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*About **A Surgeon's History of Anorectal Disease***
*and **A Surgeon's Clinical Manual of Anorectal Disease***

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"Great write-up, Sir."

— Dr Kamal Gupta
Past Secretary, Association of Colon and Rectal Surgeons of India (ACRSI)

A Surgeon's Clinical Manual of Anorectal Disease

History, Examination, and Management

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Revised First Edition, 2026

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This book is intended for educational purposes for medical students, surgical trainees, and practising clinicians. It is not a substitute for individual clinical judgement. Readers should verify current guidelines and drug information before applying any information contained herein to a specific case.

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Foreword



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President, AIIMS, Jodhpur

Past National President, IMA

I have known Dr. Om Prakash Bhandari since 1971, when we were together in the first year of MBBS at R.N.T. Medical College, Udaipur. More than five decades have passed since then, and while our professional journeys have taken us in different directions, the association has remained.

Even as a young student, Dr. Bhandari had a very methodical approach. He was patient, observant and particular about understanding things properly. Perhaps it is not surprising, therefore, that he went on to make surgery his profession. Over the years, I have followed his work with interest and have had the opportunity to see how steadily he built his experience, while continuing to learn, teach and contribute to his field.

This book deals with a subject that is far more common in everyday practice than we sometimes acknowledge. Anorectal problems are seen regularly by general practitioners, yet they are often not discussed in enough detail—by doctors as well as by patients. Patients may delay seeking advice simply because of embarrassment. For the practitioner, knowing how to approach these complaints confidently and systematically is therefore important.

Dr. Bhandari has spent a substantial part of his professional life dealing with these problems. This book brings together that experience in a practical and accessible form.

What I particularly appreciate is its clinical approach. The chapters take the reader through the problem in a logical manner from the presenting complaint and examination to differential diagnosis, investigations and management. It is the kind of approach that is useful to a student learning the subject as well as to a practitioner who may need a quick and reliable reference in everyday practice.

A good medical book does not merely add to what we know; it helps us use that knowledge better. I believe this book will do that for medical students, surgical trainees and general practitioners.

I am happy to see Dr. Bhandari's experience gathered in these pages and wish him every success with this endeavour.



Dr. S. S. Agarwal

Jaipur

Preface

Proctology is the branch of surgery that deals with diseases of the anus and rectum. In my long experience, this subject has always been the last choice. This is true both for teachers and for students. It is taught briefly. It is tested lightly. Many students, and even many young doctors, try to avoid it. This is strange. Diseases of the anorectal region are very common. Almost every general practitioner sees such patients every week. The subject is neglected not because it is unimportant. It is neglected because it makes people feel shy.

This shyness is not only found in students. It is found in patients too. There, it is often worse. A patient may have bleeding, pain, or a swelling near the anus for many months. But he or she will often tell no one. The patient does not tell a friend, a spouse, and sometimes not even a parent. The patient waits and waits. He or she comes to a doctor only when the problem becomes very bad. In my fifty years of practice, I have seen many such patients. Shame stops them from speaking, far more than lack of knowledge does.

This book is written to fight both problems together. It fights the neglect in teaching, and the silence of patients. It is not a history book. It is a working guide. It takes the reader step by step through every anorectal patient. It shows how to take the history. It shows how to examine the patient. It shows how to reach a provisional diagnosis. It shows which investigations to order. Finally, it shows how to decide between conservative treatment and surgery. Every disease chapter follows the same simple pattern: presentation, examination, differential diagnosis, investigations, and management. This way, the reader learns not just facts. The reader also learns a clear method of clinical thinking, one that can be used again and again.

Wherever my own technique is useful in treatment, I have explained it in plain words. This technique is the Modified Open Lateral Internal Sphincterotomy, or MOLIS. I have placed it alongside the standard techniques that every surgeon must know.

My hope for this book is simple. I want students to take proctology seriously, not to skip past it. I want busy surgeons to find quick, dependable answers at the bedside. And I want every reader to remember one thing. When a patient stays silent about this part of the body, it is not because the patient does not care. It is because the patient feels shy. The first duty of a good doctor is to make that silence easier to break, not harder.

— Dr. Om Prakash Bhandari

Chittorgarh, Rajasthan

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Chapter 1

Applied Anatomy and Physiology of the Anorectum

Before we learn about diseases of the anus and rectum, we must first understand their normal structure and function. Applied anatomy is anatomy that is useful for clinical work. A surgeon who knows this anatomy well can examine a patient with confidence. He or she can also plan surgery safely. Knowing the anatomy well helps avoid injuring important structures nearby. This chapter explains the anorectum in simple terms. It focuses on what matters most in the clinic and in the operating room.

1.1 The Rectum

The rectum is the last part of the large intestine. It is about 12 to 15 centimetres long. It begins where the sigmoid colon ends, at the level of the third sacral vertebra. It ends where the anal canal begins, at the level of the pelvic floor.

The rectum is not straight. It follows the curve of the sacrum, the bone at the back of the pelvis. Inside the rectum, there are three folds called the valves of Houston. These folds help to support the weight of stool. They also stop the stool from moving down too quickly.

The rectum can stretch to hold stool. It holds the stool until the person is ready to pass it. This stretching ability is called rectal compliance. When the rectum stretches, it sends a signal to the brain. This signal creates the urge, or desire, to defecate (pass stool).

1.2 The Anal Canal

The anal canal is short. It is only about 3 to 4 centimetres long in an adult. It begins where the rectum ends, at the anorectal ring. It ends at the anal opening, also called the anal verge.

A very important line runs across the middle of the anal canal. This is called the dentate line, or pectinate line. It divides the anal canal into two parts. These two parts are very different from each other:

- Above the dentate line: the lining is like the lining of the rectum. It has no pain-sensing nerve endings. A doctor can cut or inject this area without causing sharp pain to the patient.
- Below the dentate line: the lining is like the skin. It has many pain-sensing nerve endings. This area is very sensitive. A cut or injury here causes sharp pain.

This difference is very important in clinical practice. Internal piles, or haemorrhoids, arise above the dentate line. So they are usually painless. External piles arise below the dentate line. So they are usually painful. This single fact explains many symptoms we will discuss in later chapters.

Small pockets called anal crypts sit along the dentate line. Anal glands open into these crypts. A crypt or gland can get blocked and infected. This can lead to an abscess, and later, a fistula. We will study this in the chapters on abscess and fistula-in-ano.

1.3 The Anorectal Ring and the Sphincters

Around the anal canal, there are two ring-like muscles. These muscles are called sphincters. They keep the anal canal closed most of the time. They open only when the person wants to pass stool or gas.

- Internal Anal Sphincter (IAS): This is a smooth muscle. It works automatically. The person cannot control it by will. It stays contracted most of the time. It provides most of the resting pressure in the anal canal. This is why cutting the internal sphincter, as in surgery for fissure-in-ano, can reduce spasm and pain. But this must be done carefully, to avoid incontinence.
- External Anal Sphincter (EAS): This is a skeletal muscle. The person can control it by will. For example, a person uses it when holding back a bowel motion. It is used for sudden, strong squeezing. But it becomes tired quickly if held for too long.

The anorectal ring is the point where three structures meet. These are the top of the internal sphincter, the top of the external sphincter, and the puborectalis muscle, described below. This ring is felt clearly on digital rectal examination. A surgeon must be very careful not to cut through this ring completely. Doing so can cause permanent incontinence.

1.4 The Anal Cushions

Inside the anal canal, just above the dentate line, there are three soft, cushion-like pads of tissue. These are called the anal cushions. They are usually found in three positions: left lateral, right anterior, and right posterior.

The anal cushions are full of small blood vessels. They help the anal canal to close completely. They give a fine, watertight seal. This is important for controlling small amounts of gas and liquid stool. It is a job the muscles alone cannot do perfectly.

These cushions can become enlarged, congested, or displaced downward. When this happens, they cause the condition we call piles, or haemorrhoids. Piles are enlarged normal cushions. They are not new, abnormal growths. This understanding helps explain why treatment often aims to reduce and reposition them, rather than remove all anal tissue.

1.5 Blood Supply

The rectum and anal canal receive blood from three main arteries:

- Superior rectal artery — a branch of the inferior mesenteric artery. It supplies the upper rectum.
- Middle rectal artery — a branch of the internal iliac artery. It supplies the lower rectum.
- Inferior rectal artery — a branch of the internal pudendal artery. It supplies the anal canal.

Veins usually follow the same path as the arteries:

- Superior rectal vein — drains the upper rectum. It carries blood into the portal venous system.

- Middle rectal vein — drains the lower rectum. It carries blood into the systemic venous system.
- Inferior rectal vein — drains the anal canal. It carries blood into the systemic venous system.

Above the dentate line, drainage is mainly through the superior rectal vein, into the portal system. Below the dentate line, drainage is through the middle and inferior rectal veins, into the systemic system.

This dual drainage is clinically important. It explains why rectal cancer above the dentate line can spread to the liver, through the portal system. It also explains why cancer below the dentate line can spread to lymph nodes in the groin.

1.6 Lymphatic Drainage

Lymph is the fluid that helps fight infection and drains waste from tissues. In the anorectum, lymph drainage also follows the dentate line:

- Above the dentate line: lymph drains upward, along the superior rectal vessels, toward lymph nodes near the inferior mesenteric artery inside the abdomen.
- Below the dentate line: lymph drains outward, toward the inguinal (groin) lymph nodes.

This is why a doctor must always examine the groin in cases of anal cancer. The doctor checks for enlarged lymph nodes. This check is not routinely needed in most cases of upper rectal cancer.

1.7 Nerve Supply

Above the dentate line, the rectum and upper anal canal are supplied by the autonomic nervous system. This is the same system that controls organs without our conscious control. It does not sense sharp pain. But it can sense stretching and pressure.

Below the dentate line, the anal canal is supplied by the inferior rectal nerve, a branch of the pudendal nerve. This is a somatic nerve, the same type of nerve that supplies our skin. It senses pain, touch, and temperature very well.

This is exactly why conditions below the dentate line cause sharp, severe pain. Examples include fissure-in-ano and external piles. Conditions above the dentate line, such as internal piles, are usually painless.

1.8 The Pelvic Floor and the Anorectal Angle

The pelvic floor is a group of muscles that forms a sling at the base of the pelvis. The most important muscle in this group, for our purposes, is the puborectalis muscle.

The puborectalis muscle wraps around the back of the anorectal junction, like a sling or a strap. When it contracts, it pulls the rectum forward. This creates a bend between the rectum and the anal canal, called the anorectal angle. In a resting, continent person, this angle is normally about 90 degrees.

This angle acts like a kink in a hose pipe. It helps to block the passage of stool. This is especially true when a person is standing or sitting. During defecation, the puborectalis muscle relaxes. The anorectal angle straightens out. Stool can then pass more easily.

1.9 The Mechanism of Continence

Continence means the ability to hold stool and gas until a suitable time and place. This is not the work of one muscle alone. It depends on several factors working together:

- The internal anal sphincter, which gives constant resting tone (background pressure).
- The external anal sphincter, which gives strong, voluntary squeeze when needed.
- The puborectalis muscle and the anorectal angle, which act as a mechanical valve.
- The anal cushions, which give a fine seal for gas and liquid.
- Normal sensation in the anal canal, which allows a person to tell the difference between gas, liquid, and solid stool.
- Normal rectal compliance, which allows the rectum to store stool comfortably until it is convenient to pass it.

Damage to any one of these factors can lead to some degree of incontinence. For example, this can happen after a torn sphincter from childbirth. It can also happen after a stretched anorectal angle, from long-standing straining. We will study these conditions in Part II of this manual.

1.10 Why This Chapter Matters

Every disease chapter in this manual will refer back to the anatomy described here. When we discuss piles, we return to the anal cushions. When we discuss fissure-in-ano, we return to the internal sphincter. When we discuss incontinence, we return to the puborectalis muscle and the anorectal angle. Keep a clear picture of this anatomy firmly in mind. It will make every later chapter easier to understand, and easier to remember.

Chapter 2

History-Taking in Anorectal Disease

A good history is the most powerful tool a doctor has. In anorectal disease, this is even more true than usual. Many patients feel shy. They may not say everything at once. A doctor who knows how to ask the right questions can get a clear picture of the disease. This is true even before any examination is done. This chapter explains how to take a full and useful history in anorectal disease.

2.1 Putting the Patient at Ease

Before asking any questions, take a moment to make the patient comfortable. Anorectal complaints touch on a very private part of the body. Many patients feel embarrassed, even scared, to talk about them.

- Speak in a calm, unhurried voice.
- Choose simple, clear words. Avoid harsh or purely clinical language at first.
- Assure the patient that these problems are common, and that you have treated many similar cases.
- Take the history in a private space, without unnecessary people present.

A patient who feels respected and safe will give a far more complete and honest history. This is far better than one who feels judged or rushed.

2.2 The Presenting Complaint

Ask the patient, in his or her own words, what the main problem is. Let the patient speak first, without interruption. Then ask focused questions to understand each symptom fully.

The common presenting complaints in anorectal disease are:

- Bleeding per rectum (bleeding from the back passage)
- Pain in or around the anus
- A lump or swelling that comes out, or stays out, of the anus (prolapse)
- Discharge — mucus, pus, or liquid stool leaking from the anus
- Itching around the anus (pruritus ani)
- Difficulty controlling stool or gas (incontinence)
- Difficulty passing stool, or a feeling of incomplete emptying (obstructed defecation)

A patient may have one symptom, or several together. Each symptom needs its own careful set of questions, described below.

2.3 Analysing Bleeding

Bleeding is one of the most common and most worrying anorectal symptoms. Ask about:

- Colour. Bright red, dark red, or black. Bright red blood usually comes from a source close to the anus. Dark or black blood suggests a source higher up.

- Relation to stool. Blood on the toilet paper only, blood mixed with the stool, blood dripping after passing stool, or blood only with straining.
- Amount — a few drops, a streak, or a large amount that fills the toilet bowl.
- Duration — how many days, weeks, months, or years this has been going on.
- Associated pain — bleeding with pain suggests a fissure; bleeding without pain suggests piles.

Some findings are always a red flag. These include bleeding mixed with the stool, bleeding in a patient over 40 years of age, or bleeding with a change in bowel habit. Each of these must always raise concern for a growth, or tumour, in the rectum or colon. A red flag finding must never be dismissed as "just piles" without proper examination.

2.4 Analysing Pain

Pain is another very common symptom. Ask about:

- Timing — does the pain occur during passing stool, right after, or all the time?
- Character — sharp and tearing, burning, throbbing, or dull and aching?
- Duration of each episode — a few seconds, a few minutes, or many hours?
- Severity — mild discomfort, or pain so severe that the patient avoids passing stool?

Certain pain patterns point toward certain diagnoses. Sharp, tearing pain during defecation, followed by burning pain that lasts a long time afterward, is typical of fissure-in-ano. Throbbing pain that is constant and getting worse, often with fever, suggests a perianal abscess. Dull, aching pain that is worse on sitting may point toward pilonidal disease, or a deeper abscess.

2.5 Analysing a Lump or Prolapse

If the patient reports a lump or swelling, ask:

- Does it come out on its own, or only with straining?
- Does it go back inside on its own, or does the patient have to push it back with a finger?
- Does it stay out all the time now?
- Is the lump painful, or painless?

This pattern helps to separate different degrees of piles. It also helps to identify rectal prolapse, which needs a different approach to treatment.

2.6 Analysing Discharge and Itching

Ask about the type of discharge — mucus, pus, or stool. Ask whether it stains the patient's underclothes. Constant mild discharge often leads to itching, called pruritus ani, because the skin around the anus becomes irritated. Also ask about any history of skin conditions, use of soaps or wipes, and personal hygiene habits. All of these can contribute to itching.

2.7 Analysing Incontinence

This is a sensitive topic. Many patients will not mention it unless asked directly. Ask gently:

- Can the patient always tell the difference between gas and stool?

- Does gas ever escape without the patient's control?
- Does liquid or solid stool ever leak without control?
- Does the patient wear a pad for protection?

Always ask about past childbirth history in women. Ask about any difficult deliveries, forceps use, or perineal tears. These are common causes of sphincter injury.

2.8 Bowel Habit

Ask about the normal pattern of bowel movements. Ask how many times a day or week the patient passes stool. Ask about the consistency of the stool — hard, normal, or loose. Ask about any straining needed. Ask if there has been any recent change in this pattern. A change in long-standing bowel habit is an important warning sign, especially in older patients.

2.9 Past, Personal, and Family History

A few more questions complete the history:

- Past surgery — has the patient had any previous anorectal surgery?
- Medical conditions — diabetes, tuberculosis, inflammatory bowel disease, or bleeding disorders.
- Obstetric history — in women, number of deliveries, and any difficult or assisted deliveries.
- Sexual history — where relevant, and asked with sensitivity, since some anorectal conditions are sexually transmitted.
- Family history — of piles, cancer of the colon or rectum, or inflammatory bowel disease.
- Diet and lifestyle — fibre intake, water intake, and physical activity, since these affect bowel habit.

