

# Difference Between Hemorrhoids and Fissures

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## Key Difference – Hemorrhoids vs Fissures

Hemorrhoids and anal fissures are two completely different disease conditions occurring in the anal canal that have a similar clinical presentation. **The varicosity of the veins contained inside the anal cushions is the pathological basis of hemorrhoids. But anal fissures are due to the damage to the anal valves by the hard stools.** This can be considered as the key difference between anal hemorrhoids and fissures.

## What are Hemorrhoids?

In an anatomical perspective, hemorrhoids can be defined as a fold of mucous membrane and sub mucosa containing varicosed tributaries of the superior rectal vein and a terminal branch of the superior rectal artery.

## Anatomical Basis

Anal canal consists of three cushions made up of mucosal and sub mucosal components. The sub mucosal layer of the anal canal has a large blood supply through a network of capillaries and other tiny blood vessels. These blood vessels can get congested and enlarged, resulting in an abnormal expansion of the anal cushions into the lumen of the anal canal which we identify as hemorrhoids.

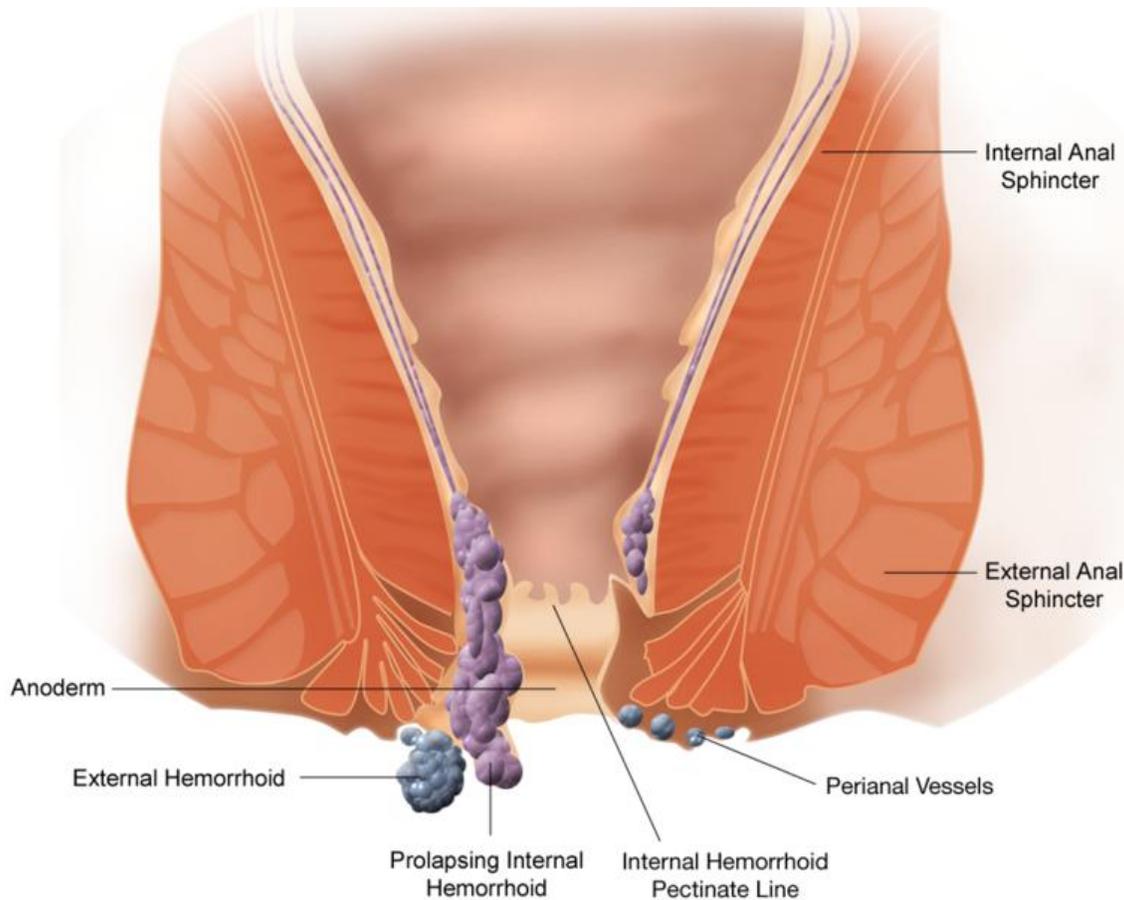
## Internal Hemorrhoids

The varicosities of the tributaries of superior rectal vein covered by a mucous membrane are known as internal hemorrhoids or piles. The tributaries that lie in 3', 7' and 11' positions when viewed in the lithotomy position are particularly vulnerable to get hemorrhoids. The superior rectal vein is valveless and thus cannot control the flow of blood through it. In addition to that, it is located in the most dependable area of the capillary network of the anal canal. These contributory factors further increase the vulnerability of this region to get hemorrhoids.

There are three stages of internal hemorrhoids.

- First degree – piles remain inside the anal canal
- Second degree – piles extrude from the anal canal during the defecation but return to their normal position later
- Third degree – piles remain outside the anal canal

Internal hemorrhoids do not cause any pain because they are innervated by autonomic afferent nerves.



**Figure 01: Hemorrhoids**

## **Causes**

- Family history of hemorrhoids
- Any disease that causes portal hypertension
- Chronic constipation
- Occlusion of the upper part of superior rectal artery by malignant tumors (rare)

## **External Hemorrhoids**

External hemorrhoids are varicosities of the inferior rectal vein in its course along the anal margin. These venous malformations are covered by the mucous membrane of the lower half of the anal canal or by the skin overlying the anorectal region. Unlike the internal hemorrhoids, external hemorrhoids are innervated by the branches of inferior rectal nerve, and therefore they are extremely painful and sensitive. Thrombosis of the external hemorrhoids and their subsequent ulceration are the common complications.

