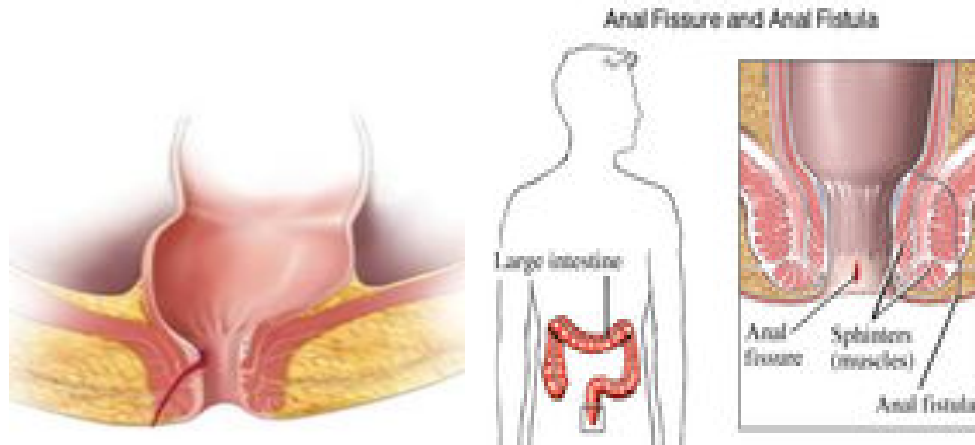


## ANAL FISTULA

An anal fistula is essentially a tunnel that leads from inside the anal canal to the skin around the anus or buttock.



They arise after an infection in the glands around the anal canal has caused an abscess which may have burst by itself or required drainage by a surgeon.

Once the tunnel has formed they will cause an intermittent discharge from the exit of the tunnel on the skin, this may range from blood, to pus, to liquid to gas. The feeding source of the tunnel is the entrance in the anal canal. If the exit of the tunnel closes over and the entrance remains open then there will be a build up of contents in the tunnel which cannot escape. The contents can then become infected and an abscess may form which can then cause more damage to the surrounding tissues or lead to side branches off the tunnel.

The tunnel will always pass through some sphincter muscle around the anal canal, this maybe a small or large proportion of muscle. The sphincter muscle is very important indeed as it keeps you continent of gas and faeces.



## FAMOUS PATIENTS WITH ANAL FISTULAS

Hippocrates first described patients with anal fistulas in approx 460 BC. The most famous sufferer was King Louis XIV (5 September 1638 – 1 September 1715) - The Sun King. His fistula was operated on by Charles Francois Felix on November 18<sup>th</sup> 1686. He required 4 further operations before being declared healed. Felix was bestowed with an honorarium, an estate and a title (This is said to be the highest paid fee for an operation in medical history). Charles Dickens was plagued by a fistula and Shakespeare wrote about fistulas in 'All's well that ends well'

## CLASSIFICATION OF FISTULAS

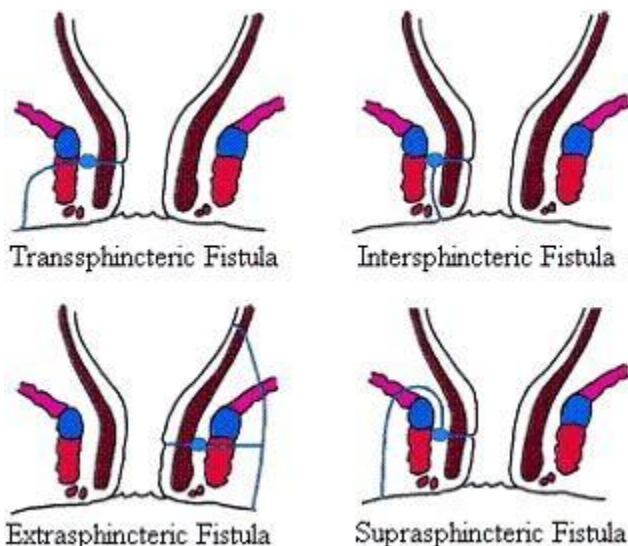
Fistulas are named according to the Park's Classification of Perianal Fistulas

**Transsphincteric fistulae** are the result of ischiorectal abscesses, with extension of the tract through the external sphincter. Account for about 25% of all fistulae

**Intersphincteric fistulae** are confined to the intersphincteric space and internal sphincter. They result from perianal abscesses. Account for about 70% of all fistulae

**Suprasphincteric fistulae** are the result of supralelevator abscesses. They pass through the levator ani muscle, over the top of the puborectalis muscle, and into the intersphincteric space. Account for about 5% of all fistulae.

**Extrasphincteric fistulae** bypass the anal canal and sphincter mechanism, passing through the ischiorectal fossa and levator ani muscle, and open high in the rectum. Accounts for about only 1% of all fistulae



## TREATMENT OF ANAL FISTULAS

The best chance of cure is to 'Lay open' the fistula, this involves cutting out the roof of the tunnel, scraping out all the infected tissue, laying open any side branches and allowing the wound to heal from inside out. However the tunnel always passes through muscle and therefore some muscle will be cut. If one cuts muscle then the patient will have their degree of continence control cut! The more muscle that is cut the more control will be lost.