2.10 Red Flag Symptoms

Certain symptoms should always alert the doctor to the possibility of a serious underlying disease, such as cancer. These red flags include:

- Age over 40 years with new bleeding or change in bowel habit.
- Unexplained weight loss.
- Persistent change in bowel habit lasting more than a few weeks.
- A feeling of a mass inside the rectum.
- Iron-deficiency anaemia without an obvious cause.

Any patient with these symptoms needs a full examination. They also need further investigation, as described in the coming chapters. Such a patient must not be treated only on the assumption of piles, or another minor cause.

2.11 Why This Chapter Matters

A history taken with patience and sensitivity often points clearly toward the diagnosis, even before the patient is examined. It also builds trust between the doctor and the patient. This trust is especially important in a field where so many patients arrive already feeling shy and

worried. The next chapter will build on this history with a structured approach to clinical examination.

Chapter 3

Clinical Examination — General Approach

Once the history is complete, the next step is a proper clinical examination. A good examination confirms what the history has suggested. It can also reveal problems the patient did not mention, or did not even know about. In anorectal disease, the examination is often quick and simple. But it must be done with care, with the right method, and with real respect for the patient's comfort and dignity. This chapter covers the general approach that applies to every anorectal patient. The chapters that follow will describe each step — inspection, palpation, digital rectal examination, and proctoscopy — in full detail.

3.1 Preparing the Patient

Before touching the patient, take a moment to explain what will happen. Most patients have never had this kind of examination before. Fear of pain, and fear of embarrassment, are both very common.

- Explain, in simple words, what you are about to do and why it is needed.
- Tell the patient that the examination is usually quick, and that you will stop at once if it becomes too painful.
- Ask for the patient's consent before starting.
- If the patient is anxious, allow a few extra minutes. A calm patient is easier, and safer, to examine.

A brief, honest explanation builds trust. It also makes the patient's muscles relax, which makes the examination easier and more accurate.

3.2 The Examination Room

The room should be private, well-lit, and warm. A good light source is essential — natural light is rarely enough, so use a proper examination lamp or a head light. Keep the following ready before the patient enters:

- An examination table with a step, so the patient can climb up with ease.
- Clean gloves, in more than one size.
- A water-based lubricant.
- A proctoscope and sigmoidoscope, cleaned and ready.
- A good light.
- A drape or sheet for the patient.
- Tissue paper or swabs, to clean the area after the examination.

Gathering these items in advance saves time, and it also avoids the discomfort of leaving a half-examined patient waiting on the table.

3.3 Positioning the Patient

Correct positioning is the foundation of a good anorectal examination. Several positions are used around the world, but the one most commonly used in Indian clinical practice is the left lateral position, also called Sims' position.

In the left lateral position, the patient lies on the left side, with the hips and knees bent well up toward the chest. The buttocks should be brought to the edge of the table. This position gives a clear, comfortable view of the anal region for both the doctor and the patient, and it does not need any special equipment.

Other positions are used in some settings:

- Lithotomy position — the patient lies on the back, with the legs raised and supported in stirrups. This is used mainly in operating theatres.
- Knee-chest position — the patient kneels, with the chest and shoulders resting on the table. This gives an excellent view but is tiring for the patient, so it is used only for short periods, or for special procedures.

For routine outpatient examination, the left lateral position is preferred. It is comfortable, dignified, and practical.

3.4 Draping and Privacy

Even during the examination itself, the patient's dignity must be protected. Expose only the area that needs to be seen, and keep the rest of the body covered with a sheet or gown. Draping is not a small detail — it is a sign of respect, and it helps the patient stay relaxed.

Always have a chaperone present, especially when a male doctor examines a female patient. This protects both the patient and the doctor, and it is now considered standard good practice everywhere.

3.5 The Sequence of Examination

A proper anorectal examination always follows the same order. Skipping a step, or doing them out of order, can cause the doctor to miss an important finding.

- Inspection — a careful visual look at the perianal skin and anal opening, both at rest and while the patient strains (see Chapter 4).
- Palpation — gentle feeling of the area around the anus, to check for tenderness, swelling, or induration (see Chapter 5).
- Digital rectal examination (DRE) — examination with a gloved, lubricated finger, to feel inside the anal canal and lower rectum (see Chapter 5).
- Proctoscopy and sigmoidoscopy — examination with an instrument, to see inside the anal canal and rectum directly (see Chapter 6).

Each step builds on the one before it. Inspection often points toward the diagnosis. Palpation and DRE confirm it. Proctoscopy gives the final, direct view. A doctor who follows this order, every time, will rarely miss an important finding.

3.6 General Examination Before Local Examination

The anorectal region does not exist in isolation. Before examining it, take a brief general look at the patient:

- General condition — pallor (a sign of anaemia, which may point to chronic bleeding), weight loss, or signs of illness.
- Abdomen — feel gently for any lump, tenderness, or enlarged organ.
- Groin — check for enlarged lymph nodes, which can be important in some anal conditions.
- Vital signs — especially in a patient with pain, fever, or heavy bleeding.

This general check takes only a minute, but it can reveal a serious underlying condition that the local examination alone would miss.

3.7 Common Mistakes to Avoid

- Starting the examination without explaining it to the patient first.
- Rushing the digital rectal examination, or skipping it altogether because the patient is anxious.
- Poor lighting, which can hide small but important findings, such as a fissure or a small fistula opening.
- Examining without adequate lubrication, which causes unnecessary pain.
- Forgetting to examine the abdomen and groin, and focusing only on the anal region.

Most of these mistakes come from haste. A calm, unhurried, and complete examination takes only a few extra minutes, but it gives a far more reliable diagnosis.

3.8 Why This Chapter Matters

This chapter has described the general approach: a well-prepared patient, a well-prepared room, correct positioning, proper draping, and a fixed sequence of steps. Together, these form the base for every examination described in the rest of this manual. Master this general approach first, and the specific techniques in the next three chapters will feel natural and easy to learn.

Chapter 4

Inspection

Inspection is the first hands-on step of the anorectal examination. It comes before any touching, and before any instrument is used. A careful look at the perianal skin and anal opening can reveal a great deal. It often points straight to the diagnosis, before palpation or digital examination even begins. This chapter explains how to inspect the anorectal region properly, and what the common findings mean.

4.1 Why Inspection Matters

Many anorectal conditions can be seen with the eye alone. A fissure, an external pile, a fistula opening, a perianal abscess, or a prolapse may all be visible on simple inspection. Skipping this step, or doing it too quickly, is one of the most common causes of missed or wrong diagnosis in anorectal practice.

Inspection also guides the rest of the examination. If a fissure is seen, the doctor knows something important. Digital rectal examination may need to be gentle. It may even need to wait until local anaesthetic has acted. If a fistula opening is seen, the doctor knows to look for its likely internal opening during the rest of the examination.

4.2 How to Inspect

Place the patient in the left lateral position, as described in Chapter 3. Use a good light. Gently part the buttocks with both hands. This brings the perianal skin and anal opening into full view. Ask the patient to relax as much as possible. A tense patient makes the anal opening pucker, and this can hide small findings.

Inspect the area at rest first. Then, ask the patient to strain gently, as if trying to pass stool. Straining can bring a prolapse, internal piles, or a hidden fistula opening into view. These findings are completely invisible at rest.

4.3 What to Look For

A systematic inspection covers the following points, in order:

- Skin condition — colour, any rash, excoriation, or scarring from old surgery.
- Swellings — external piles, skin tags, abscess, or other lumps.
- Fissure — a small tear in the skin, usually in the midline, most often at the back (posterior midline).
- Fistula openings — small openings in the skin, which may discharge pus, blood, or mucus.
- Prolapse — any tissue that comes out of the anus, either on its own or with straining.
- Discharge or soiling — mucus, pus, or stool staining the skin or underclothes.
- Scars — from earlier surgery, injury, or childbirth.
- The anal opening itself — its shape, and whether it is patent (open) or narrowed.

4.4 Inspecting for a Fissure

A fissure often causes the anal opening to look slightly open. The muscle around it is often tight, and in spasm. A small skin tag, called a sentinel pile, is sometimes seen just below the fissure. Gently separating the anal margin, without causing pain, can bring the tear itself into view. If the patient is in severe pain, do this step with great care. Forceful separation can cause needless distress.

4.5 Inspecting for Piles

External piles are seen as soft, bluish or skin-coloured swellings at the anal margin. They may be single or multiple. Internal piles are usually not visible at rest, since they lie above the dentate line, inside the anal canal. On straining, however, internal piles of a higher degree may come down. They then become visible as reddish-purple, grape-like swellings.

4.6 Inspecting for Fistula-in-Ano

A fistula opening appears as a small, red, raised punctum on the perianal skin. Gentle pressure around it may express a drop of pus or serous fluid. The position of the external opening, relative to the anus, gives a useful early clue. This clue points to the likely path of the fistula tract. This point will be explained fully in the chapter on fistula-in-ano.

4.7 Inspecting for Prolapse

A rectal prolapse appears as a red, moist, ring-like mass. It comes out of the anus, usually with straining. It is important to note whether the prolapse involves the full thickness of the rectal wall. This type is seen as circular folds. Or the prolapse may involve only the mucosa, seen as radial folds. This distinction matters greatly for later management. It is explained further in the chapter on rectal prolapse.

4.8 Inspecting the Natal Cleft

While the patient is in position, also look at the natal cleft. This is the groove between the buttocks, above the anus. Check this area for a pilonidal sinus. It is seen as one or more small pits or openings in the midline, sometimes with a tuft of hair visible at the opening. Pilonidal disease is easily missed if the examiner looks only at the anus itself, and skips the natal cleft.

4.9 Recording the Findings

Anorectal findings are best recorded using a clock-face description. Always state the position the patient was in during examination. For example, "a fissure at 6 o'clock" gives a clear, exact location. Any other doctor can understand it at a glance. Always state clearly which position the patient was in when the clock-face was assigned. This detail can otherwise cause confusion between different examiners.

4.10 Why This Chapter Matters

Inspection takes only a minute. But it often gives the single most useful clue in the whole examination. A doctor who inspects carefully, in good light, both at rest and on straining, will reach the correct diagnosis far more often. This is far better than moving straight to

palpation or instruments. The next chapter builds on this with palpation and digital rectal examination.

Chapter 5

Palpation and Digital Rectal Examination (DRE)

Inspection tells the doctor what can be seen. Palpation and digital rectal examination tell the doctor what can be felt. Together, these two steps complete the local examination. They often confirm, or correct, what inspection first suggested. This chapter covers both. It explains gentle palpation of the perianal skin. It also explains the digital rectal examination, or DRE. This is one of the most important steps in all of surgery. It is also one of the most often skipped.

5.1 Why This Step Cannot Be Skipped

Many important anorectal conditions cannot be seen from outside at all. A low rectal growth needs a finger to find it. So does the internal opening of a fistula. So does the tone of the sphincter muscle. So does tenderness deep to the skin. Doctors sometimes avoid the digital rectal examination. This may be because the patient is anxious, or because time is short. This is a serious mistake. A missed rectal cancer, found only because a doctor skipped this simple step, is one of the most common causes of delayed diagnosis in surgery.

A well-known teaching saying puts it simply: "If you do not put your finger in, you may put your foot in it." This means something important. Skipping the examination can lead to a missed diagnosis. It can lead to real harm to the patient.

5.2 Palpation of the Perianal Area

Before inserting a finger into the anal canal, first feel the skin around the anus. Use gentle fingertip pressure. This step is called palpation.

- Feel for tenderness. A tender, hot, swollen area suggests an abscess.
- Feel for induration — a firm, thickened area under the skin, which can suggest a deeper fistula tract or a chronic abscess.
- Feel for a fluctuant swelling. A soft, fluid-filled swelling that moves under the finger suggests pus collected under the skin.
- Note any lump, and its size, shape, and consistency (soft, firm, or hard).

The area may be very tender. There may be a hot, fluctuant swelling. In these cases, a full digital examination may need to wait. Forcing a finger into an acutely painful, infected area causes needless pain. It can even spread infection. In such cases, examination under anaesthesia may be needed instead. This will be explained further in the chapter on perianal abscess.

5.3 Preparing for Digital Rectal Examination

Once palpation is complete, prepare for the digital rectal examination itself.

- Explain to the patient, in simple words, what you are about to do.
- Use a well-fitting glove.
- Apply a generous amount of water-based lubricant to the gloved index finger.

- Warn the patient that they will feel pressure, and possibly an urge to pass stool. Reassure them that this feeling is normal, and that nothing will actually happen.
- Ask the patient to relax, and to breathe slowly and deeply.

A well-lubricated finger, inserted slowly, causes very little discomfort in most patients. A dry, hurried examination is a common and avoidable cause of pain.

5.4 Performing the Examination

Place the pad of the gloved index finger gently against the anal opening. Ask the patient to bear down slightly, as if passing stool. This relaxes the external sphincter, and makes entry easier. As the sphincter relaxes, gently and slowly advance the finger into the anal canal. Follow its natural direction, toward the umbilicus.

Once the finger is fully inside, pause for a moment. This gives the sphincter time to relax fully around the finger. It makes the rest of the examination much more comfortable for the patient.

5.5 What to Assess

A systematic digital rectal examination checks the following, in order:

- Sphincter tone — Ask the patient to squeeze around the finger. A normal, firm squeeze suggests a healthy external sphincter. A weak or absent squeeze may point toward nerve damage or old sphincter injury.
- Resting tone — Note the tightness of the canal at rest, before asking the patient to squeeze. A very tight canal, with sharp pain on gentle pressure, suggests a fissure. A very lax canal may point toward sphincter weakness.
- Tenderness — Note any specific point of tenderness, and its position on the clock face.
- Masses — Feel all the way around the canal and lower rectum for any lump. Note its size and its surface, smooth or irregular. Note whether it is fixed to surrounding tissue, or freely movable.
- The prostate, in men — Felt through the front wall of the rectum. Note its size and surface. Note any hardness or nodule, which needs further urological assessment.
- The cervix, in women — Sometimes felt through the front wall as a firm, rounded structure. This is a normal finding, and should not be mistaken for a mass.
- Blood, mucus, or pus on the withdrawn glove — Always inspect the glove itself after withdrawing the finger. This is a simple step that is very easy to forget. It can reveal bleeding that was not visible from outside.

5.6 Special Situations

In a patient with a very painful fissure, the digital rectal examination itself may need to be deferred. It can instead be done only after the application of local anaesthetic gel and a short wait. In such cases, do not force the examination. A gentle attempt is far better than causing unnecessary suffering. Honest documentation, stating that a full examination could not be completed due to pain, is also far better.

In a very anxious patient, a calm explanation and a slow, unhurried approach usually allow the examination to be completed. Rarely, examination under anaesthesia is needed. This is particularly true in children, or in adults who cannot tolerate the examination despite reassurance.

5.7 Common Mistakes to Avoid

- Inserting the finger too quickly, without waiting for the sphincter to relax. This is the single most common cause of an unnecessarily painful examination.
- Using too little lubricant.
- Stopping the examination as soon as the finger is inside, without systematically checking tone, tenderness, and masses in order.
- Forgetting to check the withdrawn glove for blood, mucus, or pus.
- Assuming a normal digital rectal examination rules out cancer. Many rectal growths lie higher up, beyond the reach of the finger. These still need proctoscopy, or further imaging, if red flag symptoms are present.

5.8 Recording the Findings

As with inspection, record digital rectal examination findings using the clock-face method. Always state the position the patient was examined in. For example: "tender fibrous cord felt at 6 o'clock, consistent with a chronic fissure." This gives a clear, exact record that any other doctor can understand.

5.9 Why This Chapter Matters

The digital rectal examination is simple and quick. It needs no equipment. Yet it remains one of the most valuable steps in the whole clinical examination. A doctor who performs it gently, and every time it is indicated, will catch serious disease early. Such a doctor will also reassure anxious patients with a normal finding. The next chapter builds on this with proctoscopy and sigmoidoscopy. These allow the doctor to see directly what has so far only been felt.

Chapter 6

Proctoscopy and Sigmoidoscopy

Inspection and digital rectal examination tell the doctor a great deal. But they cannot show the inside of the anal canal or the lower rectum. For that, an instrument is needed. This chapter covers two simple instruments used every day in outpatient practice: the proctoscope and the rigid sigmoidoscope. Both are quick and inexpensive. Both can be used in the clinic, without anaesthesia, in almost every patient.

6.1 Why This Step Follows the Digital Rectal Examination

The finger can feel more than the eye can see. But the proctoscope can show even more than the finger can feel. A finger reaches only the lower part of the anal canal, and the very lowest part of the rectum. A proctoscope shows the anal canal and lower rectum directly, under good light. A rigid sigmoidoscope goes further still. It often reaches 20 to 25 centimetres from the anal verge. It can show growths, inflammation, or bleeding points. These often lie beyond the reach of the finger.

Proctoscopy and sigmoidoscopy always come after a proper history and a careful digital rectal examination. They must never replace these steps. Each step in the examination builds on the one before it.

