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What is an anal fistula?

A fistula is an abnormal connection or tunnel between two organs or two tissue surfaces. An anal fistula is known medically as “fistula-in-ano” and is sometimes also referred to as perianal fistula. Perianal refers to the area of the body surrounding the anus, and particularly the skin in that area. Perianal fistulas are when these abnormal connections or tunnels occur between the anal canal (or rectum) and an external opening in the skin near the anus.

The **anus** is the lower opening of the GI track.

The **anal canal** or **rectum** is the lowermost portion of the large intestine.

Anal fistulas and abscesses

Anal fistulas and abscesses of the perianal region are different signs of the same clinical disease. They usually develop in the upper part of the anus, where the anal glands are located. When these glands become infected, they can cause a perianal abscess. The abscesses may break through the skin and drain, causing a fistula. As many as 50% of people with an abscess get a fistula. However, a fistula can also occur without an abscess if there is an injury to the anal canal. This sometimes can happen during surgery to the rectum or anus.

People with Crohn’s disease may experience fistulas forming in different parts of the intestines, with another organ, such as the bladder, or through to the skin surface. However, perianal fistulas are the most common type of fistula in Crohn's disease and can be referred to as perianal Crohn's fistulizing disease. Research has shown that between 23%-38% of those with Crohn's disease may develop perianal Crohn's fistulizing disease.

Causes of Perianal Fistulas

Perianal fistulas can occur in anyone; however, it is twice as common in men and people assigned male at birth (AMAB). Perianal fistulas are often a result of a specific cause or disease. These can include:

- Colitis
- Crohn's disease
- Chronic diarrhea
- Diverticulitis
- Chronic sexually transmitted infection (STI)
- Infection with tuberculosis or HIV
- Radiation treatment in the perianal region (such as for rectal cancer)
- Complications of surgery near the anus
- Being immunocompromised (having a weakened immune system) or prone to more frequent infections

Symptoms

Symptoms of an anal fistula include:

- skin irritation around the anus
- a throbbing pain that may worsen with movement, a bowel movement, or coughing
- smelly discharge near the anus
- passing pus or blood with a bowel movement
- swelling and redness around the anus
- difficulty controlling bowel movements
- fever

Diagnosis

Diagnosis of a perianal fistula rests on identifying

- the external opening on the skin
- the internal opening to the abscess in the anal canal
- the path or tunnel of the fistula from one opening to another

Perianal fistulas often present as small holes or red

bumps on the skin, and healthcare providers can find most external openings during a physical exam. During the exam, they will press on the skin where they suspect a fistula to determine if there is a drainage. Often the area is extremely painful to the touch the examination must be performed in the operating room under sedation. This is called examination under anesthesia (EUA). Finding the internal opening of the fistula can be more difficult. They may use a lighted scope, like an anoscope or proctoscope (a longer scope that can visualize your rectum) to view inside the rectal canal. Knowing the complete path of an anal fistula is important for effective treatment. To determine the path (or tunnel), healthcare providers may use a probe inserted at one opening, travelling through the path and coming out at the other opening. This allows them to see where the fistula travels and if it goes through sphincter muscles.

There are also several imaging tests that can also attempt to determine this, including:

- Pelvic magnetic resonance imaging (Pelvic MRI): Sometimes also referred to as an MRI fistulogram, provides an image of the anal canal, sphincter muscles and the surrounding tissues. In this MRI, magnetic and electronic waves are used to create multiple 3D images which can be read by the healthcare provider to determine the openings and path of the fistula.
- Endoanal ultrasound: Takes images of the anal sphincter and surrounding areas to assess the area.
- Endoscopic ultrasound: This uses high-frequency sound waves to identify the fistula, the sphincter muscles and surrounding tissues.
- Fistulography: This is a traditional radiological technique used to define the anatomy of fistulas. The external opening of the fistula is injected with a water-soluble dye to define the fistulous path. An x-ray is then taken so that the path of the fistula can be seen.
- Computed tomography (CT) scanning: CT scanning is a specialized form of radiography in which multiple X-rays of the anus and rectum are taken at different angles and projections. Healthcare providers use these images to produce a two-dimensional image to see what is happening in the body.

- Anal endosonography, also known as endoanal ultrasonography (EUS) or transrectal ultrasonography (TRUS): In this procedure a special long tube is gently introduced into the rectum through the anus and gradually withdrawn through the anal canal. This produces an image with multiple layers to allow healthcare providers to see the area in 3-D.

What are the different types of anal fistulas?

Healthcare providers classify anal fistulas by where they are in relation to the anal sphincter muscles. These are the muscles that control bowel movements. There are specific names based on the fistula location.

- Intersphincteric anal fistula: Passes through the internal anal sphincter muscle and then comes out through the space between the internal and external sphincter muscles.
- Transsphincteric fistula: Travels through both layers of the anal sphincter muscles.
- Suprasphincteric fistula: Passes through the internal sphincter and then goes around the external sphincter.
- Extrasphincteric fistula: Goes around both sphincter muscles. This type is less common and usually originates from the rectum rather than the anus. This type does not begin as an abscess in an anal gland.
- Superficial anal fistula: Travels from the lower part of the anal canal, below the anal glands, through the skin nearby, bypassing the muscles. This type does not begin as an abscess in an anal gland.

Classifying Perianal Fistulas

Fistulas can be classified as simple or complex:

- Simple perianal fistula: A low fistula, confined to the anal canal with a single external opening without abscess or stricture (abnormal narrowing of the anal canal). Simple perianal fistulas occur below the dentate line, and generally have no perianal complications.
- Complex perianal fistula: high fistula, passes through or above muscle layer with single or multiple external openings with or without abscess. Complex perianal fistulas occur above the dentate line and may be associated with perianal abscesses, rectal stricture, inflammation of the lining of the

rectum (proctitis) or connection with bladder or vagina.

Treatment

The goals of treatment for a perianal fistula are the complete closure of the fistula, the elimination of sepsis (if present), the prevention of recurrence, and continence (continued ability to control bowel movements). Combined medical and surgical treatments are used to treat perianal fistulas. Having a multidisciplinary team which includes a gastroenterologist, radiologist, and colorectal surgeon is important. The treatment and management of perianal fistulas requires precise diagnostics to understand the disease, the correct choice of treatment option, either pharmacological or surgical, or both, as well as a monitoring plan to ensure they do not recur. There are many options and open and honest discussions between the healthcare team and the patient are extremely important.

Sepsis is when the body responds improperly to an infection. It can be very serious and must be treated promptly.

Colorectal surgeons are experts in the surgical and non-surgical treatment of diseases of the colon, rectum, and anus.

What are the complications of an anal fistula?

A fistula that goes untreated generally will not heal on its own. Even with treatment they may return. This can lead to long-term complications, such as:

- Persistent infection. A fistula that has a symptomatic response, but is not healed completely may return, forming a new abscess. Sometimes, the fistula may seem to be healing and may close at the opening, but the abscess is still present and the fistula may reopen or a new fistula appear.
- Fistula extension. Sometimes a chronic fistula can extend in new directions, creating new dividing paths and openings in the skin. These complex fistulas are very difficult to repair.
- Cancer. Anal cancer has been found in untreated anal fistulas that have been present for years. Chronic inflammation and erosion are known risk factors for cancer.
- Fecal incontinence. Some people experience fecal continence after anal fistula surgery due to damage to the anal sphincter.

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