods for people with this condition;<sup>[11]</sup> however, no scientific data exists to prove this hypothesis. The seeds in tomatoes, zucchini, cucumbers, strawberries, raspberries, and poppy seeds, are not considered harmful by the NIDDK. Treatments, like some colon cleansers, that cause hard stools, constipation, and straining, are not recommended.

Many patients with diverticulosis have minimal or no symptoms, and do not require any specific treatment. A high fiber diet and fiber supplements are advisable to prevent constipation and the formation of more diverticula. Patients with mild symptoms of bloating or abdominal pain may benefit from anti-spasmodic drugs such as chlordiazepoxide (Librium), dicyclomine (Bentyl), Donnatal, and hyoscyamine (Levsin). Some doctors also recommend avoidance of

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fried foods, nuts, corn, and seeds to prevent complications of diverticulosis. Whether these diet restrictions are beneficial is uncertain; however, recent studies have stated that nuts and popcorn do not contribute positively or negatively to patients with diverticulosis or diverticular complications.