6.2 Equipment and Preparation

- A proctoscope, with its obturator. It should be disposable, or freshly sterilised.
- A rigid sigmoidoscope, with its own obturator and insufflation bulb. Use this after the proctoscope, if a longer view is needed.
- A good light source. This may be attached to the instrument, or worn as a separate headlight.
- Water-based lubricant.
- Gauze swabs, and sponge-holding forceps, to clean the field if needed.
- A suction device, in case blood or mucus blocks the view.

No bowel preparation is needed for simple proctoscopy. For sigmoidoscopy, give one phosphate enema shortly before the procedure. This clears the rectum and lower sigmoid colon well enough for a clear view in most patients.

6.3 Patient Position

Use the left lateral position for proctoscopy and sigmoidoscopy. This is the same position used for inspection and digital rectal examination. The patient lies on the left side. The hips and knees are drawn up toward the chest. The buttocks are brought to the edge of the examination table. This position gives easy access. Most patients also find it more comfortable, and less exposing, than the knee-chest position.

6.4 Performing Proctoscopy

Warm the proctoscope if possible. Lubricate it well, including the obturator. Explain each step to the patient before you do it.

- Keep the obturator in place. Gently insert the closed proctoscope through the anal canal. Direct it toward the umbilicus at first, following the natural curve of the canal.
- Once the proctoscope is fully inserted, remove the obturator.
- Attach the light source. Slowly withdraw the outer sleeve. Examine the mucosa as it comes into view.
- Ask the patient to strain gently, as if passing stool. Do this while you withdraw the proctoscope a short distance. Straining often brings a prolapsing pile, or a mucosal prolapse, clearly into view. This may not be seen if the proctoscope is held still.

Done gently, the whole procedure takes only a minute or two. Most patients feel little discomfort.

6.5 What to Assess on Proctoscopy

- The anal canal mucosa. Note its colour, and any ulceration. Look for a fissure, usually seen as a linear tear, most often in the posterior midline.
- The haemorrhoidal cushions. Note their size, number, and position on the clock face. Note whether they prolapse into view on straining.
- Any fistula opening. This is seen as a small pit, or as granulation tissue, on the canal wall.
- Any growth. Note its size and surface. Note whether it bleeds when the instrument touches it gently.
- The lower rectal mucosa, as far as the instrument allows it to be seen.

6.6 Performing Rigid Sigmoidoscopy

Rigid sigmoidoscopy follows proctoscopy. Use it when a view of the rectum and lower sigmoid colon is needed. It is not needed in every patient. Use it mainly when there is rectal bleeding, a change in bowel habit, or another finding that raises suspicion of disease higher up.

- Lubricate the sigmoidoscope well. Insert it with its obturator through the anus. Direct it toward the umbilicus at first, exactly as with the proctoscope.
- Once past the anal canal, remove the obturator. Attach the eyepiece and light source.
- Advance the instrument only under direct vision. Never advance it blindly. Follow the visible lumen of the bowel at all times.
- Use the attached bulb to gently blow a small amount of air into the bowel. This opens the bowel wall ahead, and makes the lumen easier to follow.
- Advance slowly, as far as the instrument comfortably allows. Then withdraw slowly. Examine the mucosa in a circular sweep as the instrument comes out.

If the patient reports sharp pain, stop advancing. If the lumen cannot be seen clearly, stop advancing. Never force the instrument forward. A clear view on withdrawal is just as valuable as one on insertion. It is also far safer.

6.7 What to Assess on Sigmoidoscopy

- Mucosal colour and surface. A healthy mucosa is pink and glistening, with a fine visible pattern of blood vessels.
- Any inflammation, ulceration, or bleeding on contact. These may point toward inflammatory bowel disease, or infective proctitis.
- Any growth, polyp, or stricture. Note its distance from the anal verge, its size, and its surface.
- Any blood, mucus, or pus in the lumen. Note whether it looks fresh or old.
- Diverticular openings, if present. Full assessment of diverticular disease still needs colonoscopy or imaging.

6.8 Complications and How to Avoid Them

Proctoscopy and sigmoidoscopy are very safe when done gently, and under direct vision. The main risks are pain, from a hurried or forceful technique, and minor mucosal bleeding, from contact with the instrument. Very rarely, blind or forceful advancement can perforate the bowel wall.

One simple rule prevents almost every complication. Advance only what you can see. Stop at once if there is pain or resistance. Blind advancement, past a bend that cannot be seen, is the single most common cause of injury during sigmoidoscopy.

6.9 Common Mistakes to Avoid

- Skipping the digital rectal examination, and going straight to instrumentation.
- Inserting the proctoscope or sigmoidoscope without enough lubrication.
- Advancing the sigmoidoscope without a clear view of the lumen ahead.
- Forcing the instrument past resistance or pain.
- Withdrawing the proctoscope too quickly. A prolapsing pile, or a mucosal prolapse, is often seen only when the patient strains.
- Assuming that a normal proctoscopy and sigmoidoscopy rule out disease higher in the colon. Any patient with red flag symptoms, or with bleeding that is not explained, needs colonoscopy or further imaging.

6.10 Recording the Findings

Record proctoscopy and sigmoidoscopy findings clearly. State the instrument used. State the position of any abnormal finding on the clock face. State its distance from the anal verge in centimetres, where relevant. For example: "Proctoscopy: second-degree haemorrhoids at 3, 7, and 11 o'clock, prolapsing on straining. No fissure or fistula seen." A clear record lets any other doctor follow the findings, without repeating the examination.

6.11 Why This Chapter Matters

Proctoscopy and sigmoidoscopy complete the local examination. This began with inspection, and continued with digital rectal examination. Together, these steps let a doctor see and feel almost the whole anal canal, and a good part of the rectum. They need nothing more than simple instruments, and a careful, unhurried technique. The next chapter brings these findings together. It shows how they are used to reach a provisional diagnosis.

Chapter 7

Formulating a Provisional Diagnosis

History, examination, and proctoscopy give the doctor a set of facts. A provisional diagnosis brings these facts together. It is the doctor's best working answer, before any test is done. This chapter shows how to reach it.

7.1 What Is a Provisional Diagnosis

A provisional diagnosis is not a final answer. It is a working idea. It guides the next step, whether that step is a test, a treatment, or simple reassurance. A good provisional diagnosis can change later. New facts may come to light. The doctor must be ready to change the diagnosis when this happens.

A provisional diagnosis also saves time. It stops the doctor from ordering every possible test on every patient. Instead, only the tests that truly help are chosen. This keeps the assessment focused, and keeps cost and delay to a minimum for the patient.

7.2 Bringing History and Examination Together

Do not think of history and examination as separate steps. Think of them as two halves of one picture. The history gives the story. The examination gives the proof. Together, they usually point toward one, or a few, likely diagnoses.

Take a simple example. A patient reports bright red bleeding, seen on the toilet paper, with sharp pain after passing stool. On examination, a linear tear is seen in the posterior midline. The story and the finding match. This points strongly toward a fissure-in-ano.

Take a second example. A patient reports painless bleeding, seen as drops after passing stool. There is no pain, and no tear on examination. Instead, proctoscopy shows soft, swollen cushions at 3, 7, and 11 o'clock. Again, the story and the finding match. This points strongly toward piles.

When the story and the finding do not match, be careful. A mismatch is often a sign that something has been missed, either in the history, or in the examination. Go back and check both again.

7.3 Common Diagnostic Patterns in Anorectal Disease

Certain combinations of history and examination point strongly toward certain diagnoses. Learning these patterns is the heart of good clinical practice.

- Painless bleeding, with a swelling that reduces on its own, points toward piles.
- Sharp pain after passing stool, with a visible tear on the anal margin, points toward a fissure.
- A recurring painful swelling, with intermittent discharge, points toward a fistula-in-ano.
- A sudden, severe, constant pain, with a tender swelling on palpation, points toward a perianal abscess.

- A mass that comes out on straining, and goes back on its own or with gentle pressure, points toward rectal prolapse.
- Weight loss, a change in bowel habit, and blood mixed with the stool, point toward a growth. This pattern always needs urgent further assessment.

These patterns are a starting point. They are not fixed rules. Every patient must still be examined fully, and each finding weighed on its own merit.

7.4 The Value of a Differential Diagnosis

A differential diagnosis is a short list of possible diagnoses. It is not one guess. It is a list of the most likely answers, in order of probability. Even when one diagnosis seems obvious, keep at least one other possibility in mind.

A differential diagnosis protects the patient. It stops the doctor from settling on the first idea too quickly. It keeps the mind open until enough evidence rules other conditions out.

7.5 Red Flag Symptoms That Must Not Be Missed

Some symptoms always demand extra caution. They may point toward cancer, or another serious disease. A doctor must never dismiss them, even if the anal examination looks normal.

- Unexplained weight loss.
- A change in bowel habit lasting more than a few weeks.
- Blood mixed within the stool, rather than only on its surface.
- Anaemia with no clear local cause.
- A palpable abdominal mass.
- Age over 50 years, with new rectal bleeding, even if piles are also present.

A red flag symptom always needs further assessment. This is true even when a simple, benign condition, such as piles, is also found on examination. The two are not mutually exclusive.

A common and dangerous error is to stop looking once one diagnosis is confirmed. Finding piles on examination does not rule out a growth higher up. If a red flag is present, always investigate further, even after a clear local diagnosis is made.

7.6 When the Findings Do Not Fit a Clear Pattern

Not every patient fits neatly into a known pattern. Symptoms may overlap. Findings may be mild, or unclear. In such cases, do not force a diagnosis. It is better to list two or three possibilities, and plan further steps to separate them.

Honesty is important here. A doctor who says "the picture is not yet clear, and further tests are needed" serves the patient better than one who forces a false certainty.

For example, a patient may report mild bleeding, with no clear pain, and a normal-looking anal canal on proctoscopy. Here, the diagnosis is not obvious. The doctor should list piles, an

internal cause higher in the bowel, and a bleeding disorder as possibilities. The choice of further test then follows from this list.

7.7 From Provisional Diagnosis to Further Steps

Once a provisional diagnosis is reached, it decides what happens next. Some conditions need no further test at all. A small, symptomatic fissure, for example, may go straight to treatment. Other conditions need investigation first, such as a suspected growth, or an unclear fistula tract. The next chapter covers these investigations in detail.

The provisional diagnosis also decides how urgent the next step is. A patient with a classic fissure can wait for a routine clinic slot. A patient with red flag symptoms needs an urgent referral, or an urgent test, without delay. Judging this urgency is one of the most important skills in clinical practice.

7.8 Common Mistakes to Avoid

- Fixing on the first diagnosis that comes to mind, without considering alternatives.
- Ignoring a red flag symptom because a benign finding, such as piles, is also present.
- Skipping the differential diagnosis step, even in a seemingly obvious case.
- Forcing a diagnosis to fit an unclear picture, instead of planning further assessment.
- Failing to record the reasoning behind the diagnosis, not just the diagnosis itself.

7.9 Recording the Provisional Diagnosis

Record the provisional diagnosis clearly. State the main diagnosis first. List any other possibilities, if relevant. Add a short line on the reasoning. For example: "Provisional diagnosis: fissure-in-ano, posterior midline. Differential: none significant. Based on classic history of pain on defecation, and a visible linear tear on examination." This record helps any other doctor understand the thinking, not just the conclusion.

7.10 Why This Chapter Matters

A provisional diagnosis is the bridge between examination and treatment. It must be built carefully, from the full history and a complete examination. It must stay open to change, as new facts appear. A doctor who follows this discipline will rarely miss a serious disease, and will rarely delay a simple treatment. The next chapter builds on this diagnosis, and shows which investigations help confirm it.

Chapter 8

Relevant Investigations

A provisional diagnosis often needs proof. Sometimes it needs more detail before treatment can be planned. This is where investigations help. This chapter covers five investigations used often in anorectal disease. These are manometry, endoanal ultrasound, MRI fistulogram, biopsy, and colonoscopy. Each has its own purpose. Each has its own place in the diagnostic path.

8.1 Why Investigations Are Needed

Not every patient needs a test. Many anorectal conditions are diagnosed by history and examination alone. A test is needed when the diagnosis is not clear. A test is also needed when the exact anatomy must be known before surgery. A test may confirm a suspected cancer, or rule one out.

A test should always answer a specific question. Before ordering any test, the doctor should ask: what will this test tell me, and how will it change my plan? A test ordered without a clear question rarely helps the patient.

Investigations also have a cost. Some cause discomfort. Some need special preparation, or sedation. Some are expensive, and not always easily available in every centre. These factors matter. A test should only be ordered when its benefit clearly outweighs its cost to the patient.

8.2 Choosing the Right Investigation

Each investigation has a specific role. Choosing the wrong test wastes time. It may also cause the patient needless discomfort or expense. The sections below explain when each test is useful, and what it can, and cannot, show.

As a quick guide: manometry answers questions about sphincter pressure and function. Endoanal ultrasound answers questions about sphincter structure and small tears. MRI fistulogram answers questions about complex fistula anatomy. Biopsy answers questions about the exact nature of a tissue, at cell level. Colonoscopy answers questions about disease anywhere in the large bowel, not just the anal canal.

8.3 Anorectal Manometry

Anorectal manometry measures the pressure inside the anal canal. A thin catheter is passed into the rectum. It records resting pressure, and squeeze pressure, at different points along the canal.

- Used mainly to assess sphincter function.
- Helpful in anal incontinence, to measure how weak the sphincter is.
- Helpful before sphincter-cutting procedures, such as sphincterotomy, to check that resting tone is not already low.

- Helpful in obstructed defecation, to check for a failure of the sphincter to relax on straining.

Manometry needs no anaesthesia. It causes only mild discomfort. It is best done in a dedicated unit, with trained staff. The result depends on correct catheter placement, and on patient cooperation.

Explain the test to the patient beforehand. Tell them it involves a thin tube, not a rigid instrument. Reassure them that most patients tolerate it well, with only brief discomfort during catheter placement.

8.4 Endoanal Ultrasound

Endoanal ultrasound uses a small probe, inserted into the anal canal, to build a picture of the sphincter muscles. It shows the internal and external sphincters as separate rings.

- The main use is to detect a sphincter tear, especially after childbirth injury.
- It shows the exact position and size of a tear, described by the clock face.
- It helps assess a fistula tract, and its relationship to the sphincter muscles, though MRI gives a more complete picture for complex fistulas.
- It is quick, and does not need general anaesthesia in most patients.

Endoanal ultrasound depends on the skill of the person performing it. A poor scan can miss a tear, or wrongly suggest one. It should be performed by someone with specific training in this technique.

Endoanal ultrasound is often the first-line test for a suspected sphincter injury, since it is quicker and cheaper than MRI. MRI is reserved for cases where the ultrasound findings are unclear, or where the fistula anatomy is complex.

8.5 MRI Fistulogram

MRI fistulogram is the most detailed way to study a fistula tract. It uses magnetic resonance imaging, without radiation, to show soft tissue in fine detail.

- It shows the full course of the fistula tract, from the internal opening to the external opening.
- It shows any side branches, or hidden pockets of infection, that may not be found on examination alone.
- It shows the tract's relationship to the sphincter muscles, which guides safe surgical planning.
- It is the investigation of choice before surgery for a complex, or recurrent, fistula-in-ano.

A simple, low, first-presentation fistula rarely needs MRI. The findings on examination are usually enough. MRI is reserved for complex, high, recurrent, or multiple tracts, where the risk to the sphincter during surgery is higher.

MRI takes 20 to 30 minutes. It needs no injection in most cases, though a contrast agent may be used if inflammation needs to be assessed. It needs no bowel preparation. The patient must simply lie still for the scan.

8.6 Biopsy

A biopsy takes a small piece of tissue for examination under the microscope. It gives a tissue diagnosis, which no other test can replace.

- Always taken from any growth or ulcer that looks suspicious.
- Always taken when a fissure does not heal with standard treatment, or looks atypical.
- Taken to confirm or exclude cancer, before planning major surgery.
- Taken to diagnose specific conditions, such as Crohn's disease, or a rare skin condition affecting the perianal area.

A biopsy should never be delayed out of fear that it may worry the patient. A missed cancer, from a biopsy not taken, causes far greater harm than the short discomfort of the procedure itself.

A biopsy can often be taken in the clinic, under local anaesthesia, using proctoscopy or sigmoidoscopy for access. Send the tissue promptly, in the correct fixative, with clear clinical details on the request form. A poorly labelled or poorly fixed specimen can make the pathologist's report less reliable.

8.7 Colonoscopy

Colonoscopy examines the full length of the large bowel, using a flexible instrument passed through the anus. It goes far beyond the reach of the rigid sigmoidoscope.

- Needed in any patient with red flag symptoms, such as unexplained weight loss, or a change in bowel habit.
- Needed when rectal bleeding cannot be fully explained by a local finding, such as piles or a fissure.
- Needed in patients over 50 years old, with new bowel symptoms, even when a local cause is found.
- Allows biopsy, and removal of polyps, at the same sitting.