The muscle length ranges from 2 to 5 cm long. Women have less muscle than men i.e. shorter anal canals. Also the muscle between the vagina and anal canal is very thin and deficient in the deeper aspects. This is further complicated by the fact that childbirth can weaken and disrupt the muscles, nerves and supporting tissues. Approximately 25% of women after childbirth will have a degree of incontinence usually to gas. It may be that the amount of functioning muscle between the vagina and anal canal is only 1 cm (10mm) long.

Consider an anterior fistula (a fistula whereby the exit of the tunnel is situated above an imaginary horizontal line that divides the anus into 2 equal halves) that involves 3 mm of muscle. Should this be laid open there is approximately a 30% chance of incontinence to gas and liquid soiling and urgency to find a toilet. Patients often have to wear a pad to absorb this discharge which may be the size of a 50p piece.

Other techniques include

1. Seton insertion-Loose
2. Seton insertion-Tight
3. Advancement flaps
4. Fistula glue
5. Fistula Plug
6. LIFT procedure
7. Lay open and immediate repair of the sphincter muscle.

Unfortunately all techniques have a failure or recurrence rate, this may range from 10-80%.

### **My Current techniques are as follows**

1. Insertion of a loose seton to allow drainage of all infection and control the fistula. This is also a recognised treatment in itself as it prevents the exit of the tunnel closing over which may cause a further abscess to form leading to further tissue/muscle destruction.

The seton therefore allows a continuous discharge of contents which may require a small pad to be worn to prevent soiling of underwear.

A seton is a stitch that is placed through the tunnel, it is inserted under a general anaesthetic (The stitch is like having a piercing of the bottom-lots of people have piercing of other body parts!). The stitch is a fine piece of string that is soft or a fine elastic band. In either case it is designed to to be soft and easy to sit on.

Patients are then reassessed to determine how much muscle will be cut (laid open) and how much muscle will be left behind that is functioning to keep continence. Further investigations are sometimes requested (MRI, endoanal ultrasound scan). This allows informed consent and discussion of surgical risks with the patient. I then proceed with one of the following.

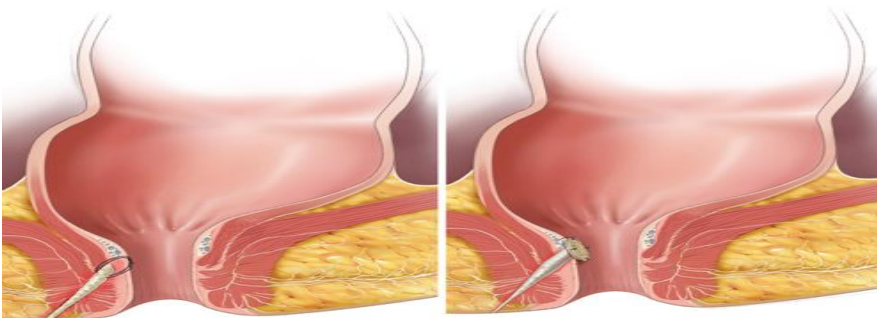
2. Lay open
3. Fistula Plug (currently private patients only)
4. Lay open and immediate repair of muscle.

**Advancement flaps.** I only perform this procedure rarely and in highly selected patients. These may be associated with an up to 30% recurrence rate and 30% incontinence rate.

**LIFT (Ligation of Intersphincteric Fistula Track)** is a new technique with no long term results. It is an easy procedure which I can perform on selected patients.

**Fistula Glues.** These are now rarely performed due to the high (up to 80-100%) recurrence rates.

**Fistula Plugs.** ([www.cookmedical.com/sur](http://www.cookmedical.com/sur)) .These are only inserted after a loose seton has been in place for at least 6 weeks and all infection has been eradicated. Essentially a collagen plug is inserted into the fistula tunnel effectively blocking the tunnel. The plug then provides a framework for the body tissues to grow into and completely heal the fistula. This has a success rate of approximately 50-70%. I am participating in a national randomised trial (FIAT 500) to evaluate the effectiveness of this new technique. The advantage of this technique is no muscle is cut and therefore there is no loss of continence. However failure rates are high and further abscesses may form which may cause more tissue damage.



**Lay open and immediate repair of the sphincter muscle.** To date I have performed this new technique on 7 patients (No recurrence and no incontinence after 2 year follow up). This is a new technique that is performed on selected patients after insertion of a loose seton and all infection has been eradicated.

Essentially the fistula anatomy is dissected out, all the muscles are identified and mobilised. The fistula is laid open and all side branches dealt with. The muscle is then repaired with an overlapping technique. The lining of the rectum/anal canal is then advanced over the repair closing the entrance to the tunnel. The skin outside the exit of the tunnel to the muscles is left open to allow drainage and discharge (3-4 weeks duration) which then heals slowly.

