Discomfort in the anal region
What can it be?
What can you do?
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What can you do?
Many persons suffer from various complaints involving the anal region. In many cases, hemorrhoids are responsible. These are often treated with ointments, suppositories, sitz baths and various home remedies but, as many sufferers have already learned, the results are not always satisfactory or may only be temporary.

One reason for this experience is that patients’ complaints are not always due to hemorrhoids. A variety of other disorders can affect the anal region. Even malignant tumors may be involved: Hence, one should not carelessly overlook them.

This brochure is intended to help you identify the disorder behind your complaints and provide guidance on what should be done. While helping you recognize important signs, it should reduce fear where this is unwarranted. It is essential that you consult your physician and describe your symptoms as exactly as possible.
Digestive organs

1. Esophagus
2. Diaphragm
3. Liver
4. Gallbladder
5. Stomach
6. Small bowel
7. Colon
8. Rectum
9. Anus
# Anatomy of the rectum and anus

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**Notes:** The anatomy of the rectum and anus is presented in this section, including symptoms and causes related to various conditions. Each symptom is associated with specific causes, and a list of less common causes is provided for each symptom. The appendix highlights the importance of well-formed stool in the context of rectal and anal health.
Anatomy of the rectum and anus
The final segment of the gastrointestinal tract is called the rectum ①. The rectum ends in the anus ②, a short canal formed by an internal ③ and external sphincter ④, both of which are muscular rings. Between them are many anal glands ⑧. The boundary between the rectum and anus is marked by a line called the linea dentata, which is formed by a row of alternating swallow’s nest-like depressions (anal crypts, ⑥) and tooth-like protuberances (anal papillae ⑤). This line divides the highly sensitive and sometimes very painful anal region from the rectum, which is quite insensitive to pain. Above this line is also the circular formation of the hemorrhoidal cushion ⑦.

① Rectum  
② Anus  
③ Internal sphincter  
④ External sphincter  
⑤ Anal papillae  
⑥ Anal crypts  
⑦ Hemorrhoidal cushion  
⑧ Anal glands
Hemorrhoids
What are hemorrhoids?

Hemorrhoids are blood vessels that line the interior surface of the anal canal like cushions (1). Their function is to seal the anus such that even loose stool or diarrhea, as well as gas, cannot involuntarily escape the rectum. When the hemorrhoids are constantly injured as happens with chronic constipation and hard stool, they become enlarged (2) and begin to protrude through the anus (3).

What symptoms are caused by hemorrhoids?

In most cases, patients experience bleeding and, later, prolapse of the hemorrhoids through the anal canal. This results in moistness, smearing and staining of undergarments with stool as well as an unpleasant pressure-like pain and constant urge to pass stool. This is the picture of hemorrhoidal disease.

How can hemorrhoids be treated?

Measures promoting soft, but formed stool include a diet high in fiber, the use of bulking agents such as Mucofalk® and adequate amounts of fluid. It is important not to press during bowel movements. Laxatives, however, should be avoided. Also useful are anal tampons, suppositories or ointments. If these conservative methods do not relieve symptoms, medical treatments are available, such as sclerotherapy, rubber band ligature, hemorrhoidal artery ligature (HAL) or a new, essentially painless surgical procedure (Longo’s circular staple procedure).
Colon polyps
<table>
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<th>What are colon polyps?</th>
<th>These are nodular growths in the colon, ranging in diameter from lentil to chestnut size. One or several polyps may develop. Once they reach a certain size, they have an increased risk of becoming cancerous. This leads to colon cancer.</th>
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<td>What symptoms do colon polyps cause?</td>
<td>Small polyps do not cause symptoms; larger ones may bleed and, similar to colon cancer, there may be changes in stool consistency and frequency. The test for occult (not visible to the naked eye) blood in the stool may be positive. Abdominal pains are rare.</td>
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<td>How can colon polyps be treated?</td>
<td>Most polyps can be removed during colonoscopy using electrocauterization. Larger polyps may require surgical excision. In any case, their removal prevents progression to colon cancer. Regular colonoscopies are very effective in preventing colon cancer. This is particularly important in persons with a family history of colon polyps or colon cancer. Such persons represent a group at higher risk for the development of colon polyps and colon cancer.</td>
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Colon cancer
What is colon cancer?