Colonoscopy needs proper bowel preparation, and is usually done under sedation. It carries a small risk of bleeding or perforation. This risk is far outweighed by its value in detecting early cancer and polyps.

Explain the bowel preparation clearly to the patient in advance. A poorly prepared bowel gives a poor view, and may mean the test has to be repeated. Clear, simple, written instructions help patients prepare correctly.

8.8 Preparing the Patient for Any Investigation

Good preparation improves every investigation. It also reduces the patient's anxiety. Follow a few simple steps before any test.

- Explain, in simple words, what the test involves, and why it is needed.
- Explain what the patient will feel, so there are no surprises.
- Give clear instructions for any preparation needed, such as fasting or bowel cleansing.
- Answer questions honestly. If a result may take time, say so clearly.
- Arrange a clear plan for follow-up, so the patient knows when, and from whom, they will get the result.

A well-prepared patient cooperates better during the test. This often gives a clearer, more reliable result.

8.9 Combining Investigations

Complex cases often need more than one investigation. A patient with a complex fistula, for example, may need both endoanal ultrasound and MRI. A patient with rectal bleeding, and a normal local examination, may need both colonoscopy and biopsy. Choose each test for a clear reason. Avoid ordering a test simply because it is available.

When more than one test is planned, think about the order. A less invasive test often comes first. Its result may then make a more invasive test unnecessary, or may better target where that test should focus.

8.10 Common Mistakes to Avoid

- Ordering a test without a clear question in mind.
- Skipping colonoscopy in an older patient, because a local cause of bleeding, such as piles, has already been found.
- Delaying biopsy of a suspicious lesion, out of reluctance to worry the patient.
- Requesting MRI for a simple, low fistula, where examination findings are already sufficient.
- Interpreting endoanal ultrasound findings without training in the technique.
- Sending a biopsy specimen with poor labelling, or without enough clinical detail for the pathologist.

8.11 Recording Investigation Results

Record each investigation clearly. State the test performed, the date, and the key findings. State how the finding changes the diagnosis or the plan. For example: "MRI fistulogram: trans-sphincteric fistula tract, 2 o'clock position, no secondary tracts. Plan: seton placement, given sphincter involvement." This record links the test directly to the decision it supports.

8.12 Why This Chapter Matters

Investigations are tools, not routine rituals. Each one answers a specific question. Each one carries some cost, discomfort, or risk to the patient. Choose the right test, for the right reason, at the right time. This serves the patient far better than ordering every test available. The next chapter brings the diagnosis and the investigations together. It shows how to reach a final diagnosis, and plan treatment.

Chapter 9

Arriving at a Final Diagnosis and Treatment Planning

A provisional diagnosis opens the path. Investigations, where needed, add proof and detail. A final diagnosis brings all of this together. This chapter shows how to reach a final diagnosis. It also shows how to choose between conservative treatment and surgery.

9.1 From Provisional to Final Diagnosis

A provisional diagnosis is a working idea. A final diagnosis is a settled conclusion. It is reached once history, examination, and any needed test all agree. Not every patient needs a test to reach this point. Many simple conditions, such as a classic fissure or classic piles, reach a final diagnosis on clinical grounds alone.

A final diagnosis should be clear, and stated in plain terms. It should name the condition, its severity, and any relevant detail, such as position on the clock face, or the grade of piles. A vague diagnosis leads to a vague treatment plan.

Sometimes, even after full assessment, two conditions are found together. For example, a patient may have both piles and a fissure. In such cases, state both diagnoses clearly, and plan treatment for each, in the right order.

9.2 The Purpose of Treatment Planning

Treatment planning turns a diagnosis into action. It answers a simple question: what should be done for this patient, and why? A good plan fits the disease. It also fits the patient. Two patients with the same diagnosis may need different plans, based on their age, their general health, and their own wishes.

A treatment plan has several parts. It states the treatment chosen. It states the expected outcome. It states any alternative that was considered, and why it was not chosen. It also states the follow-up arrangement. Each part matters, and each part should be recorded.

9.3 The Conservative Versus Surgical Decision

Many anorectal conditions can be treated in more than one way. The doctor must often choose between conservative treatment and surgery. This choice should follow a clear framework, not a fixed habit.

No single factor decides this choice on its own. The doctor must weigh all the factors below together, for each individual patient. The same diagnosis can lead to different plans, in different patients, for good reason.

- Severity of the disease. Mild disease often responds to conservative treatment. Severe or advanced disease often needs surgery.
- Response to treatment already tried. A condition that has failed conservative treatment is more likely to need surgery.

- Risk of the surgical option. Some procedures carry a real risk to continence, or to healing. This risk must be weighed against the benefit.
- The patient's general health. A patient with major medical illness may not be fit for surgery, even when surgery is otherwise the better option.
- The patient's own preference. Once the medical facts are explained clearly, the patient's wishes must be respected.
- Urgency. Some conditions, such as an abscess, need urgent surgical drainage, and cannot wait for a trial of conservative treatment.

9.4 When Conservative Treatment Is the Right Choice

Conservative treatment is often the right first step. It carries less risk than surgery. It also gives the doctor a chance to see how the patient responds, before committing to an operation.

- Early, low-grade piles, without significant prolapse, often respond well to diet, fibre, and local measures.
- A fresh, uncomplicated fissure often heals with stool softeners, sitz baths, and topical treatment.
- A first episode of mild pruritus ani often settles with simple hygiene advice, and treatment of any underlying cause.
- Mild obstructed defecation symptoms often improve with dietary change, and pelvic floor exercises, before any surgery is considered.
- Mild pilonidal sinus disease, without active infection, may sometimes be managed with hygiene measures and hair removal, in carefully selected patients.

Conservative treatment should be given a fair trial, with clear instructions, and a planned follow-up visit. It should not be continued indefinitely if it is clearly not working. A fair trial usually means a defined period of weeks, not months, with a clear review point built in from the start.

9.5 When Surgery Is the Right Choice

Surgery becomes the right choice when conservative treatment has failed, or when the condition is unlikely to improve without it.

- Advanced or prolapsing piles, that no longer respond to conservative measures.
- A chronic fissure, that has failed an adequate trial of medical treatment.
- A fistula-in-ano, which almost always needs surgery, since it rarely heals on its own.
- A perianal abscess, which needs urgent surgical drainage, not a trial of antibiotics alone.
- A confirmed or strongly suspected malignancy, which needs prompt surgical assessment.
- Severe anal stenosis, causing significant symptoms, that has not improved with conservative dilation measures.

Surgery should never be offered lightly. Its risks and benefits must be explained fully, in language the patient can understand, before consent is taken.

Equally, surgery should never be delayed out of excessive caution, once it is clearly needed. A fistula left untreated, or an abscess left undrained, can cause worsening infection, and long-term damage to the sphincter. Timely surgery, in the right patient, prevents greater harm later.

9.6 Explaining the Plan to the Patient

A treatment plan is only useful if the patient understands it, and agrees with it. Explain the diagnosis first, in simple words. Explain the treatment options next, with their benefits and risks. Give the patient time to ask questions. Record that this discussion has taken place.

Avoid medical jargon wherever possible. A patient who understands the plan is far more likely to follow it, and far more likely to trust the doctor's judgement.

Use simple diagrams, or a model, where they help. Written instructions, in the patient's own language, support what has been explained verbally. A patient who leaves the clinic with a clear, written plan is less likely to be confused, or to miss a follow-up visit.

9.7 Reviewing the Plan Over Time

A treatment plan is not fixed forever. Review it at each follow-up visit. If conservative treatment is working, continue it. If it is not working, move to surgery without further delay. A plan that is never reviewed can leave a patient on ineffective treatment for far too long.

Set a clear timeline for review at the very first visit. Tell the patient when to return, and what signs should prompt an earlier visit. This turns follow-up into a planned step, not something left to chance.

9.8 Common Mistakes to Avoid

- Choosing surgery as a default option, without first considering conservative treatment where it is appropriate.
- Continuing conservative treatment indefinitely, in a patient who is clearly not responding.
- Failing to explain the risks of surgery clearly, before taking consent.
- Ignoring the patient's own preference, once the medical facts have been explained.
- Delaying urgent surgery, such as abscess drainage, in favour of a trial of medical treatment.

9.9 Recording the Final Diagnosis and Plan

Record the final diagnosis clearly, in plain terms. Record the treatment plan chosen, and the reason for choosing it. For example: "Final diagnosis: third-degree haemorrhoids, 3, 7, and 11 o'clock. Plan: haemorrhoidectomy, given failure of conservative treatment over eight weeks, and patient preference for a definitive procedure." This record shows not just the decision, but the reasoning behind it.

9.10 Why This Chapter Matters

Reaching a final diagnosis, and choosing the right treatment, is the point where all earlier steps come together. History, examination, and investigation all lead here. A clear, well-reasoned plan, properly explained to the patient, gives the best chance of a good outcome. Part I of this manual ends here. Part II turns to each anorectal disease in turn, in full detail.

Chapter 10

Haemorrhoids (Piles)

Haemorrhoids, commonly called piles, are one of the most common conditions in surgical practice. Almost every doctor sees this condition often. This chapter explains piles in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

10.1 What Are Piles

Piles are not a new growth. They are enlarged, displaced anal cushions. Chapter 1 explained these cushions in detail. In a healthy person, the anal cushions help the anal canal close fully. They give a fine, watertight seal. Over time, these cushions can become swollen and congested. They may also slip downward, away from their normal position. This is what we call piles.

Piles can be internal or external. This depends on their position relative to the dentate line. Internal piles arise above the dentate line. They are usually painless, since this area has no pain-sensing nerves. External piles arise below the dentate line. They are usually painful, since this area is rich in pain-sensing nerves.

Piles affect people of all ages. They become more common with increasing age. Several factors increase the risk of developing piles. These include chronic constipation, and the straining that comes with it. Prolonged sitting on the toilet also raises the risk. So does a low-fibre diet. So does low fluid intake. Pregnancy is another common risk factor. This is due to raised pressure in the pelvis, and to hormonal changes. A family history of piles also plays a role. So does a sedentary lifestyle.

10.2 Classification of Internal Piles

Internal piles are graded by how far they prolapse, or come down, from the anal canal. This grading guides treatment choice.

- First degree — the piles bleed, but do not prolapse. They stay inside the anal canal at all times.
- Second degree — the piles prolapse on straining, but go back inside on their own.
- Third degree — the piles prolapse on straining, and need to be pushed back manually.
- Fourth degree — the piles stay prolapsed at all times, and cannot be pushed back.

This grading is simple, but very useful. It guides the doctor toward conservative treatment, office procedures, or surgery. These are explained later in this chapter.

Internal and external piles can also occur together. This is called a mixed, or combined, pile. A mixed pile has an internal component above the dentate line. It also has an external component below it. Treatment must address both parts. The chosen approach depends on which component is causing the main symptoms.

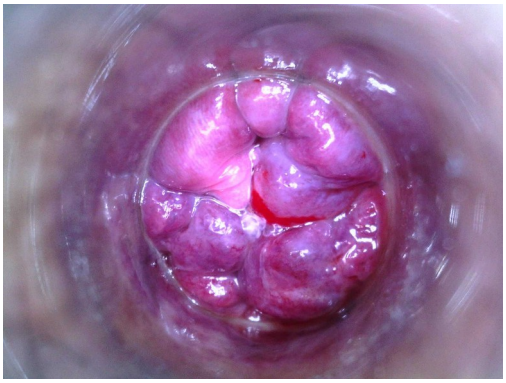


Fig. 10.A — Second-degree internal haemorrhoids, prolapsing on straining and reducing spontaneously.

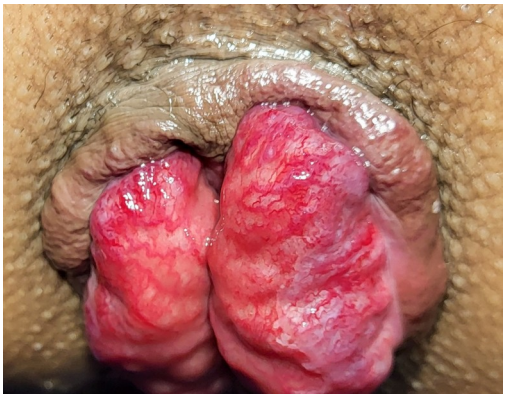


Fig. 10.B — Third-degree internal haemorrhoids, prolapsed on straining and requiring manual reduction.



Fig. 10.C — Fourth-degree internal haemorrhoids, permanently prolapsed and irreducible.

10.3 Presentation

The history-taking approach for piles follows the method described in Chapter 2. Ask about each symptom in turn.

- Bleeding — usually bright red, seen on the toilet paper or dripping after passing stool. The bleeding is usually painless.
- Prolapse — a lump that comes down, especially with straining. Ask whether it goes back on its own, needs to be pushed back, or stays out permanently.
- Discomfort — a dragging sensation, or mild discomfort, rather than sharp pain. Sharp pain suggests a complication, or a different diagnosis, such as a fissure.
- Mucus discharge — common with larger, prolapsing piles. This can lead to irritation and itching around the anus.
- Itching — from mucus discharge, or from difficulty keeping the area clean when piles prolapse.

Always ask the red flag questions from Chapter 2. These include age, weight loss, and any change in bowel habit. Bleeding must never be assumed to be from piles alone. A full assessment is always needed.

Ask also about the effect on daily life. Prolapsing piles can make sitting, walking, or working uncomfortable. Frequent soiling can affect a patient's confidence. It can affect their social life too. Understanding this impact helps the doctor judge how urgently treatment is needed, beyond the grade of the piles alone.

10.4 Examination

Follow the full sequence described in Chapter 3: inspection, palpation, digital rectal examination, and proctoscopy.

- See Chapter 4 for the inspection method. Inspection may show external piles directly. It may also show internal piles that prolapse on straining.
- See Chapter 5 for the digital rectal examination method. It is usually normal in simple piles, since soft piles are not easily felt. It remains essential, to rule out a mass or other abnormality.
- See Chapter 6 for the proctoscopy method. Proctoscopy gives the clearest view. It shows the size, number, and position of the piles on the clock face. It also shows whether they prolapse into view on straining.

A thorough examination, following this sequence every time, prevents a common error. This error is diagnosing piles too quickly, without excluding other causes of bleeding.

Do not forget the general examination described in Chapter 3. Check for pallor. This can point to anaemia from long-standing bleeding. In a patient with heavy or prolonged bleeding, this general check is just as important as the local examination.

10.5 Differential Diagnosis

Several conditions can mimic piles, or occur alongside them. Always consider these possibilities.

- Fissure-in-ano — causes sharp pain, usually with bleeding, and a visible tear on inspection.
- Rectal prolapse — a full-thickness or mucosal prolapse. It is seen as circular or radial folds, rather than the grape-like clusters typical of piles.
- Perianal abscess or fistula — causes swelling with pain, fever, or discharge. This differs from the typical painless bleeding of piles.
- Anal or rectal growth — must always be considered. This is especially true with a change in bowel habit, weight loss, or bleeding mixed with the stool.
- Skin tags — soft, painless folds of skin at the anal margin. They lack the bluish, vascular appearance of piles.

A patient can have piles and another condition together. Finding piles on examination does not exclude a more serious cause. This is especially true in an older patient, or one with red flag symptoms.

Consider a patient aged 55, with six weeks of bleeding and looser stools. Proctoscopy shows small, first degree piles. These piles alone do not explain a change in bowel habit. This patient needs colonoscopy, even though piles are visible. The change in bowel habit is a red flag that piles cannot fully explain.

10.6 Investigations

Most cases of piles are diagnosed on history and examination alone. This follows the approach in Chapter 8. Investigation is needed in specific situations.

- Colonoscopy is needed in any patient with red flag symptoms. It is also needed in patients over 50 years old with new bleeding, even when piles are also found.
- Blood tests, such as a full blood count, are useful if bleeding has been heavy or long-standing. This checks for anaemia.
- Biopsy is taken if any lesion looks atypical, or does not fit the usual appearance of piles.

Investigation should never be skipped simply because piles have already been seen on examination. This is one of the most important lessons in anorectal practice.

Anorectal manometry and endoanal ultrasound are described in Chapter 8. They are not routinely needed for piles. They become useful only if there is coexisting concern about sphincter function, such as before considering surgery in a patient with borderline continence.

10.7 Conservative Management

Conservative treatment is the right first step for most first and second degree piles. It is also right for many third degree piles.

- Increase dietary fibre, through fruits, vegetables, and whole grains. This softens the stool.
- Increase fluid intake, to support the effect of fibre.
- Avoid straining during defecation. Avoid spending long periods sitting on the toilet.
- Use a stool softener, if dietary measures are not enough on their own.
- Warm sitz baths ease discomfort and swelling. Take them for ten to fifteen minutes, several times a day.
- Topical creams or suppositories can ease symptoms for a short period. They do not cure the underlying piles.

Give conservative treatment a fair trial, usually a few weeks. Plan a clear follow-up visit. If it fails, move to the next level of treatment without delay.