The occurrence of hemorrhoids in a patient below 20 years of age is highly unlikely.

## **Symptoms**

- Per rectal bleeding
- Presence of a palpable lump at the anal margin
- The sensation of something coming out of the anus after defecation.
- Pruritus
- There can be features of iron deficiency anemia due to the blood loss

Surgical intervention is the preferred method of treatment.

## **What are Fissures?**

The anal columns are connected to each other at their lower ends by folds of membrane called the anal valves. The scouring effect of the hard stools formed in conditions such as chronic constipation can tear these folds forming longitudinal ulcers which we identify as the anal fissures.

The posterior region of the anal canal is the most commonly affected area due to the weakness of the external anal sphincter in that region. The condition is aggravated by the presence of the fissure in the lower half of the anal canal whose innervation through the inferior rectal nerve gives rise to reflex spasms of the external anal sphincter.

Anal fissures are commonly seen among young males. Women are more likely to get this condition during the aftermath of childbirth.

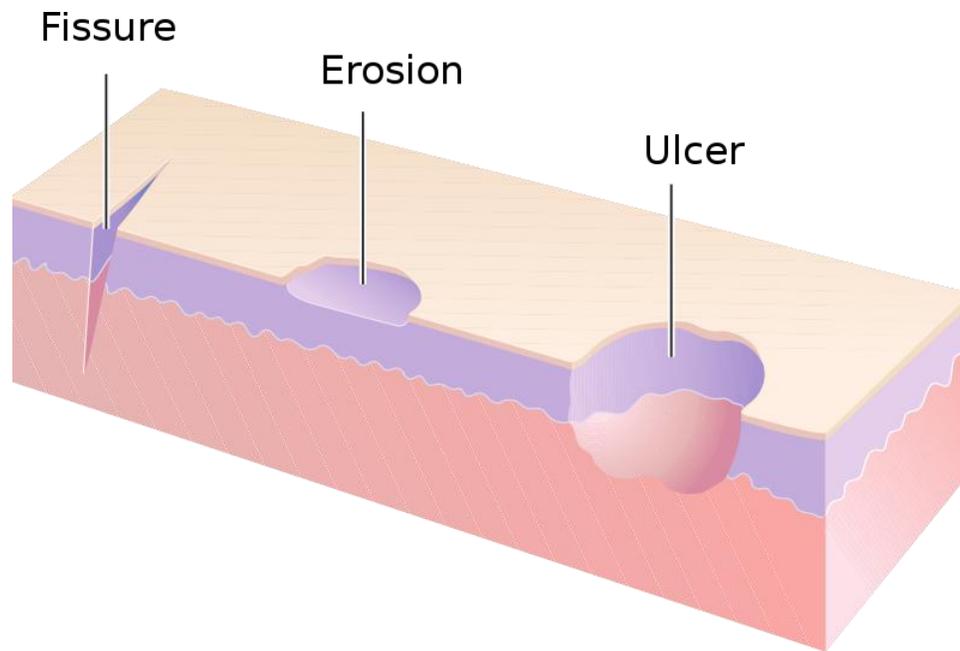


Figure 02: Fissure vs Erosion vs Ulcer

## Symptoms

- Extremely painful
- Per rectal bleeding

Remission is usually common. The lesion can heal spontaneously or become chronic.

Sigmoidoscopy or proctoscopy should never be attempted in a conscious patient having anal fissures because it can cause intense pain. When these procedures are carried out under the general anesthesia, the raw base of the lesion can be observed.

## What is the Similarity Between Hemorrhoids and Fissures?

- Both conditions affect the anorectal region.

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<p>mucosa containing varicosed tributaries of the superior rectal vein and a terminal branch of the superior rectal artery.</p>	<p>anal valves. The scourging effect of the hard stools formed in conditions such as chronic constipation can tear these folds forming longitudinal ulcers which we identify as the anal fissures.</p>
<p><b>Overlying Membrane</b></p>	
<p>The overlying membrane is intact.</p>	<p>The rupturing of the overlying membrane is the cause of lesion.</p>
<p><b>Vulnerable Regions</b></p>	
<p>3', 7' and 11' positions are the most vulnerable regions to get hemorrhoids.</p>	<p>Midline posterior region is more likely to get anal fissures.</p>
<p><b>Pain</b></p>	
<p>This is not always painful.</p>	<p>This is painful.</p>

## Summary – Fissures vs Hemorrhoids

Hemorrhoids and anal fissures are two common clinical conditions affecting the anorectal region. Hemorrhoids are a fold of mucous membrane and sub mucosa containing varicosed tributaries of the superior rectal vein and a terminal branch of the superior rectal artery. Anal fissures, on the other hand, are the tears in the anal valves that are caused by the friction injuries by hard stool. This is the difference between hemorrhoids and fissures.

### References:

- 1.Lowry, J. (2006). Browse's Introduction to the Symptoms and Signs of Surgical Disease (4th edn). Annals of The Royal College of Surgeons of England.
- 2.Snell, R. S. (2011). Clinical anatomy by regions. Lippincott Williams & Wilkins.

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**APA:** Difference Between Hemorrhoids and Fissures. (2017, November 07). Retrieved (date), from <http://differencebetween.com/difference-between-hemorrhoids-and-vs-fissures/>

**MLA:** "Difference Between Hemorrhoids and Fissures" *Difference Between.Com*. 07 November 2017. Web.

**Chicago:** “Difference Between Hemorrhoids and Fissures.” *Difference Between.Com*. <http://differencebetween.com/difference-between-hemorrhoids-and-vs-fissures/> accessed (accessed [date]).



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