Cancer of the colon represents a malignant growth in the colon (3). Colon polyps, although benign, are considered a precursor to colon cancer (1 and 2).

What symptoms does colon cancer cause?

There may be dark blood and mucus in the stool. Bowel movements become irregular and variable in consistency. Cancer in the rectum can affect the sphincter function and cause a constant urge to pass stool. Abdominal pain may occur with tumors that are located higher in the bowel. The test for occult blood is often positive.

How can colon cancer be treated?

The affected bowel segment must be removed and the two ends re-attached. This is not possible with cancer located at a position low in the rectum: In these cases, an artificial bowel outlet (colostomy) is created since the entire anus must be surgically excised and the defect closed.
Colitis
(ulcerative colitis)
What is ulcerative colitis?

In ulcerative colitis, the mucosal membrane covering the inner surface of the colon is inflamed. This may be limited to the rectum (proctitis) but may affect the entire colon (ulcerative colitis). The cause of this disease is unknown.

What symptoms does ulcerative colitis cause?

Most frequently reported is bleeding with the bowel movement. The stool is often dark and mixed with mucus. Patients suffer from diarrhea occurring 10–20 times per day. There may be simultaneous disease affecting other organs, including the skin, eyes, joints and liver.

How can ulcerative colitis be treated?

Depending on the extent and intensity of the disease, anti-inflammatory drugs of various kinds are administered according to the patient’s needs in the form of tablets, granules, suppositories, enemas or rectal foam. In order to avoid nutritional deficiencies, dietary measures can be useful in some patients. If complications occur, surgery may be required in some cases. If, after the disease has persisted for many years, the risk of malignant disease (cancer) arises, it may be necessary to remove the entire colon.
Periproctal abscess
What is a periproctal abscess?

This is a collection of pus in the area of the anus. If it is found in the vicinity of the tailbone, it is known as a coccygeal abscess.

What symptoms does a periproctal abscess cause?

Most prominent symptom is pain that increases in intensity from day to day. Patients also may have fever and a general feeling of being unwell. Should the abscess spontaneously rupture, pain subsides suddenly.

How can a periproctal abscess be treated?

A periproctal abscess must be surgically drained as soon as possible. One cannot wait until it “ripen” as this entails the risk of destruction of the sphincter muscles. Thus, one may not attempt to delay surgery by the use of vesicants, red light or other measures. Because abscesses are often a consequence of loose stools or diarrhea, the best prevention consists in maintaining well-formed stool.
Anal fissure
**What is an anal fissure?**

An anal fissure is a longitudinal tear in the anal canal. They are almost always found in the sector of the anus toward the tailbone. Fissures are often the result of excessively hard stool but constant, porridge-like stools can also promote the formation of fissures.

**What symptoms does an anal fissure cause?**

Pain upon passage of stool is typical, but this pain may then persist for hours. Sometimes, there may be blood on the stool. The anus is extremely tense and the diameter of the stool may be pencil-thin.

**How can an anal fissure be treated?**

The anus must be dilated in order to release the cramping and permit healing. This is achieved by use of a cone-shaped dilator and measures to assure soft, but formed stool. Anal tampons and ointments promote healing. Chronically persisting fissures that fail to heal may require surgery.
Proctalgia fugax
Proctalgia fugax is a painful cramping of the anus and pelvic floor. It is not known why certain persons experience these painful symptoms. In some cases, external stressors may trigger this disorder.

Patients experience sudden, very intense cramping pains that occur “out of the blue” at irregular intervals of weeks to months. These attacks last 10–20 minutes and often occur at night.

There is no sure treatment. In some cases, hot water bottles may help or the patient may attempt to apply opposing pressure with a fist or by sitting on the rim of a bathtub. In some cases, analgesics (pain-relieving drugs) may be needed. In some cases, preparations containing nitrates can quickly relieve the cramps.
Tailbone pain
(coccygodynia)
<table>
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<th>Answer</th>
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<td>What is tailbone pain?</td>
<td>Tailbone pain (coccygodynia) is caused by hypersensitivity of tissue in the tailbone region. The cause is unknown. Injuries may be responsible.</td>
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<td>What symptoms does tailbone pain cause?</td>
<td>Patients experience increasing pain in the area of the tailbone when sitting, especially on upholstered stools or armchairs.</td>
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<td>How can tailbone pain be treated?</td>
<td>Massage of the tailbone region and lower back (lumbar spine) can be helpful. A physician may recommend injection of anesthetic substances into the surrounding tissue. When nothing helps and the pain becomes unbearable, consideration must be given to surgical removal of the tip of the tailbone.</td>
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Cryptitis –
Enlarged anal papillae
What is cryptitis?