Patient education matters greatly here. Explain that piles are a mechanical problem, caused by pressure and straining. They are not an infection, and will not simply go away with medicine alone. A patient who understands this is far more likely to follow the dietary and lifestyle advice given.

10.8 Office and Outpatient Procedures

Several simple procedures can be done in the outpatient clinic. These suit mainly first, second, and some third degree piles.

- Rubber band ligation — a small band is placed at the base of the pile. This cuts off its blood supply. The pile then shrinks and falls away within a few days. This is the most commonly used office procedure.

- Sclerotherapy — a chemical solution is injected into the pile. This causes it to shrink over time. It is useful mainly for first and early second degree piles.
- Infrared coagulation — heat energy is applied to the base of the pile. This causes it to shrink. It suits small, early piles well.

These procedures are quick. They need no anaesthesia in most cases. They allow the patient to return to normal activity the same day. They are not suitable for large, prolapsing piles, which usually need surgery.

After rubber band ligation, warn the patient about a dragging discomfort for a day or two. Warn them also that the pile will fall away within a week or so, sometimes with a small amount of bleeding. Serious bleeding, fever, or difficulty passing urine after the procedure should prompt an urgent review.

10.9 Surgical Management

Surgery is the right choice for third and fourth degree piles. It is also right for piles that have failed conservative and office treatment.

- Open haemorrhoidectomy — the traditional operation. The pile mass is surgically removed. The wound is left open to heal. It remains highly effective, though recovery takes some weeks.
- Closed haemorrhoidectomy — similar to the open technique. The wound is stitched closed at the end of the operation.
- Stapled haemorrhoidopexy — a circular stapling device lifts the prolapsing tissue back into place. It also interrupts its blood supply. Recovery is often quicker than with traditional haemorrhoidectomy. The risk of recurrence is somewhat higher.
- LigaSure or similar energy-device haemorrhoidectomy — uses a sealing device to remove the pile. This causes less bleeding, and often less pain, than the traditional open technique.
- Doppler-guided haemorrhoidal artery ligation — locates and ties off the arteries feeding the piles, without removing tissue. This suits patients wanting a less invasive surgical option.

The choice between these techniques depends on the grade of piles, the equipment available, and the surgeon's experience. Explain the options clearly to the patient, following the approach described in Chapter 9. Do this before taking consent.

After any haemorrhoidectomy, good pain control is essential. Warm sitz baths, stool softeners, and adequate fibre and fluid intake all help the patient recover comfortably. Advise the patient to avoid straining. Advise them to attend the planned follow-up visit, so healing can be checked.

10.10 The OPB-BIG Technique for Giant Haemorrhoids

A small number of patients present with giant haemorrhoids. These are far larger than the usual fourth degree pile. A giant haemorrhoidal mass can reach 10 to 12 centimetres or

more. This can approach the width of the patient's own thigh. Standard haemorrhoidectomy technique needs an important modification in these cases, to stay safe.

The author has developed a technique for these giant cases. It is named the OPB-BIG technique. This stands for Bhandari's Index-Guided vessel-sealer haemorrhoidectomy. The name reflects both its origin, and the giant size of the piles it was designed to treat.

The technique works as follows:

- A vessel-sealing energy device, such as LigaSure, is used to divide and seal the tissue of the giant pile mass. This follows the same principle as standard energy-device haemorrhoidectomy.
- The surgeon's gloved index finger is placed inside the anal canal throughout the dissection. This finger acts as a guide and a protective barrier.
- The finger lets the surgeon feel the plane of dissection directly. It helps keep the vessel sealer working at a safe distance from the sphincter muscle and the anal canal wall.
- This digital guidance is especially valuable in giant piles. Here, the distorted anatomy makes the usual visual landmarks harder to judge.

This technique aims to combine two benefits. It gives the reduced bleeding and reduced pain already seen with vessel-sealer haemorrhoidectomy. It adds a real-time, tactile safeguard against injury to the sphincter and canal wall, guided by the surgeon's own finger.

The patient was a man in his early fifties, with an irreducible prolapse of five years' duration and a fifteen-year history of intermittent bleeding. The mass was not a single dominant pile but a massive circumferential swelling, gangrenous in areas, measuring approximately 12 cm — comparable in size to the patient's own thigh.

At six-week follow-up, the patient had achieved complete wound healing with full continence — no incontinence of flatus or stool, no urgency, and a normal defecation pattern, with no complications recorded.



Fig. 10.1 — Pre-operative appearance: giant circumferential haemorrhoidal mass, approximately 12 cm, with gangrenous change.



Fig. 10.2 — Post-operative appearance at six weeks: healed wound, normal perianal topography, full sphincter control confirmed.

This technique, and the case series behind it, is intended for a dedicated report in the GSP-SPCI journal, alongside its description here.

10.11 Special Situations

A few situations need special care.

- Thrombosed external pile — a sudden, very painful, bluish swelling at the anal margin, caused by a blood clot. Seen early, within 48 to 72 hours, it can be treated by surgical removal of the clot for fast relief. Seen later, conservative treatment alone is usually preferred, since the clot is already resolving.
- Strangulated prolapsed piles — a fourth degree pile that becomes trapped outside the anus, with its blood supply cut off. This is a surgical emergency. It needs urgent attention.
- Piles in pregnancy — very common, especially in the third trimester. Conservative treatment is preferred wherever possible. Surgery is reserved for severe symptoms that do not respond to simple measures. It is usually deferred until after delivery, if it can safely wait.
- Piles with anaemia — significant, long-standing blood loss needs correction of the anaemia, alongside treatment of the piles themselves.

10.12 Complications of Treatment

Every treatment, conservative or surgical, carries some risk. Explain these clearly to the patient beforehand.

- Bleeding, in the days following any procedure or surgery.
- Pain, which is usually most severe in the first week after open or closed haemorrhoidectomy.
- Difficulty passing urine, in the first day or two after surgery, due to pain and local swelling.
- Anal stenosis, a narrowing of the anal canal, if too much tissue is removed, or if healing is poor.
- Recurrence of piles, particularly after office procedures, or after stapled haemorrhoidopexy.

A patient who understands these risks in advance copes far better if any of them occur.

10.13 Preventing Recurrence

Piles can return after treatment, whether conservative, office-based, or surgical. Prevention lowers this risk considerably.

- Maintain a high-fibre diet permanently, not only during an active episode.
- Keep up good fluid intake every day.
- Avoid long periods of straining. Avoid long periods sitting on the toilet, as a lasting habit.
- Stay physically active, since a sedentary lifestyle raises the risk of constipation and straining.
- Treat constipation early, rather than waiting for symptoms to become severe.

Share this advice with every patient, not only those who have just finished treatment. Prevention is far easier, and far less costly, than repeated treatment.

10.14 Special Considerations in Older Patients

Older patients often have other medical conditions that affect treatment choice. Many take blood-thinning medication, for heart or vascular disease. This raises the risk of bleeding with any procedure, including simple office treatment. Discuss with the patient's physician before stopping or adjusting these medicines. Never stop a blood thinner without proper advice. This can carry its own serious risk.

Older patients may also have reduced sphincter tone, from age or from past childbirth injury. This raises the risk of some degree of leakage after surgery. Assess this carefully before major surgery. Discuss the risk clearly with the patient.

10.15 Common Mistakes to Avoid

- Diagnosing piles from history alone, without a full examination.
- Missing a red flag symptom, because piles were found and no further assessment was done.

- Offering surgery for first or second degree piles, before a fair trial of conservative treatment.
- Delaying surgery in fourth degree piles, or in strangulated piles, out of excessive caution.
- Failing to explain the grade of piles, and the reasoning behind the chosen treatment, to the patient.
- Treating a thrombosed external pile the same way in every patient, without considering how many hours or days have passed since onset.

10.16 Recording and Follow-Up

Record the grade of piles, their position on the clock face, and the treatment plan chosen. For example: "Second degree piles at 3, 7, and 11 o'clock. Plan: rubber band ligation, given failure of dietary measures over four weeks." Arrange a clear follow-up visit. Check the response to treatment. Plan further steps if needed.

10.17 Why This Chapter Matters

Piles are common, but they must never be treated carelessly. A clear grading system guides the right treatment for each patient. A full examination protects against missing a more serious diagnosis. A staged approach moves from conservative treatment, to office procedures, to surgery. This gives each patient the least invasive treatment that will work. The next chapter turns to fissure-in-ano, another very common, and often misunderstood, anorectal condition.

Chapter 11

Fissure-in-Ano

A fissure-in-ano is a small tear in the lining of the anal canal. It is common, and it causes disproportionate pain for its small size. This chapter explains fissure-in-ano in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

11.1 What Is a Fissure-in-Ano

A fissure is a linear tear in the skin of the anal canal, below the dentate line. This area is rich in pain-sensing nerves, as explained in Chapter 1. This is why a fissure causes sharp, severe pain. This differs from painless internal piles above the dentate line.

Most fissures occur in the posterior midline, at 6 o'clock, with the patient in the lithotomy position. A smaller number occur in the anterior midline, at 12 o'clock. Fissures away from the midline are unusual. They should raise suspicion of another cause, such as Crohn's disease, tuberculosis, or malignancy.

Fissures affect people of all ages. They are most common in young and middle-aged adults. They occur equally in men and women. A first episode often follows a period of constipation, or a single episode of passing a particularly hard stool.

11.2 Acute Versus Chronic Fissure

An acute fissure is recent, and looks like a simple, fresh tear. A chronic fissure has been present for six weeks or more. It develops certain features that mark it as chronic.

- A sentinel pile — a small skin tag at the lower end of the fissure.
- A hypertrophied anal papilla — a small, firm swelling at the upper end of the fissure, inside the anal canal.
- Visible fibres of the internal sphincter, at the base of the fissure.
- Raised, indurated edges to the tear. This differs from a simple, clean-edged cut.

This distinction matters greatly. An acute fissure usually responds well to conservative treatment. A chronic fissure often needs more active treatment. This is explained later in this chapter.

11.3 Why Fissures Persist: The Vicious Cycle

A fissure often becomes trapped in a self-sustaining cycle. Understanding this cycle explains why treatment is aimed at the internal sphincter.

- A hard stool, or an episode of straining, first tears the anal lining.
- The pain from this tear causes the internal sphincter to go into spasm.
- This spasm raises the pressure inside the anal canal.
- High pressure reduces blood flow to the area. This is especially true at the posterior midline. This area already has a relatively poor blood supply.

- Poor blood flow slows healing, and the tear fails to close.
- The unhealed tear causes more pain, more spasm, and the cycle repeats.

Every effective treatment for fissure works by breaking this cycle. Each one lowers the pressure in the internal sphincter, either temporarily or permanently. This lets the blood flow return, so healing can take place.

This is why treatment for fissure looks so different from treatment for a simple cut elsewhere on the body. A cut on the hand heals with rest and cleanliness alone. A fissure needs its underlying spasm addressed directly. Without this, it will not heal, no matter how much rest is given.

11.4 Presentation

Follow the history-taking method described in Chapter 2. Certain features are typical of fissure-in-ano.

- Sharp, tearing pain during defecation. This is the hallmark symptom.
- Burning pain that continues for minutes to hours after passing stool.
- Bright red bleeding, usually a small streak on the stool or toilet paper, rather than heavy bleeding.
- Fear of passing stool. Some patients delay defecation because of this fear. Delay can worsen constipation, and restart the cycle.
- A history of hard stool, straining, or a recent change in bowel habit, just before the pain began.

Ask about the duration of symptoms. This helps to judge whether the fissure is likely to be acute or chronic, before examination even begins.

Also ask about the effect on daily life. Some patients avoid food, to avoid the pain of passing stool. Others become anxious about every bowel movement. This distress is real. It deserves acknowledgement, alongside the physical treatment plan.

11.5 Examination

Examination must be gentle, given the severe pain a fissure can cause. Follow the sequence from Chapter 3.

- See Chapter 4 for the inspection method. Inspection usually shows the fissure directly. Gently part the buttocks, without forcing the anal margin open, to bring the tear into view.
- A sentinel pile, or a visible tear with raised edges, points toward a chronic fissure.
- Digital rectal examination is often deferred in a very painful, acute fissure. If attempted, do it with generous lubrication. Stop if the pain is too severe.
- Proctoscopy is often not tolerated in the acute phase. It can be deferred until the fissure has begun to heal, unless another diagnosis needs urgent exclusion.

Never force an examination that is clearly causing severe pain. A gentle attempt, with honest documentation, is far better than causing unnecessary suffering. This approach is explained in Chapter 5.

11.6 Differential Diagnosis

Several conditions can mimic a fissure, or cause a fissure-like tear for a different reason.

- Perianal abscess or fistula — usually causes swelling and throbbing pain, rather than the sharp pain typical of a simple fissure.
- Crohn's disease — can cause fissures that are large, multiple, or away from the midline. These fissures are often less painful than a typical fissure.
- Tuberculosis — can cause an atypical, undermined ulcer in the anal canal, especially in areas where tuberculosis remains common.
- Anal cancer — can present as a non-healing, irregular ulcer. It must always be considered in a fissure that does not fit the typical pattern.
- Sexually transmitted infection — some infections can cause anal ulceration. Ask about a relevant history, with sensitivity.

Some fissures need biopsy, as described in Chapter 8. These include a fissure away from the midline, a fissure that does not heal with standard treatment, and a fissure with an unusual appearance.

Consider a patient with a fissure at 3 o'clock, rather than the usual 6 o'clock or 12 o'clock. This position alone should raise suspicion. Further assessment, including biopsy, is needed before assuming this is a simple fissure.

11.7 Investigations

Most fissures are diagnosed on history and examination alone. Investigation is reserved for specific situations.

- Biopsy is taken from any atypical, non-midline, or non-healing fissure. This excludes Crohn's disease, tuberculosis, or malignancy.
- Anorectal manometry is described in Chapter 8. It may be used before surgery in select cases. It assesses baseline sphincter pressure. This is especially useful if there is any concern about pre-existing weak continence.
- Relevant blood tests, or further assessment, are added if Crohn's disease or another systemic cause is suspected.

11.8 Conservative Management

Conservative treatment is the correct first step for almost every acute fissure. It is also right for many chronic fissures.

- A high-fibre diet, and plenty of fluids, to keep the stool soft.
- A stool softener, if diet alone is not enough.
- Warm sitz baths, several times a day, to ease sphincter spasm and pain.
- Good anal hygiene. Avoid harsh soaps, or vigorous wiping. Both can worsen irritation.

These simple measures heal a large proportion of acute fissures within a few weeks. Give this a fair trial before moving to more active treatment.

Explain the vicious cycle to the patient, in simple words. A patient who understands why soft stool matters, and why straining must be avoided, is far more likely to follow the advice given. This understanding also reduces the fear that often builds up around each bowel movement.

11.9 Chemical Sphincterotomy

When simple conservative measures are not enough, chemical treatment is the next step. This aims to relax the internal sphincter without surgery.

- Topical glyceryl trinitrate (GTN) ointment is applied to the anal margin. It relaxes the internal sphincter, and improves blood flow. Headache is a common side effect. Warn patients about this in advance.
- Topical diltiazem is a calcium channel blocker. It works in a similar way. It is often better tolerated than GTN, with fewer headaches.
- Botulinum toxin is injected directly into the internal sphincter. It gives a longer-lasting relaxation. It is useful when topical treatment has failed, or is not tolerated.

Chemical sphincterotomy heals a good proportion of chronic fissures, and avoids the risks of surgery. It should be tried before surgery is considered, in almost every patient without an urgent surgical indication.

A typical course of topical treatment lasts six to eight weeks. Warn the patient that improvement is often gradual, not immediate. Arrange a review visit at the end of this course. This visit judges whether healing is complete, partial, or absent.

11.10 Surgical Management

Surgery is reserved for chronic fissures that have failed an adequate trial of conservative and chemical treatment.

Lateral internal sphincterotomy is the standard surgical treatment. A controlled cut is made in the internal sphincter, away from the fissure itself. This is usually done at the 3 o'clock or 9 o'clock position. The cut permanently lowers the resting pressure in the anal canal. It breaks the vicious cycle, and allows the fissure to heal.

The author has developed a modification of this operation, called OPB-MOLIS, or Modified Open Lateral Internal Sphincterotomy. This technique is described in full in Chapter 29, together with outcomes from a large case series. In brief, it aims to give reliable relief of spasm and pain. It does this while protecting continence with a carefully judged, limited cut.

Whichever technique is used, the surgeon must judge the length of the cut carefully. Too small a cut may fail to relieve the spasm. Too large a cut raises the risk of incontinence. This judgement is one of the most important skills in fissure surgery.

Explain the procedure clearly before taking consent, following the approach described in Chapter 9. Most patients recover quickly, with relief of pain often noticed within days. Advise the patient to continue a high-fibre diet after surgery. This protects the result, and helps prevent a new fissure from forming.

