CONDITION

Fistula

A fistula is an abnormal passage connecting two organs or an organ to the skin.

WHAT IT IS
Abnormal passage connecting organs or an organ and skin

BODY SYSTEM
Often digestive, urinary, reproductive, or circulatory

MAIN SYMPTOMS
Drainage, pain, skin irritation, repeated infections

WHAT CAUSES IT
Infection, inflammation, injury, surgery, childbirth, or abnormal development

HOW IT IS DIAGNOSED
Examination plus imaging, endoscopy, or contrast tests

MAIN TREATMENT
Procedures or surgery plus treatment of the underlying cause

CAN IT BE CURED?
Sometimes - many heal after repair, but some recur

IS IT AN EMERGENCY?
Sometimes - heavy bleeding, sepsis signs, or neurological symptoms

LONG-TERM OUTLOOK
Often treatable; outcome reflects location, cause, and tissue health

Overview

A fistula is a passage connecting body structures that are not normally connected. It may run between two internal organs or between an organ and the skin.

Examples include an anal fistula between the anal canal and nearby skin, an enterocutaneous fistula between the intestine and skin, and a urinary fistula that allows urine to pass into the vagina or bowel. An arteriovenous fistula connects an artery directly to a vein.

Fistulas may allow stool, urine, digestive fluid, blood, or pus to travel along the wrong route. This can cause skin damage, infection, fluid loss, or impaired organ function.

A surface opening may close while the deeper passage remains and later reopens. Treatment therefore addresses the complete tract, any infection, and its underlying cause.

Not every fistula is harmful. Surgeons deliberately create some arteriovenous fistulas to

provide blood-vessel access for dialysis. This article mainly covers fistulas that form unintentionally.

Symptoms

Symptoms depend on the fistula's location and what passes through it.

A fistula opening onto the skin may cause:

An anal fistula commonly causes pain near the anus and drainage from a small opening. Symptoms may improve after drainage, then return if the opening seals and another abscess forms. An abscess is a collection of infected fluid or pus.

An intestinal fistula can cause abdominal pain, diarrhea, infections, poor appetite, or weight loss. High fluid output may lead to dehydration and loss of salts and nutrients.

Urinary or genital fistulas can cause urine or stool to leak through the vagina, repeated urinary infections, skin irritation, or difficulty controlling urine. Some people notice air or stool in their urine.

An arteriovenous fistula may cause swelling, visible veins, warmth, or a vibration under the skin. Connections involving blood vessels near the brain or spinal cord may cause a pulsing noise in one ear, eye symptoms, weakness, numbness, or other neurological symptoms.

- Ongoing or repeated drainage of pus, blood, stool, urine, or clear fluid
- Pain, swelling, redness, or tenderness
- Sore, itchy, or broken skin
- An unpleasant smell
- A wound that repeatedly closes and opens

Causes and risk factors

Fistulas often develop after inflammation, infection, tissue damage, or surgery.

Most anal fistulas begin when an infected anal gland forms an abscess. The abscess may drain but leave a persistent tunnel.

Crohn's disease can cause deep ulcers that extend through the bowel wall and connect with another bowel loop, the bladder, vagina, skin, or nearby tissue.

Other digestive fistulas may follow abdominal surgery, cancer treatment, radiation therapy, severe infection, poor blood supply, or injury. Urinary and genital fistulas can occur after pelvic

surgery, radiation, cancer, major injury, or prolonged obstructed labour.

Arteriovenous fistulas may be present from birth or develop after an injury, procedure, or blood-vessel disorder.

Healing is less likely with an untreated abscess, blocked drainage, active Crohn's disease, cancer, radiation damage, poor blood supply, malnutrition, or a foreign object within the tract.

Diagnosis

Diagnosis begins with your symptoms, medical history, and an examination. Tell the healthcare professional about previous surgery, childbirth injuries, Crohn's disease, radiation treatment, abscesses, and the amount and type of drainage.

An external opening may be visible, but the complete pathway may not be. Probing without suitable planning can damage tissue, so imaging or other tests may be needed.

Tests may include:

Drainage may be tested for infection. If Crohn's disease or cancer is suspected, endoscopy and a biopsy may be required.

- MRI to map anal, pelvic, bowel, or soft-tissue fistulas
- CT to identify abscesses, inflammation, internal connections, or complications
- Ultrasound to assess anal tissue, pelvic structures, or blood flow
- Endoscopy to examine the bowel or bladder
- Contrast or dye tests to show where fluid travels
- Angiography to map blood-vessel connections
- Blood tests for infection, inflammation, anemia, dehydration, or nutritional problems

Treatment and management

Treatment depends on the fistula's location, cause, complexity, and effects. Initial priorities may include draining an abscess, treating infection, protecting the skin, and correcting fluid or nutritional problems.

Antibiotics like amoxicillin or doxycycline can treat certain infections but usually do not close an established fistula by themselves.

Many anal fistulas need a procedure. A fistulotomy opens a suitable tract so it heals from its

base. It is used when doing so will not significantly damage the muscles controlling bowel movements. Complex fistulas may be treated with a seton-a thread or soft drain placed through the tract-or a procedure that closes the internal opening while protecting those muscles.

Crohn's-related fistulas may require both medication to control inflammation and a procedure. An abscess generally needs drainage before or alongside other treatment.

Some intestinal fistulas close after infection is controlled and nutrition and fluid balance improve. Surgery may be needed for a blockage, cancer, damaged bowel, persistent high output, or failure to heal. A temporary stoma may redirect stool while tissue recovers.