Within the anal canal there is a zigzag-shaped line consisting of 10–15 swallow’s nest shaped depressions (crypts) separated by small lumps of tissue called papillae. Cryptitis occurs when these depressions become inflamed. The cause is quite often the persistence of loose stool or diarrhea, which collects in the crypts. In some cases, there may be a nodular enlargement of the neighboring papillae (hypertrophied anal papillae). These may be as large as cherries and disrupt the function of the sphincter muscles. They do not become malignant.

What symptoms does cryptitis cause?

Frequently patients experience dull pain that set in only 10–20 minutes after a bowel movement. The pain may, however, persist for the whole day.

How can cryptitis be treated?

Most important is maintaining well-formed stool. Anal tampons should be inserted overnight. If this treatment is unsuccessful, it may become necessary to surgically incise the crypts and remove the enlarged anal papillae.
Sphincter weakness
The anus is sealed by means of an internal (inner) and external (outer) sphincter muscle. When these muscles can no longer fulfill their normal function, patients are said to suffer from sphincter weakness. There is a variety of causes including frequent pregnancies, difficult labor, age, chronic constipation, surgery, inflammatory disorders of the anus and many others.

In mild cases, patients may no longer be able to hold back gas or loose stool. In more severe cases, they may be incontinent even for formed stool. This results in constant leakage, smearing and soiled undergarments.

If the sphincter muscles have not completely lost their ability to function, patients may benefit from daily muscle and pelvic floor exercises, or from electrical muscle stimulation treatment. In severe cases, surgical tightening of the sphincter musculature and pelvic floor may be helpful. Stimulation of coccygeal (tailbone) nerves may restore continence in some patients.
Perianal fistula
Perianal fistulae are tube-like connections that form between the lower rectum or anal canal and the skin surface surrounding the anus. There may be one or more fistulae that form around the anus. In many cases, they develop as a consequence of a periproctal abscess.

Perianal fistulae cause a constant drainage of wound secretion. The surroundings of the anus are always moist and sometimes there may be an admixture of blood and pus.

Perianal fistulae are best treated surgically. Extensive fistulae may affect the function of the sphincter muscles. In such cases, patients may benefit from a long-term sutured drainage which in about 60% of cases allows for drying and healing of the fistula within months. In other cases, direct application of biologically active material (plugs) into the fistula tube can effect closure of the fistula and this may help avoid surgery.
Anal eczema
Anal eczema is an inflammatory disorder of the skin surrounding the anus. A wide variety of causes have been implicated including sphincter weakness, enlarged hemorrhoids, perianal fistulae, anal fissures, insufficient anal hygiene, funnel-shaped anus, excess hair, heavy perspiration and frequent bowel movements.

Most prominent is persistent pruritus (itching) of variable intensity. For many affected persons, itching is more uncomfortable than pain. It is often worst at night. In some cases, patients may experience burning and mild bleeding.

Causative factors should be addressed whenever possible. Careful anal hygiene is very important. The anus should be cleansed with water after every bowel movement. Placement of small layers of cotton wadding between the buttocks protects the skin and allows the inflammation to subside. Also helpful are ointments, pastes, creams, sitz baths and dye solutions.
Marisques
What are marisques?

Marisques are harmless, nodular skin folds located directly at the anus. They can be solitary or there may be several around the anus. While some are only of pea-size, others may be as large as chestnuts. In most cases, they develop unnoticed over the years.

What symptoms do marisques cause?

Marisques do not cause any symptoms. They may, however, make it more difficult to adequately cleanse the anus after a bowel movement. This can then lead to inflammatory reactions with itching, burning or soiling.

How can marisques be treated?