11.11 Anal Canal Stenosis and Fissure Recurrence

A chronic fissure is often accompanied by some degree of anal canal narrowing. This narrowing is caused by long-standing spasm and scarring. The author grades this narrowing using a simple system. It is assessed under spinal anaesthesia, or general anaesthesia with muscle relaxants. Calibrated anal dilators are used. This system is called the OPB Grading of Anal Canal Stenosis. It applies to stenosis from any cause, not only fissure. It is described in full in Chapter 18, together with its general use and management.

For fissure surgery specifically, the author has observed a link. This link is between the calibre achieved after unilateral MOLIS, and the chance of recurrence. When a 27 mm dilator still passes tightly after a unilateral MOLIS, the chance of recurrence appears considerably higher. When a 30 mm dilator passes freely after the same procedure, the chance of recurrence appears close to nil. This fits the vicious cycle explained earlier in this chapter. A tight calibre suggests the spasm has not been adequately released. This can restart the cycle of poor blood flow and non-healing.

For higher-grade stenosis, a unilateral MOLIS is unlikely to give an adequate calibre. In these cases, the author has begun using a bilateral MOLIS. This means dividing the internal sphincter at two separate sites. Results have been good so far. Bilateral sphincterotomy needs extra caution, since it divides more sphincter muscle overall. To protect continence, only the lower one-third of the internal sphincter should be divided on each side. Bilateral MOLIS, and its results in severe stenosis, are described further in Chapter 30.

These observations are the author's own, drawn from ongoing practice. They are not yet supported by a formal published series. A structured case series would strengthen this finding. It should record the stenosis grade, the post-operative calibre, and confirmed recurrence. The 333-case MOLIS series has already done this for continence outcomes.

11.12 Special Situations

- Fissure in pregnancy — conservative treatment is preferred wherever possible. Pregnancy-related fissure often improves after delivery. Many topical treatments are also used cautiously in pregnancy.
- Fissure in Crohn's disease — treatment focuses on controlling the underlying bowel disease. Surgery is used cautiously, since healing can be poor, and the risk of a non-healing wound is higher.
- Anterior fissure — less common than posterior fissure. It is sometimes associated with a weaker sphincter, particularly in women after childbirth. Sphincterotomy is used with extra caution here.
- Recurrent fissure after previous sphincterotomy — needs careful reassessment. Consider an alternative diagnosis, before planning a repeat procedure.

11.13 Preventing Recurrence

A fissure can return, even after successful healing. Prevention lowers this risk considerably.

- Maintain a high-fibre diet permanently, not only while the fissure is active.
- Keep up good fluid intake every day.
- Avoid straining, and avoid delaying the urge to pass stool.
- Treat constipation early, rather than waiting for symptoms to build up again.

Share this advice with every patient who has had a fissure, even after full healing. A patient who understands the vicious cycle is well placed to prevent it from starting again.

11.14 Complications of Treatment

Every treatment for fissure carries some risk. This should be explained clearly to the patient.

- Headache, with topical GTN treatment.
- Temporary or, rarely, permanent difficulty controlling flatus or stool, after sphincterotomy.
- Bleeding or infection at the surgical site, though this is uncommon.
- Delayed healing, or a non-healing wound, especially if an underlying cause such as Crohn's disease was not recognised beforehand.

A patient who understands these risks in advance is better prepared. They are also more likely to report a problem early, if one occurs.

11.15 Common Mistakes to Avoid

- Moving to surgery before a fair trial of conservative and chemical treatment.
- Missing a non-midline or atypical fissure, and treating it as a standard fissure without further assessment.
- Cutting too much, or too little, of the internal sphincter during surgery.
- Forcing digital rectal examination in a patient with severe, acute pain.
- Failing to warn the patient about headache with GTN treatment, leading to unnecessary alarm or early discontinuation.

11.16 Recording and Follow-Up

Record the position of the fissure on the clock face, whether it is acute or chronic, and the treatment plan chosen. For example: "Chronic fissure at 6 o'clock, with sentinel pile. Plan: topical diltiazem for eight weeks, given first presentation." Arrange a follow-up visit to check healing, and to plan further treatment if needed.

11.17 Why This Chapter Matters

A fissure is a small tear, but it can cause severe, disproportionate suffering. Understanding the vicious cycle of spasm and poor blood flow explains every treatment used, from simple dietary advice to surgery. A staged approach moves from conservative treatment, to chemical sphincterotomy, to surgery only when needed. This gives each patient the safest

path to relief. The next chapter turns to fistula-in-ano, a condition closely related to fissure, but needing a very different approach to management.

Chapter 12

Fistula-in-Ano

A fistula-in-ano is an abnormal tunnel. It connects the anal canal to the skin near the anus. This chapter explains fistula-in-ano in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

12.1 What Is a Fistula-in-Ano

A fistula is a track lined by tissue. It runs from an internal opening, inside the anal canal, to an external opening, on the skin near the anus. Pus, and sometimes stool, can pass through this track. This causes ongoing discharge, and often recurring swelling.

A fistula usually starts as an abscess, as explained in Chapter 1. Small pockets called anal crypts sit along the dentate line. Anal glands open into these crypts. A gland can become blocked and infected. This forms an abscess. If the abscess is drained, but the internal opening does not heal, a fistula tract remains.

Roughly one in three patients with a drained perianal abscess goes on to develop a fistula. Every patient treated for an abscess needs a clear follow-up plan. This plan should check for this possibility, as described in the chapter on perianal abscess.

12.2 Classification of Fistula Tracts

Fistula tracts are classified by their path, relative to the sphincter muscles. This classification guides treatment choice, since it predicts how much sphincter muscle the tract crosses.

- Intersphincteric — the tract runs between the internal and external sphincters. This is the most common type.
- Trans-sphincteric — the tract crosses both the internal and external sphincters, before reaching the skin.
- Suprasphincteric — the tract rises above the puborectalis muscle, before curving down to the skin. This type is uncommon, and carries a higher risk to continence.
- Extrasphincteric — the tract bypasses the sphincter complex entirely, often linked to pelvic disease rather than a simple anal gland infection.

A simple guide, called Goodsall's rule, helps predict the path of the internal opening from the position of the external opening. An external opening in front of a line drawn across the anus usually points to a straight, radial tract. An external opening behind this line usually points to a curved tract, with its internal opening in the posterior midline.

This rule is a useful guide, not an absolute law. It is more reliable for openings close to the anus, and less reliable for openings further away, or in complex, recurrent cases. Imaging, described later in this chapter, gives a more definite answer when the picture is unclear.

12.3 Presentation

Follow the history-taking method described in Chapter 2. Certain features are typical of fistula-in-ano.

- Persistent or recurring discharge — pus, blood, or serous fluid, staining the underclothes.
- A history of a previous perianal abscess, often drained some weeks or months earlier.
- Recurring swelling and pain. This settles each time the tract drains, then builds up again.
- Itching or irritation around the anus, from constant moisture and discharge.
- Occasional passage of flatus or stool through the external opening, in a long-standing or complex fistula.

Ask about the number of previous episodes, and any previous surgery for abscess or fistula. This history shapes the assessment, and often predicts a more complex tract.

12.4 Examination

Follow the sequence from Chapter 3. Fistula examination needs particular care, and sometimes needs to be completed under anaesthesia.

- Inspection, as described in Chapter 4, usually shows the external opening. It appears as a small, red, raised punctum, sometimes with granulation tissue.
- Gentle pressure around the external opening may express a drop of pus, confirming the tract is active.
- Digital rectal examination may feel the tract as a firm, cord-like structure beneath the skin, running toward the anal canal.
- Proctoscopy may show the internal opening directly, though this is not always visible in the clinic setting.
- Examination under anaesthesia is often needed for a complete assessment, particularly for a complex or high tract. This allows careful probing, without causing the patient pain.

Never force a probe along a tract that resists gentle pressure. Forcing a probe can create a false passage, and can turn a simple tract into a complex one.

During examination under anaesthesia, a soft probe is passed gently from the external opening. Hydrogen peroxide, or a dye such as methylene blue, injected into the external opening, can sometimes help identify the internal opening by producing bubbling or staining. This step adds useful information, without needing to force the probe itself.

12.5 Differential Diagnosis

Several conditions can mimic a fistula, or cause a fistula for a different reason than a simple anal gland infection.

- Pilonidal sinus disease — has openings in the natal cleft, above the anus, rather than at the anal margin itself.

- Crohn's disease — can cause multiple, complex fistula tracts, often with less pain than a simple cryptoglandular fistula.
- Tuberculosis — can cause fistula formation, especially in regions where tuberculosis remains common.
- Hidradenitis suppurativa — causes multiple, interconnected sinus tracts in the skin, usually without a true internal opening into the anal canal.
- Anal or rectal cancer — can rarely present with a fistula-like discharge, and must be considered in any atypical or non-healing case.

A fistula that does not fit the typical cryptoglandular pattern needs further assessment, including biopsy, as described in Chapter 8.

Some warning features stand out. These include multiple external openings not explained by a simple horseshoe pattern. They also include a tract that fails to heal after correct surgery, or a history of inflammatory bowel disease. Any of these should prompt a wider search for an underlying cause.

12.6 Investigations

Simple, low fistulas are often assessed on examination alone. More complex fistulas need imaging, as described in Chapter 8.

- MRI fistulogram is the investigation of choice for a complex, recurrent, or high fistula. It shows the full course of the tract, any side branches, and its relationship to the sphincter muscles.
- Endoanal ultrasound is a quicker, more accessible option in some centres. It is useful for a simpler tract, and for assessing sphincter integrity.
- Biopsy is taken if the tract does not fit the usual pattern, or if malignancy is a concern.
- Assessment for Crohn's disease is added if multiple or unusual tracts are found, or if the patient has bowel symptoms.

Choosing between MRI and endoanal ultrasound depends on what is available, and on the complexity of the case. As a simple guide, endoanal ultrasound suits a straightforward, first-presentation tract. MRI suits a complex, recurrent, or high tract, or any case where surgical planning depends on precise anatomical detail.

12.7 Principles of Management

Fistula surgery balances two competing goals. The surgeon must heal the tract completely. The surgeon must also protect the sphincter muscle, and preserve continence. Every technique described below is a different way of balancing these two goals.

The amount of sphincter muscle the tract crosses is the single most important factor in this balance. A tract crossing little or no muscle can often be laid open safely. A tract crossing a large amount of muscle needs a technique that avoids cutting it, even if this means a slightly lower cure rate.

12.8 Surgical Techniques

- Fistulotomy — the tract is laid open along its full length, and left to heal from the base. This is highly effective for a simple, low, intersphincteric tract, where little or no sphincter muscle needs to be divided.
- Seton placement — a thread or band is passed through the tract, and left in place. A seton can drain the tract, and allow inflammation to settle, before a definitive procedure. A cutting seton, tightened gradually, slowly divides the tract while allowing fibrosis to form, protecting some sphincter function.
- Ligation of the intersphincteric fistula tract, known as the LIFT procedure. The tract is identified, and tied off in the intersphincteric space. The external sphincter is not cut.
- Advancement flap — healthy tissue from above the internal opening is used to cover it, after the tract below is cleared. This avoids cutting the sphincter, and suits a high or trans-sphincteric tract.
- Fistula plug or fibrin glue — biological material is used to fill or seal the tract. Results are variable, and this is usually reserved for select cases.

The choice of technique depends on the tract's classification, its relationship to the sphincter, and the patient's baseline continence. A simple, low tract usually allows fistulotomy safely. A complex or high tract usually needs a sphincter-preserving technique instead.

After any fistula surgery, good wound care matters greatly. Warm sitz baths, kept up daily, help keep the wound clean as it heals from the base upward. Advise the patient on a high-fibre diet, to keep the stool soft, and arrange regular follow-up to check that healing is progressing as expected.

12.9 Special Situations

- Horseshoe fistula — a tract that curves around the anal canal, usually posteriorly, with two or more external openings. This needs careful mapping, often with MRI, before surgery.
- Fistula in Crohn's disease — treatment focuses on controlling the underlying bowel disease first. Long-term seton drainage is often preferred over definitive surgery, since healing can be poor.
- Recurrent fistula — needs careful reassessment, usually with MRI, to identify any missed tract or side branch before repeat surgery.
- Fistula in an immunocompromised patient — needs extra caution, since healing may be delayed, and infection can spread more readily.

In every special situation, explain the likely course clearly to the patient, following the approach in Chapter 9. Some patients, particularly those with Crohn's disease, may need a long-term seton rather than a single definitive cure. Setting this expectation early avoids confusion and disappointment later.

12.10 Assessing Continence Before Surgery

Before any fistula surgery, assess the patient's baseline continence carefully. Ask about any existing difficulty controlling flatus or stool, following the approach in Chapter 2. A patient with a history of childbirth injury, previous anal surgery, or an already weak sphincter needs extra caution.

In such patients, prefer a sphincter-preserving technique, even for a tract that might otherwise allow fistulotomy. Anorectal manometry, described in Chapter 8, can help in borderline cases, by giving an objective measure of sphincter function before the operation.

Document this assessment clearly before surgery. It protects the patient, and it protects the surgeon, by showing that continence risk was considered and discussed as part of the treatment plan.

12.11 Complications of Treatment

Every fistula treatment carries some risk, and this should be explained clearly to the patient.

- Incontinence, of varying degree, if too much sphincter muscle is divided.
- Recurrence, if the tract or an internal opening is missed during surgery.
- Delayed wound healing, particularly with a large or complex tract.
- Discomfort from a seton. Most patients tolerate this well. Some find it troublesome over a long period.

A patient who understands these risks in advance is better prepared, and copes better if a complication occurs.

12.12 Common Mistakes to Avoid

- Attempting fistulotomy on a high or complex tract, without first confirming its course.
- Forcing a probe along a tract, risking a false passage.
- Missing a side branch or secondary tract, leading to early recurrence.
- Treating a fistula without considering Crohn's disease, when the presentation is atypical.
- Failing to explain the risk of incontinence clearly, before taking consent for surgery.

12.13 Recording and Follow-Up

Record the position of the external opening on the clock face, the likely tract classification, and the treatment plan chosen. For example: "Fistula-in-ano, external opening at 6 o'clock, intersphincteric tract on MRI. Plan: fistulotomy." Arrange a follow-up visit to check healing, and to plan further treatment if needed.

12.14 Why This Chapter Matters

A fistula-in-ano is a small tract, but it demands careful judgement. Every decision balances complete healing against the risk to continence. Understanding the tract's classification, and choosing the right technique for that classification, gives each patient the best chance of

a lasting cure, without unnecessary risk. The next chapter turns to perianal and perirectal abscess, the acute condition that so often precedes a fistula.

Chapter 13

Perianal and Perirectal Abscess

A perianal or perirectal abscess is a collection of pus near the anus or rectum. It is an acute condition. It often comes on over a few days. This chapter explains the abscess in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

13.1 What Is a Perianal or Perirectal Abscess

An abscess starts in the anal glands. Chapter 1 explains this. These glands sit along the dentate line. A gland can become blocked. Bacteria then multiply inside it. This forms a collection of pus.

The pus can spread into different spaces around the anal canal. The space it reaches decides the type of abscess. This chapter covers each of these spaces in turn.

Most abscesses are simple infections. A minority point to a deeper problem. These include Crohn's disease, diabetes, or a rare tumour. Chapter 8 covers the further tests needed in these cases.

13.2 Classification by Anatomical Space

Abscesses are classified by the space they occupy. This classification guides both urgency and the surgical approach.

- Perianal abscess — sits just under the skin, close to the anal margin. This is the most common type. It is usually the easiest to diagnose and treat.
- Ischiorectal abscess — sits in the fat-filled space beside the anal canal. It can grow large before it is noticed. This is because it lies deeper than a perianal abscess.
- Intersphincteric abscess — sits between the internal and external sphincters. It often causes severe pain. There are few outward signs on the skin.
- Supralevator abscess — sits above the levator ani muscle, high in the pelvis. This is the rarest and most serious type. It can be linked to pelvic disease, not just a simple gland infection.
- Horseshoe abscess — spreads around the back of the anal canal, linking the ischiorectal spaces on both sides. It needs careful surgical planning.

An abscess in a deeper space is harder to feel on simple inspection. It often needs a more careful examination. Sometimes imaging is needed too. This confirms the diagnosis.

13.3 Presentation

Follow the history-taking method described in Chapter 2. Certain features are typical of a perianal or perirectal abscess.

- Severe, constant pain near the anus. The pain often builds steadily over one or two days.
- Pain worse on sitting, walking, or passing stool.

- A tender swelling near the anus, sometimes with redness of the overlying skin.
- Fever and a general feeling of being unwell, particularly with a deeper abscess.
- Trouble passing urine. This happens with a large or deep abscess near the urethra.

Ask about any history of diabetes. Also ask about any condition or medicine that weakens the immune system. Ask about any past abscess or fistula. This history shapes the urgency of treatment.

13.4 Examination

Follow the sequence from Chapter 3. Examination must be gentle, since the area is often very tender.

See Chapter 4 for the inspection method. Inspection may show a red, swollen area near the anus. A perianal abscess is usually visible this way. A deeper abscess may show little on the skin.

