Appendix: Patient information

Haemorrhoids, also known as piles, are a combination of soft tissue and blood vessels found inside the anal canal (the rectum/anus). In a non-pathological state the haemorrhoid originate high in the anal canal. This tissue prevents leakage of stool and gas during straining. In a pathological state, the haemorrhoids become swollen and enlarged which can descend in and or below the anus. This tissue is easily traumatized and could result into the following symptoms:

- bleeding after passing a stool – the blood is usually bright red
- itchy bottom
- a lump hanging down outside of the anus, which may need to be pushed back in, after passing a stool
- a mucus discharge after passing a stool
- soreness, redness around your anus

Consulting a doctor

Visit your general practitioner (GP) if you have symptoms (i.e. rectal bleeding, an itchy bottom, a lump hanging down outside your anus, mucus discharge and soreness around your anus)(1, 2).

During consultation, your GP will start with a medical history to identify the symptoms suggestive of haemorrhoids (3, 4).

It's important to tell your GP about all of your symptoms – for example, tell them if you've recently lost a lot of weight, if your bowel movements have changed, or if your stools have become dark or sticky.

Rectal examination

Your GP will examine the outside of your anus to see if you have visible haemorrhoids. Afterwards, the GP may also carry out an internal examination. Your GP will wear gloves and use lubricant. Using their finger, she/ he will feel for any abnormalities in your back passage. This shouldn't be painful, but you may feel some slight discomfort.

In some cases, further internal examination using a proctoscope may be needed. A proctoscope is a thin, hollow tube with a light on the end that's inserted into your anus. Probably, your GP will send you to the hospital to see a specialist (e.g. surgeon, gastroenterologist or dermatologist).

Types of haemorrhoids

After you've had an internal examination or proctoscopy, your doctor will be able to determine what type of haemorrhoids you have.

Haemorrhoids are classified, depending on their size and severity (5-7):

- **first degree** – small swellings that develop on the inside lining of the anus and aren't visible from outside the anus
- **second degree** – larger swellings that may come out of your anus when you go to the toilet, before disappearing inside again
- **third degree** – one or more small soft lumps that hang down from the anus and can be pushed back inside (prolapsing and reducible)
- **fourth degree** – larger lumps that hang down from the anus and can't be pushed back inside (irreducible)

It's useful for doctors to know what type and size of haemorrhoid you have. Depending of the type and size and your general health they can decide which treatment is best for you. However, the choice of the treatment should always be informed by shared-decision making, taking into account your preferences, availability of procedures and your fitness for further procedures.

Basic treatment

When your doctor makes a diagnosis of haemorrhoids, the first treatment step will consist of general advice for symtom relief (8-11). This includes:

- **toilet training** (correct position: including adopting the correct body position during defecation: sit straight with knees in 90 degrees). Straining and prolonged defecation sessions (longer than 5 minutes) should be avoided).
- **dietary changes (**specifically high fiber diet. Good sources of fibre are fruit, vegetables, wholegrain rice, wholewheat pasta and bread, pulses and beans, seeds, nuts and oats**)** (12-14).
- **pharmacological treatments** (laxatives or phlebotonics: a type of medicine that can help you empty your bowels**)**
- **NSAIDs and non-opioids analgesics** could be prescribed for pain.

Further advice is to drink enough water (1,5 – 2 litres a day), choose for a healthy diet and encouraging physical activity (World Health Organization (WHO))

Outpatient procedures

When basic treatment has not resulted in acceptable symptom reduction, further procedures could be considered. The following options (i.e. banding, infrared coagulation and sclerotherapy) are **outpatient procedures** that doesn't need an anaesthetic, and most people can return to their normal activities the next day. You may feel some pain or discomfort for a day or so afterwards. Normal painkillers are usually adequate, but your GP can prescribe something stronger if needed.

Banding involves placing a very tight elastic band around the base of your haemorrhoids to cut off their blood supply. The haemorrhoids should then fall off within about a week of having the treatment.

With **infrared coagulation**, an electric current is then passed through a small metal probe placed at the base of the haemorrhoid, above the dentate line.

With **sclerotherapy**, a chemical solution is injected into your haemorrhoid. It will harden the tissue of the haemorrhoid so a scar is formed. After about 4 to 6 weeks, the haemorrhoid should decrease in size or shrivel up.

Directly after the procedures, you may notice blood on the toilet paper after going to the toilet. This is normal, but there shouldn't be a lot of bleeding.

According to literature

Comparing these three techniques, banding, sclerotherapy and infrared coagulation, banding seemed the most effective procedure for patients having first and/ or second degree haemorrhoids. Often repeated RBL procedures are necessary to get optimal results (15).

Surgical technique

Surgery may be recommended if other treatments for haemorrhoids were not effective (enough), or if you have haemorrhoids that aren't suitable for outpatient procedures. Thes~~e~~ surgical procedures are usually carried out under general anaesthetics which means you'll be unconscious during the procedure and won't feel any pain while it's carried out. You'll need to take a week or so off work to recover.
There are many several surgical procedures for haemorrhoids. The main types of operation are described below.

Doppler-guided haemorrhoidal artery ligation and/or mucopexy involves stitching of the blood vessels to block the blood supply to the haemorrhoid. Besides, the haemorrhoids that hang down form the anus (prolapse) will be stitched back to its original place. As a result, the haemorrhoid will shrink over the following days and weeks.

During **stapling**, also known as stapled haemorrhoidopexy, a part of the anorectum – the last section of the large intestine – is stapled. After this procedure, the haemorrhoids are repositioned at their original place.

A **haemorrhoidectomy** is an operation to remove one of more haemorrhoids. The procedure involves gently opening of the anus so the haemorrhoids can be cut out.

According to current literature

The Doppler-guided haemorrhoidal artery ligation and/or mucopexy could be used in patients with grade II-III haemorrhoids and/or in patients who are refractory to outpatient procedures (16). The stapling and the haemorrhoidectomy are considered

to be effective in patients with more severe third and fourth degree haemorrhoids. However, recent literature described that the haemorrhoidectomy is most effective since this technique is associated with less recurrent haemorrhoids and better quality of life according to a patient questionnaire (17).

General risks of haemorrhoid surgery

Although the risk of serious problems is small, complications can occasionally occur after haemorrhoid surgery. These can include:

- bleeding
- infection, which may lead to a build-up of pus
- difficulty emptying your bladder (urinary retention)
- a small channel that develops between the anal canal and surface of the skin, near the anus (anal fistula)
- narrowing of the anal canal (stenosis) – this risk is highest if you have treatment on haemorrhoids that have developed in a ring around the lining of the anal canal

These problems can often be treated with medication or more surgery. Ask your surgeon to explain the risks in more detail before deciding to have surgery.

Seek medical advice from the hospital unit where the surgery was carried out or your GP if you experience:

- excessive bleeding
- a high temperature (fever)
- problems urinating
- worsening pain or swelling around your anus

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