Scrupulous anal hygiene is crucial. This relates especially to cleansing the anus with water after a bowel movement. Surgical removal of marisques is required only in exceptional cases.
Condylomata acuminata
(genital warts)
Condylomata (singular: condyloma) are growths consisting of fine nodules that mostly occur in the genital region. They are caused by a virus and are most often transmitted by sexual activity.

Condylomata are often associated with itching, burning and sometimes smearing wetness. If they grow within the anal canal, they cause pain and sometimes bleeding during bowel movements.

Condylomata require treatment by a physician. In the case of smaller lesions, application of a caustic solution may be adequate. Larger warts require surgical removal. Untreated, they may reach enormous size and may sometimes become malignant. The patient’s sexual partners should also be examined.
Anal wall thromboses
What are anal wall thromboses?

Anal wall thromboses are blood clots in the veins of the external anal rim. This results in nodes ranging in size from pea to chestnut size. The immediate surroundings are often swollen and inflamed. Anal wall thromboses may result from hard stool or diarrhea, sitting on cold surfaces, or may occur during menstruation or other conditions.

What symptoms do anal wall thromboses cause?

Anal wall thromboses develop spontaneously within one to two hours. Larger thromboses usually cause severe pain that may persist for days. Sometimes, bleeding may occur.

How can anal wall thromboses be treated?

Patients experiencing severe pain may require surgical treatment. In other cases, salves, ice packs and sitz baths may be adequate. The thromboses resolve in the great majority of cases within the next days to weeks. Unlike thromboses occurring in the veins of the legs, these thromboses are not associated with any serious risks.
Rectal prolapse
What is rectal prolapse?

When the pelvic floor no longer adequately supports the rectum, it may begin to protrude during bowel movements or physical work. The appearance is that of a fist-sized knob. Causes include connective tissue weakness, sphincter weakness, numerous pregnancies, chronic constipation, as a consequence of surgery involving the anus among others.

What symptoms does rectal prolapse cause?

Patients with rectal prolapse experience soiling, smearing and, less often, bleeding. In many cases, passage of stool can no longer be controlled. It is not difficult to replace the bowel in its normal position.

How can rectal prolapse be treated?

In mild cases, sphincter and pelvic floor exercises and electrical stimulation of the muscle may be useful. If these measures are unsuccessful, surgery is required to remedy this distressing situation.
Irritable bowel syndrome
What is irritable bowel syndrome?

In this disorder, the bowel is organically healthy but disturbed in its function. It simply does not work as it should. The causes are unknown. Among other factors, psychic conflict situations may trigger development of symptoms.

What symptoms does irritable bowel syndrome cause?

Symptoms can be variable. Frequently, patients experience irregular stools, alternating between diarrhea and constipation. Almost always, patients are plagued by painful bloating, feeling of fullness, growling and twinges of pain. This can significantly limit patients’ quality of life.

How can irritable bowel syndrome be treated?

In most cases, a diet high in fiber (fruit, vegetables, grain products and bulking agents such as Mucofalk®) is recommended. Cabbage and related foods may intensify bloating. In many cases, bowel cleansing (colon hydrotherapy with transformation of the intestinal flora) can have a salutatory effect on symptoms.
Diverticular disease
What are diverticula?

Diverticula (singular: diverticulum) are outpouchings of the bowel wall. They vary in diameter from pea to cherry size and mostly occur in the descending (left-sided) colon. Symptoms occur when diverticula become inflamed. This is referred to as “diverticular disease”. Causes for the development of diverticula include connective tissue weakness, chronic constipation, overweight and age. It is not clear what conditions cause diverticula to become inflamed.

What symptoms do diverticula cause?

Frequently, there is variability of the consistency and frequency of stool. Inflamed diverticula are often associated with passage of mucus, bleeding and fever. Pain on the left side of the abdomen that resolves upon bowel movement is common. Stenosis (narrowing) and perforation of the bowel wall may occur.

How can diverticula be treated?

Patients with non-inflamed diverticula may benefit from a diet high in fiber or bulking agents. Inflamed diverticula may require antibiotics or anti-inflammatory drugs. If complications such as stenosis or perforation occur, the bowel segment must be surgically removed.
Crohn’s disease
Crohn’s disease is characterized by inflammatory processes that occur predominantly in the bowel but may affect other organs. Most commonly affected are the lower segments of the small bowel. If the disease spreads to the colon and rectum, patients may develop fistulae that fail to heal and recurrent abscesses in the anal region.