Gentle palpation may find a tender, fluctuant swelling. Fluctuance means the swelling feels soft and fluid-filled. This is a sign that pus has collected under pressure.

Digital rectal examination should be done with care. It can help find a deeper abscess. Do not force it if the patient feels too much pain.

A patient may have severe pain with a normal-looking outside. This can still mean a deep abscess. Examination under anaesthesia is often the only safe way to confirm this. Do not delay treatment while waiting for a clearer picture on the surface.

13.5 Differential Diagnosis

Several conditions can cause pain and swelling near the anus. These are not always a simple abscess.

- Thrombosed external haemorrhoid — causes sudden, severe pain, with a firm, bluish lump at the anal margin. Chapter 10 covers this in full.
- Pilonidal abscess — sits in the natal cleft, above the anus, rather than at the anal margin.
- Hidradenitis suppurativa — causes multiple, recurring abscesses in the skin folds around the anus and groin.
- Anal fissure with secondary infection — causes pain on defecation, with a visible tear rather than a true collection of pus.
- A tumour with secondary infection — is rare. It should be considered in an older patient. It should also be considered if an abscess behaves unusually.

Most cases are straightforward on examination. An unusual case needs wider assessment. This also applies to a case that does not settle after drainage. See Chapter 8.

13.6 Investigations

A simple, superficial abscess is often diagnosed on examination alone. It does not need imaging before treatment.

Imaging is useful for a deeper or more complex abscess. MRI gives the clearest picture of a supralevator or horseshoe abscess. Endoanal ultrasound is a faster option in some centres.

Blood tests are useful in a patient who is unwell, or who has diabetes. A raised white cell count supports the diagnosis. Blood glucose should be checked in every patient. Undiagnosed diabetes can present this way.

Do not wait for imaging results before draining. This applies if the diagnosis is already clear on examination. Imaging is most useful when the diagnosis or the anatomy is uncertain.

13.7 Principles of Management

An abscess needs drainage. This is the single most important step in treatment. Antibiotics alone do not cure an abscess. They cannot reach pus that has no way to drain.

Drainage should happen as soon as the diagnosis is confirmed. A delay allows the infection to spread further. It also increases the risk of a deeper, more complex abscess.

Antibiotics have a supporting role. They are useful for a patient with widespread infection, diabetes, or a weakened immune system. They are not a substitute for drainage in a straightforward case.

13.8 Surgical Technique

Incision and drainage is the standard treatment. The abscess is opened at its most fluctuant point. Pus is released. The cavity is explored gently with a finger. This breaks down any pockets inside.

The incision should be placed as close to the anal margin as the anatomy allows. This shortens any later fistula tract, if one develops.

A cruciate, or cross-shaped, incision is sometimes used for a large abscess. The corners of skin are trimmed. This keeps the wound open, and allows it to drain freely as it heals.

The cavity is usually left open. It is packed lightly with gauze at first, then allowed to heal from the base upward. A tight pack is not needed, and can cause unnecessary pain.

A deep or complex abscess, such as a supralevator or horseshoe type, often needs examination and drainage under anaesthesia. This allows a full assessment of the extent of the abscess, and safe drainage of every pocket.

13.9 The Question of a Fistula

Chapter 12 explains this. Roughly one in three patients with a drained abscess goes on to develop a fistula. An internal opening is sometimes visible at the time of drainage.

Do not search aggressively for an internal opening in an acutely infected, inflamed area. Forcing a probe at this stage can create a false passage. It is safer to drain the abscess simply. The surgeon can reassess for a fistula once the acute infection has settled.

Arrange a follow-up visit after drainage. Check for a fistula at this visit. Follow the approach in Chapter 12.

13.10 Special Situations

- Diabetic patient — needs careful glucose control alongside drainage. Infection can spread faster and heal more slowly in poorly controlled diabetes.
- Immunocompromised patient — needs prompt drainage and close follow-up. Signs of infection can be less obvious. Spread can be more rapid.
- Horseshoe abscess — needs drainage of both ischiorectal spaces. It also needs drainage of the posterior space that connects them. This often needs a specific counter-incision technique.
- Recurrent abscess — needs a careful search for an underlying fistula, or for Crohn's disease, as described in Chapter 12.
- Pregnant patient — needs prompt drainage under safe anaesthesia. Delay carries more risk than a well-planned procedure.

13.11 Complications of Treatment

Every abscess drainage carries some risk, and this should be explained clearly to the patient.

- Fistula formation, in roughly one in three patients, as noted above.
- Recurrence, if a pocket of infection is missed at the first drainage.
- Bleeding, usually minor, from the drainage site.
- Incontinence, rare, if the abscess or the drainage affects the sphincter muscles.
- Spreading infection, rare but serious, if drainage is delayed in a patient with diabetes or a weakened immune system.

A patient who understands these risks in advance is better prepared. This patient copes better if a complication occurs.

13.12 Common Mistakes to Avoid

- Treating an abscess with antibiotics alone, without drainage.
- Delaying drainage while waiting for imaging, in a straightforward case.
- Forcing a probe to find a fistula tract during the acute, infected stage.
- Missing a deep space, such as a supralevator or horseshoe extension, at the time of drainage.
- Failing to check blood glucose in a patient with an unexplained or recurrent abscess.

13.13 Recording and Follow-Up

Record the site and type of abscess, the method of drainage, and any internal opening seen. For example: "Perianal abscess, left lateral, incision and drainage under local anaesthesia. No internal opening seen." Arrange a follow-up visit to check healing, and to look for a developing fistula.

13.14 Why This Chapter Matters

A perianal or perirectal abscess is a surgical emergency, even though it often seems minor at first. Prompt drainage relieves pain and prevents the infection from spreading. It also raises

the next question. Will a fistula follow? The next chapter turns to rectal prolapse. This is a different kind of anorectal problem. It comes from the supporting tissues, not from infection.

Chapter 14

Rectal Prolapse

Rectal prolapse means the rectum slides down and out through the anus. It is distressing for the patient. It is also very treatable. This chapter explains rectal prolapse in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

14.1 What Is Rectal Prolapse

The rectum normally stays fixed in place. It is held by ligaments. It is supported by the surrounding pelvic floor muscles. It is also anchored by its own attachment to the sacrum. When this support weakens, the rectum can slide downward.

In a mild case, only the inner lining slides down. In a full case, the whole thickness of the rectal wall comes out through the anus. This chapter covers both patterns.

Rectal prolapse is most common in older women. It is linked to a weak pelvic floor, long-standing straining, and sometimes to childbirth injury. It can also occur in young children, and in men, though less often.

14.2 Why It Happens

Several factors weaken the normal supports of the rectum over time. Chronic straining is one of the most common. It often comes from long-standing constipation. Repeated straining stretches the ligaments and the pelvic floor muscles.

Childbirth can injure the pelvic floor and the anal sphincter directly. This injury adds to the risk of prolapse later in life. A chronic cough can add further strain to the same supporting structures. So can heavy lifting over many years.

In children, prolapse is usually linked to a different cause. It often follows straining from constipation, a chronic cough, or an underlying condition such as cystic fibrosis. Most childhood cases resolve once the underlying cause is treated.

14.3 Classification

Rectal prolapse is classified by how much of the rectal wall comes down, and how far it protrudes.

- Mucosal prolapse — only the inner lining slides down. It usually protrudes only a short distance. It is sometimes mistaken for large haemorrhoids.
- Full-thickness prolapse — the whole wall of the rectum comes down. This is the classic, complete rectal prolapse. It can protrude several centimetres.
- Internal prolapse, or intussusception — the rectal wall folds inward on itself. It does not come out through the anus. It does not show on external examination. Chapter 15 covers this separately.

The distance the prolapse protrudes matters for planning treatment. Whether it reduces on its own also matters. This chapter records both features at every assessment.

14.4 Presentation

Follow the history-taking method described in Chapter 2. Certain features are typical of rectal prolapse.

- A visible lump or mass that comes out of the anus, often during straining or defecation.
- The lump may reduce on its own, or may need to be pushed back manually.
- Mucus discharge, and sometimes bleeding, from the exposed rectal lining.
- A feeling of incomplete emptying after defecation.
- Faecal incontinence, in a long-standing or large prolapse. The anal sphincter stretches over time. This is why incontinence develops.
- Constipation and straining. These often exist before the prolapse begins. They can also follow, once the prolapse has weakened the pelvic floor further.

Ask how far the prolapse protrudes. Ask whether it now stays out permanently. Ask about any related bowel symptoms, such as straining or a sense of incomplete emptying. This history guides the choice of investigation.

14.5 Examination

Follow the sequence from Chapter 3. Some steps need particular attention for rectal prolapse.

See Chapter 4 for the inspection method. Inspection is often normal at rest. The prolapse may only appear on straining. Ask the patient to strain, or to sit on a commode and bear down. This allows the prolapse to be seen directly.

A full-thickness prolapse shows circular folds of rectal mucosa. A mucosal prolapse shows radial folds instead. This distinction helps confirm the type of prolapse.

Digital rectal examination checks the resting tone and the squeeze pressure of the sphincter. A weak sphincter often coexists with a long-standing prolapse. This affects the choice of operation.

Examine for a rectocele or other pelvic floor problem at the same visit. These often occur together. Both may need attention.

14.6 Differential Diagnosis

A few conditions can look similar to rectal prolapse on first inspection.

- Large prolapsing haemorrhoids — show radial grooves rather than circular folds. Chapter 10 covers this distinction in more detail.
- Rectal polyp or tumour — can protrude through the anus in a large or pedunculated case. Any unusual or irregular tissue should be biopsied.
- Anal skin tags or perianal masses — sit at the anal margin rather than protruding from within the rectum.

A careful look at the pattern of the folds usually settles the diagnosis on examination alone. This pattern is described above.

14.7 Investigations

A visible, reducible prolapse on examination often needs no further imaging to confirm the diagnosis.

Defecography shows the rectum during active straining. Its MRI equivalent does the same. Either is useful when the prolapse is not obvious in the clinic. Either is also useful when an internal prolapse is suspected.

Colonoscopy is advisable before surgery in an older patient. This rules out a polyp or tumour as a contributing cause.

Anorectal manometry is described in Chapter 8. It helps assess sphincter function before planning an operation. This is especially useful when incontinence is already present.

14.8 Principles of Management

Surgery is the definitive treatment for a full-thickness rectal prolapse. No non-surgical treatment corrects the underlying weakness.

A mild, mucosal prolapse can sometimes be managed conservatively at first. This includes treating constipation and reducing straining. Surgery is considered if symptoms persist.

The choice of operation balances two things: the durability of the repair, and the fitness of the patient for surgery. This balance shapes every decision in this chapter.

14.9 Surgical Techniques

Operations for rectal prolapse fall into two broad groups. Perineal approaches are done from below. Abdominal approaches are done from within the abdomen.

14.9.1 Perineal Approaches

- Delorme's procedure — the prolapsed mucosa is stripped away. The underlying muscle layer is folded and stitched to shorten it. This suits a shorter, mucosal or partial prolapse.
- Altemeier's procedure, or perineal rectosigmoidectomy — the prolapsed bowel is removed from below. The remaining ends are joined together. This suits a longer, full-thickness prolapse in a frail patient.
- Thiersch procedure, or anal encirclement — a band or suture is placed around the anus to narrow it. This does not correct the prolapse itself. It is a supportive measure. It is most often used in a very frail patient unfit for a larger operation. Section 14.11 covers this procedure in more detail.

A perineal approach avoids an abdominal incision. It suits an older or frail patient. It carries a higher rate of recurrence than an abdominal approach.

14.9.2 Abdominal Approaches

- Suture rectopexy — the rectum is mobilised and fixed to the sacrum with sutures. No bowel is removed.
- Resection rectopexy — the rectum is mobilised and fixed to the sacrum. The redundant sigmoid colon is also removed. This suits a patient with significant constipation alongside the prolapse.
- Ventral mesh rectopexy — a strip of mesh supports the front of the rectum. The mesh is fixed to the sacrum, without a posterior dissection. This has a lower risk of new constipation than a posterior rectopexy.

An abdominal approach can be done openly or laparoscopically. It gives a more durable repair, with a lower recurrence rate. It suits a fitter patient who can tolerate a longer operation.

A note of caution on mesh: synthetic mesh in ventral rectopexy has come under increasing scrutiny in recent years. Similar concerns have been raised about pelvic mesh in gynaecological surgery. Mesh erosion into the rectum or vagina, chronic pain, and infection have all been reported. Many surgeons now prefer biological mesh, or avoid mesh altogether in favour of suture rectopexy, particularly in a younger patient. This remains an evolving area, not settled practice, and should be discussed openly with the patient as part of consent.

14.10 Choosing an Approach

Age and fitness guide the choice more than the prolapse itself. A fit patient usually benefits most from an abdominal repair. This is because of its durability, regardless of the patient's age.

A frail or elderly patient with significant medical illness is often better served by a perineal approach. The lower physiological demand of the operation outweighs its higher recurrence rate in this group.

Discuss the trade-off clearly with the patient. A perineal operation is easier to recover from. It is also more likely to need repeating later. An abdominal operation asks more of the patient at the time of surgery. It is less likely to fail later.

14.11 The Thiersch Procedure — A Historical Note

The Thiersch procedure has a long history in the surgical treatment of rectal prolapse. A dedicated case history is discussed in the author's companion volume, A Surgeon's History of Anorectal Disease. That volume traces the evolution of this technique, from its original description to its current, limited role.

In current practice, the Thiersch procedure is rarely used as a stand-alone cure. It remains useful as a temporary or palliative measure, in a patient too frail for a definitive repair. This chapter records it for completeness. It also places it correctly alongside the more durable modern operations described above.

14.12 Special Situations

- Paediatric rectal prolapse — is usually mucosal. It often resolves with treatment of the underlying cause, such as constipation or a chronic cough. Surgery is rarely needed in a child.
- Recurrent prolapse — needs careful reassessment of the original operation and the patient's current fitness. A different technique is often chosen for the repeat procedure.
- Prolapse with faecal incontinence — often improves after successful repair. Much of the incontinence was caused by the prolapse itself, stretching the sphincter over time.
- Prolapse with obstructed defecation — needs careful assessment. Correcting the prolapse alone may not resolve the obstructed defecation. Chapter 16 covers this overlap in more detail.
- Prolapse in pregnancy — is uncommon, but can occur due to the pressure of the growing uterus. Conservative management is preferred until after delivery, unless the prolapse is severe.

14.13 Complications of Treatment

Every prolapse operation carries some risk. This should be explained clearly to the patient before surgery.

- Recurrence, more common after a perineal approach than an abdominal one.
- New or worsened constipation, particularly after a posterior rectopexy.
- Bleeding or infection at the operative site.
- Anastomotic leak, in an operation that involves joining two ends of bowel together.
- Persistent incontinence, if the sphincter damage predates the operation and does not fully recover.
- Mesh-related complications, such as erosion or infection, in a ventral mesh rectopexy.

14.14 Common Mistakes to Avoid

- Diagnosing haemorrhoids in a patient with an undetected rectal prolapse.
- Choosing a major abdominal operation for a very frail patient who cannot tolerate it.
- Missing an underlying tumour as the cause of a prolapse in an older patient.
- Failing to assess sphincter function before planning surgery.
- Treating the prolapse alone in a patient with coexisting obstructed defecation, and overlooking the second problem.

14.15 Recording and Follow-Up

Record the type of prolapse, its length, and whether it reduces on its own. Record the sphincter tone on examination. For example: "Full-thickness rectal prolapse, 6 cm, reduces spontaneously. Sphincter tone reduced." Arrange follow-up to confirm healing. Check bowel function and continence after surgery.

14.16 Why This Chapter Matters

Rectal prolapse causes real distress. It responds well to the right operation, chosen for the right patient. The next chapter turns to rectal intussusception. This is the internal

counterpart of the condition described here. It hides within the rectum, rather than protruding through the anus.

Chapter 15

Rectal Intussusception

Rectal intussusception means the rectal wall folds inward on itself. It does not come out through the anus. This is why it is sometimes called internal prolapse. This chapter explains rectal intussusception in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

15.1 What Is Rectal Intussusception

Chapter 14 introduced rectal prolapse. In a full prolapse, the rectum comes out through the anus. In intussusception, the rectal wall folds inward instead. The upper part of the rectum slides down into the lower part, like one part of a telescope sliding into another.

This folding can stay high inside the rectum. It can also travel further down, into the anal canal. It does not pass through the anus itself. This is the key difference from the full-thickness prolapse described in Chapter 14.

Intussusception is common. Many people have some degree of it on imaging, without any symptoms at all. It only becomes a clinical problem when it causes symptoms, or blocks normal defecation.

15.2 Why It Happens

The causes overlap closely with rectal prolapse, described in Chapter 14. A weak pelvic floor is the main factor. Long-standing straining adds to this weakness over time.

Excess laxity of the rectal wall itself also plays a role. The wall becomes loose. It folds instead of staying taut during defecation. Age, childbirth, and chronic straining all contribute to this laxity.