Urinary, vaginal, and obstetric fistulas often require planned surgical repair. Inflamed, infected, or recently injured tissue may need time to recover first.

Abnormal arteriovenous fistulas may be closed through a blood vessel using coils, plugs, or medical adhesive; others require open surgery. A dialysis fistula is managed differently and should not be compressed or treated as an abnormal connection.

Follow-up is important to check healing and identify infection, leakage, continence problems, or recurrence.

Complications

A persistent fistula can cause repeated abscesses and infections. Infection may spread into surrounding tissue or the bloodstream.

Contact with stool, urine, pus, or digestive fluid can damage skin. Intestinal fistulas may cause dehydration, abnormal salt levels, weight loss, and malnutrition.

Anal or rectal fistulas and their treatment can affect bowel control. Urinary fistulas may disrupt daily activities, sleep, sexual health, and emotional well-being.

Arteriovenous fistulas may reduce blood flow to nearby tissue, bleed, or strain the heart. Those involving the brain, eye, or spinal cord can damage nerves by altering pressure or blood flow.

Fistulas can recur, particularly when they are complex or underlying inflammation remains active.

Prevention

Not all fistulas can be prevented. Some result from severe inflammation, cancer, abnormal blood-vessel development, injury, or necessary surgery.

Managing Crohn's disease may reduce inflammation and some complications. Prompt assessment of a painful swelling or suspected abscess may limit infection and tissue damage.

After surgery, follow wound-care and activity instructions. Report new drainage, fever, or increasing pain.

Access to timely obstetric care, including safe delivery when labour is obstructed, is central to preventing obstetric fistula. This is mainly a healthcare-system issue, not something a person in prolonged labour can prevent alone.

Appropriate protection at work and during activities with injury risks may reduce some traumatic fistulas.

Living with it and what to expect

A straightforward anal fistula may heal after one procedure. A complex fistula related to Crohn's disease, radiation injury, or previous operations may require several procedures over months.

Drainage can continue while a seton or other drain is in place and may be expected. Your team should explain how much is typical and which changes need review.

Absorbent pads, gentle washing, careful drying, and a recommended barrier product may protect the skin. Do not put unapproved chemicals or instruments into an opening.

If an intestinal fistula causes fluid or nutrient loss, a dietitian can help. Some people need temporary nutritional support. Do not sharply restrict food or fluids unless your care team instructs you to.

Urinary, genital, and anal fistulas can affect confidence, relationships, work, and sexual activity. Leakage is a medical symptom, not a personal failing. Specialist nurses, continence or pelvic health services, and counselling can provide support.

Keep follow-up appointments even if drainage stops. The surface can close before the deeper tract heals. Controlling an underlying condition such as Crohn's disease may reduce further problems.

When to get medical help

Arrange a routine appointment for unexplained ongoing drainage, a repeatedly opening wound, air or stool in the urine, urine or stool leaking through the vagina, or recurring pain and swelling near the anus.

Seek prompt same-day care for increasing pain, redness, swelling, pus, fever, reduced urine output, repeated vomiting, or dehydration signs such as marked thirst, dizziness, or very dark urine.

Get emergency help for:

If you have a dialysis fistula, seek urgent help if its usual vibration disappears, the hand becomes cold or painful, or bleeding does not stop with firm pressure.

- Confusion, fainting, severe weakness, or difficulty breathing
- Heavy or uncontrolled bleeding
- Fever with shaking, rapid breathing, or feeling severely unwell
- Sudden weakness, numbness, vision loss, severe headache, or trouble speaking
- Severe abdominal pain with a swollen abdomen or persistent vomiting

Common questions

Can a fistula heal on its own?

Some small, uncomplicated fistulas close after infection and inflammation are controlled. Many do not, especially anal fistulas or those linked to Crohn's disease, blockage, cancer, radiation damage, or unhealthy tissue. Skin closure does not prove the internal tract has healed.

Is a fistula the same as an abscess?

No. An abscess is a pocket of infected fluid or pus; a fistula is a tunnel between body structures. An abscess can leave a fistula behind, and a fistula can cause another abscess.

Is a fistula cancer?

No, but cancer or previous cancer treatment can sometimes cause one. A long-standing fistula that changes, bleeds, or does not heal may require further testing.

Will I need surgery?

Many fistulas need a procedure, but not all require open surgery. Options include drainage, a seton, endoscopic repair, a blood-vessel procedure, or surgical closure. The safest approach depends on the fistula's pathway and cause.

Can a fistula come back after treatment?

Yes. Recurrence is more likely with complex or branching tracts, continuing inflammation, poor tissue healing, or an internal opening that remains. Follow-up helps detect recurrence early.

Is a fistula contagious?

No. Infection within a fistula may involve bacteria, but the abnormal passage itself cannot spread between people.

Sources

- National Health Service: Anal fistula
- American Society of Colon and Rectal Surgeons: Clinical Practice Guideline for the Management of Anorectal Abscess, Fistula-in-Ano, and Rectovaginal Fistula , Diseases of the Colon & Rectum , 2022
- National Institute of Diabetes and Digestive and Kidney Diseases: Treatment for Crohn's Disease
- World Health Organization: Obstetric fistula
- Gribovskaja-Rupp I, Melton GB. "Enterocutaneous Fistula: Proven Strategies and Updates." Clinics in Colon and Rectal Surgery . 2016;29(2):130-137
- Merck Manual Professional Edition: Gastrointestinal Fistulas