Most patients experience loose stools or diarrhea that can occur 10–20 times per day. Frequently, there is a drop in physical performance, weight loss and, in adolescents, a delay in physical maturation and development.

Pharmaceutical treatment is the most commonly used option. In many cases, use of a preparation containing cortisone cannot be avoided. Surgical procedures should be approached cautiously. Treatment does not cure the disease.
The importance of well-formed stool

Food passing from the small bowel into the colon has by that point been mostly digested. In the colon, water and electrolytes are absorbed, leaving a well-formed stool, whose passage under normal circumstances progresses without problem.

If, however, the stool is too low in volume or too hard, or if stool is loose or diarrheal in nature, disturbances and physical complaints may ensue.

**Low stool volumes** make it difficult for the bowel to transport the stool. The result is constipation with bloating and fullness, as well as excessive stress on the bowel wall, which can, in turn, result in the development of diverticula.

If the stool is too hard patients may suffer injuries and pain. Bowel movements may be associated with excessive pressing. This results in descent of the pelvic floor, stretching and weakening of the sphincter musculature, and prolapse of hemorrhoids and finally prolapse of the rectum.

**Porridge-like** or diarrhea stretches but does not exercise the sphincter muscle. The anal canal becomes stiff and loses its capacity to provide a fine seal of the rectum. Patients experience wetness, smearing and constant soiling of undergarments.

Thus, it is important, in the interest of preserving the health of the bowel, anus and hemorrhoids, to take effective measures to assure well-formed stool. This is best achieved by maintaining a healthy, balanced diet. Bulking agents, such as Mucofalk® help to control both constipation and diarrhea, and in general improve the consistency of the stool.
Mucofalk® Orange
Granules

Active agent: Isphagula husk
(Plantago ovata seed shells), ground

Bulking agents in Mucofalk®
The bulking agents in Mucofalk® include the seed shells of certain plaintain species (Plantago ovata). These vegetable substances promote bowel movements by means of bulking as they bind water; their indigestible fiber increases the stool volume.
In addition, bulking agents promote an increase in the bacterial flora, which also increases the stool volume. The more pronounced filling of the bowel stimulates increased propulsive activity and, by binding water, the consistency of the stool becomes softer. Besides water, bulking agents also bind fats, dietary cholesterol and bile acids in the bowel: These are not absorbed into the blood stream but instead excreted. In this way, the vegetable bulking agents in Mucofalk® may help reduce LDL cholesterol (“bad” cholesterol) by up to 15%.

Vegetable bulking agents of this kind can be used safely for extended periods.

Indications
Chronic constipation, disorders in which it is desirable to facilitate bowel emptying by softening the stool (e.g. in patients with anal fissures and hemorrhoids, and following surgical procedures involving the rectum); for adjunct treatment of diarrhea of various causes, and in irritable bowel syndrome.
Dosage and instructions for use

Unless otherwise prescribed, adults and children over the age of 12 years take the contents of one pouch or one level tablespoon of Mucofalk® granules mixed with at least 150 ml of water two to three times per day. When used as adjunctive therapy for diarrhea and irritable bowel syndrome, adults and children over the age of 12 years take the contents of one pouch or one level tablespoon of Mucofalk® granules mixed with at least 150 ml of water two to six times per day.

1. Never consume the preparation in its dry form, as this can lead to difficulty swallowing.
2. Place the contents of one pouch or one level tablespoon of Mucofalk® in a glass.
3. Slowly fill the glass with at least 150 ml of cool water.
4. Carefully stir with a spoon and pay attention that no clumps form. Drink immediately. Do not drink while in a lying position.
5. Drink a second glass of water afterwards.

Notice

Please also read consumer information.
Further information for patients with bowel diseases:

– Colon Diverticula and Diverticulosis
  31 pages (M80e)

– Normalization of bowel function in constipation and diarrhea (Plantago ovata seed shells)
  39 pages (M81e)

These brochures can be ordered free of charge from Falk Foundation e.V. or the local Falk partner.

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