15.3 Classification and Defecographic Grading

Rectal intussusception is graded by how far the fold travels, and by imaging during defecation. Defecography, described further in Chapter 8, is the main tool used for this grading.

- High rectal intussusception — the fold stays within the rectum itself. It does not reach the anal canal.
- Low rectal intussusception — the fold reaches the upper anal canal, but does not enter it fully.
- High anal intussusception — the fold enters the anal canal, but stays in its upper part.
- Low anal intussusception — the fold reaches the lower anal canal. This is the most advanced internal grade, just short of a full external prolapse.

This grading matters for two reasons. It predicts how likely the condition is to progress to a full external prolapse. It also guides the choice between conservative and surgical treatment, discussed later in this chapter.

15.4 Presentation

Follow the history-taking method described in Chapter 2. The symptoms of intussusception are often less obvious than full prolapse, since nothing is visible outside the anus.

- A sense of incomplete emptying after defecation. This is the most common symptom.
- A need to strain hard, or for a long time, to pass stool.
- A feeling of a blockage or obstruction inside the rectum during defecation.
- Some patients use digital support, pressing on the perineum or inside the vagina, to help complete defecation.
- Mucus discharge, in some patients, from chronic irritation of the folded rectal wall.
- Mild faecal incontinence, in some patients, though this is less common than with full prolapse.

Ask specifically about straining and incomplete emptying. These symptoms overlap closely with obstructed defecation syndrome, covered in Chapter 16. The two conditions often coexist.

15.5 Examination

Follow the sequence from Chapter 3. Intussusception is much harder to detect on simple examination than full prolapse, since nothing protrudes through the anus.

See Chapter 4 for the inspection method. Inspection is usually normal, even during straining. This is the main clinical clue that distinguishes intussusception from full external prolapse.

Digital rectal examination may feel a mass of folded rectal wall on straining, high inside the rectum. This finding is subtle. It is easy to miss without a deliberate, careful examination during active straining.

Proctoscopy may show redundant, folding mucosa. It cannot reliably grade the intussusception. Imaging is needed for that, as described below.

15.6 Differential Diagnosis

Several conditions can cause similar symptoms of straining and incomplete emptying.

- Rectocele — a bulge of the rectal wall into the vagina. Chapter 16 covers this in detail.
- Obstructed defecation syndrome, from other causes — such as pelvic floor dyssynergia. Chapter 16 covers this separately.
- Slow transit constipation — a whole-colon problem, rather than a rectal one. Investigations help distinguish the two.
- Full rectal prolapse — should already be excluded by inspection, as described in Chapter 14.

Intussusception often coexists with these other conditions, rather than replacing them. A full assessment considers all of them together, rather than stopping once one diagnosis is found.

15.7 Investigations

Defecography is the key investigation for rectal intussusception. It shows the rectum during active straining and defecation. This is the only reliable way to grade the condition, as described in section 15.3.

MRI defecography is a modern alternative. It avoids radiation exposure, and can show the pelvic floor and other pelvic organs at the same time.

Colonoscopy is advisable in an older patient, or in any patient with red flag symptoms, to exclude another cause of the symptoms.

Anorectal manometry, described in Chapter 8, can help assess overall pelvic floor function. It does not replace defecography for grading the intussusception itself.

15.8 Principles of Management

Most patients with rectal intussusception do not need surgery. Many have no symptoms at all, and need no treatment beyond reassurance.

Conservative treatment is the correct first step for almost every symptomatic patient. This includes dietary fibre, adequate fluid intake, and correcting any straining habit.

Pelvic floor physiotherapy, including biofeedback training, can help many patients. It teaches better coordination during defecation, and reduces the need to strain.

15.9 The Conservative-Versus-Surgical Threshold

Deciding when to move from conservative treatment to surgery is one of the most difficult judgements in this condition. The grade of intussusception alone does not decide this. Symptoms matter more than the imaging findings.

A patient with a high-grade intussusception on defecography, but few symptoms, is usually best managed conservatively. Surgery carries real risks. It should not be offered simply because imaging looks abnormal.

A patient with a lower-grade intussusception may still benefit more from surgery than one with worse imaging. This is true if their symptoms are severe and persistent, and a full conservative trial has already failed. Symptoms guide the decision, not the grade alone.

As a practical guide, surgery is considered when three things are all true. The symptoms are significant and persistent. A fair trial of conservative treatment and pelvic floor therapy has failed. The intussusception is clearly the main cause of the symptoms, rather than a coexisting problem such as slow transit constipation.

15.10 Surgical Techniques

Ventral mesh rectopexy is described in Chapter 14. It is the main surgical option for a symptomatic, high-grade intussusception. It supports the rectum from the front, and corrects the folding pattern.

The same caution on synthetic mesh, discussed in Chapter 14, applies here. This remains an evolving area, and should be discussed openly with the patient as part of consent.

Stapled transanal procedures, used mainly for obstructed defecation syndrome, are covered in Chapter 16. They are sometimes used for intussusception with a coexisting rectocele.

Surgery for intussusception alone, without a clear symptom benefit expected, should be avoided. The threshold described in section 15.9 applies strictly here.

15.11 Special Situations

- Intussusception with rectocele — needs assessment of both problems together. Treating one alone may not resolve the symptoms. Chapter 16 covers this overlap.
- Intussusception with slow transit constipation — needs careful distinction, since surgery for the intussusception will not fix a whole-colon transit problem.
- Progression to full prolapse — a small number of patients progress from intussusception to full external prolapse over time. Warn the patient of this possibility, and arrange appropriate follow-up.
- Young patient with mild symptoms — conservative treatment and pelvic floor therapy should be tried thoroughly before any consideration of surgery.

15.12 Complications of Treatment

Conservative treatment carries very little risk. The risks below apply mainly to surgery.

- Recurrence of symptoms, even after successful surgery.
- New or worsened constipation, particularly after certain rectopexy techniques.
- Mesh-related complications, as described in Chapter 14, when mesh is used.
- Persistent symptoms, if the intussusception was not the true cause of the patient's complaints.

15.13 Common Mistakes to Avoid

- Offering surgery based on imaging grade alone, without matching it to the severity of symptoms.
- Missing a coexisting rectocele or pelvic floor dyssynergia, and treating the intussusception in isolation.
- Failing to try a full, structured course of conservative treatment before considering surgery.
- Assuming every case of straining and incomplete emptying is due to intussusception, without excluding other causes.

15.14 Recording and Follow-Up

Record the grade of intussusception on defecography, the main symptoms, and the treatment plan chosen. For example: "High-grade rectal intussusception on defecography. Symptoms: straining, incomplete emptying. Plan: pelvic floor physiotherapy, review in 12 weeks." Arrange follow-up to check symptom response before considering any surgical referral.

15.15 Why This Chapter Matters

Rectal intussusception sits between normal anatomy and full rectal prolapse. Most cases need no more than reassurance and simple measures. A careful few need surgery, chosen for the right reason. The next chapter turns to obstructed defecation syndrome, which often overlaps closely with the condition described here.

Chapter 16

Obstructed Defecation Syndrome (ODS)

Obstructed defecation syndrome means difficulty emptying the rectum, despite a normal urge to pass stool. The patient strains. The patient often does not empty fully, even after straining hard. This chapter explains obstructed defecation syndrome in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

16.1 What Is Obstructed Defecation Syndrome

Obstructed defecation syndrome is not one single disease. It is a group of conditions. Each condition blocks the normal passage of stool out of the rectum, in a different way.

Some causes are anatomical. Something physically blocks or traps the stool. A rectocele is one example. Rectal intussusception, described in Chapter 15, is another.

Some causes are functional. The pelvic floor muscles fail to relax properly during straining. This is called pelvic floor dyssynergia, or anismus. No physical blockage is present. The muscles simply work against the patient, instead of with him.

Many patients have more than one cause together. A rectocele and dyssynergia often coexist. Careful assessment separates them. This is essential, since treatment differs sharply between an anatomical cause and a functional one.

16.2 Why It Happens

A rectocele is a bulge of the front rectal wall into the back wall of the vagina. It forms where the tissue between the rectum and the vagina, called the rectovaginal septum, has weakened.

Childbirth is the leading cause of this weakness. A difficult delivery, a large baby, or an assisted delivery with forceps all add to the risk. Chronic straining, over many years, adds further strain to an already weak septum.

During straining, stool can push into the rectocele instead of moving forward and out. The stool becomes trapped in this pouch. The patient feels incomplete emptying, even after prolonged straining.

Pelvic floor dyssynergia has a different cause. The puborectalis muscle and the external sphincter should relax during straining. In dyssynergia, they contract instead. This is often a learned pattern, built up over years of habitual straining, rather than a structural problem.

Rectal intussusception, described in Chapter 15, can also obstruct defecation. The folding rectal wall itself blocks the passage of stool, acting much like a one-way valve that will not open properly.

A retroverted uterus can add to the picture in some women. Chapter 17 covers this specific cause in full detail.

16.3 Classification

Obstructed defecation syndrome is best classified by its underlying cause, since this decides the treatment.

Anatomical causes — a rectocele, a rectal intussusception, a rectal prolapse, or an enterocele, which is a pouch of small bowel that descends into the rectovaginal space.

Functional causes — pelvic floor dyssynergia, or a general disorder of rectal sensation and coordination.

Mixed causes — an anatomical finding, such as a small rectocele, together with a functional element, such as dyssynergia. This combination is common, and both parts need attention.

A rectocele itself is often graded by its depth on defecography. A small rectocele, under 2 centimetres, is common and often has no symptoms at all. A large rectocele, over 4 centimetres, is more likely to trap stool and cause symptoms.

16.4 Presentation

Follow the history-taking method described in Chapter 2. Certain features are typical of obstructed defecation syndrome.

A sense of incomplete emptying, even immediately after passing stool.

Prolonged, excessive straining, often for many minutes at a time.

A need to use digital support to complete defecation. The patient may press a finger against the perineum, or inside the vagina, to help push stool through.

A feeling of blockage, or of stool sticking, inside the rectum during defecation.

A need for repeated attempts to fully empty the bowel, sometimes returning to the toilet several times within an hour.

Use of laxatives, enemas, or manual evacuation, in a more severe or long-standing case.

Ask specifically about digital splinting. Many patients feel embarrassed to mention this. They will not volunteer it unless asked directly. Ask gently, following the approach described in Chapter 2.

16.5 Examination

Follow the sequence from Chapter 3. Several steps need particular attention for obstructed defecation syndrome.

See Chapter 4 for the inspection method. Ask the patient to strain during inspection. A rectocele, a prolapse, or an intussusception may all become visible only on straining.

Digital rectal examination, described in Chapter 5, should assess resting tone, squeeze pressure, and the coordination of the pelvic floor on straining. Ask the patient to bear down during the examination. In a normal pattern, the puborectalis relaxes, and the anal canal opens. In dyssynergia, the muscle tightens instead. This paradoxical tightening can often be felt directly by the examining finger.

A bimanual examination, with one finger in the rectum and one in the vagina, is especially useful in a woman with suspected rectocele. Ask the patient to strain during this examination. A rectocele is felt as a bulge of the front rectal wall into the examining vaginal finger. This same bimanual technique, performed with the patient straining, is also the key examination for a retroverted uterus, described fully in Chapter 17.

Assess for any degree of rectal prolapse or intussusception at the same visit, following the methods described in Chapters 14 and 15.

16.6 Differential Diagnosis

Several conditions overlap closely with obstructed defecation syndrome. Careful assessment separates them.

Rectal intussusception — described fully in Chapter 15. It often coexists with a rectocele, rather than replacing it as the sole cause.

Rectal prolapse — described in Chapter 14. A full-thickness prolapse can itself cause symptoms of obstructed defecation.

Slow transit constipation — a whole-colon problem, rather than a rectal outlet problem. The two can coexist, and investigations, described below, help distinguish them.

Retroverted uterus — covered fully in Chapter 17. This cause is specific to women, and is often missed unless specifically examined for.

Anal stenosis — described in Chapter 18. A narrowed anal canal can also cause difficulty with evacuation, though the mechanism is different from a true outlet obstruction.

A careful history and a thorough bimanual examination usually narrow this list considerably, before any investigation is ordered.

16.7 Investigations

Defecography, described in Chapter 8, is the key investigation for obstructed defecation syndrome. It shows the rectum, and any rectocele, during active straining and defecation. It also shows whether the rectocele empties completely, or traps contrast material.

MRI defecography is a modern alternative. It avoids radiation exposure. It can also show the bladder, uterus, and other pelvic organs at the same time, which is useful when a retroverted uterus is suspected.

Anorectal manometry, described in Chapter 8, assesses resting and squeeze pressure. It can also test for a normal relaxation response during simulated straining, which helps confirm or exclude dyssynergia.

A balloon expulsion test is a simple, useful screening test for dyssynergia. A balloon is placed in the rectum, and the patient is asked to expel it. Difficulty expelling the balloon, despite normal pressures elsewhere, suggests a coordination problem rather than a structural blockage.

Colonoscopy is advisable in an older patient, or in any patient with red flag symptoms, to exclude another cause of the symptoms.

16.8 Principles of Management

Correctly identifying the cause matters more than any single treatment. A structural rectocele needs a structural repair. Dyssynergia needs retraining, not surgery. Treating the wrong cause disappoints the patient, and rarely helps.

Conservative treatment is the correct first step in almost every patient, regardless of the underlying cause. This includes dietary fibre, adequate fluid intake, and correcting the habit of excessive straining.

Pelvic floor physiotherapy, including biofeedback training, is the primary treatment for dyssynergia. It is highly effective in a well-motivated patient. Surgery has no useful role in dyssynergia alone.

Surgery is considered for a symptomatic rectocele that clearly correlates with the patient's symptoms, once conservative treatment has been tried and has failed.

16.9 Surgical Techniques for Rectocele

Transvaginal repair — the rectocele is approached and repaired through the vagina. This is a well-established approach, often performed jointly with, or by, a gynaecologist.

Transanal repair — the rectocele is approached and repaired through the anal canal. This avoids a vaginal incision, and suits a colorectal surgeon's usual approach.

Transperineal repair — the rectocele is approached through the perineum, between the vagina and the anus. This approach also allows repair of the perineal body at the same time, if it is weakened.

Stapled trans-anal rectal resection, known as the STARR procedure — a circular stapling device removes a strip of the redundant, prolapsing rectal wall, correcting both a rectocele and a coexisting intussusception in the same operation.

Ventral mesh rectopexy, described in Chapter 14, is used when intussusception is the dominant finding, with or without a coexisting rectocele.

No single technique suits every patient. The choice depends on the size and position of the rectocele, whether intussusception coexists, and the surgeon's own training and experience.

16.10 Special Situations

Rectocele with coexisting dyssynergia — needs pelvic floor physiotherapy first, even when a rectocele is present. Surgery on the rectocele alone often disappoints, if the dyssynergia is not also addressed.

Rectocele with rectal intussusception — needs assessment of both findings together, following the approach in Chapter 15. A single operation, such as the STARR procedure, may address both at once.

Suspected retroverted uterus — needs the specific bimanual assessment described in Chapter 17. Do not assume a rectocele is the sole cause of symptoms in a woman, without considering this possibility.

Young patient with mild symptoms — conservative treatment and pelvic floor therapy should be tried thoroughly, and for a reasonable period, before any surgery is considered.

Recurrent symptoms after surgery — needs careful reassessment. A missed functional component, such as dyssynergia, is a common reason for a disappointing surgical result.

16.11 Complications of Treatment

Conservative treatment and biofeedback carry very little risk. The risks below apply mainly to surgery.

Persistent symptoms, if a coexisting functional cause, such as dyssynergia, was not identified or treated.

Dyspareunia, or pain during intercourse, particularly after a transvaginal repair.

Bleeding or infection at the operative site.

Recurrence of the rectocele over time.

Anal stenosis, described in Chapter 18, as a rare complication of stapled procedures such as STARR.

16.12 Common Mistakes to Avoid

Offering surgery for a rectocele found on imaging, without confirming it is the true cause of the patient's symptoms.

Missing dyssynergia, and proceeding straight to surgery, when biofeedback would have served the patient better.

Failing to ask directly about digital splinting, out of a mistaken sense that the patient will volunteer this detail unprompted.

Missing a retroverted uterus as a contributing cause, in a woman with unexplained obstructed defecation.

Treating a small, asymptomatic rectocele found incidentally on imaging, when it is not the cause of the patient's complaint.

16.13 Recording and Follow-Up

Record the suspected cause, the key examination findings, and the treatment plan chosen. For example: "Obstructed defecation syndrome, rectocele 3 cm on bimanual examination, digital splinting present. Plan: pelvic floor physiotherapy, defecography to confirm, review in 8 weeks." Arrange a follow-up visit to check symptom response before considering any surgical referral.

16.14 Why This Chapter Matters

Obstructed defecation syndrome is easy to misdiagnose, and easy to mistreat, if its cause is not correctly identified first. A careful history, a thorough bimanual examination, and the right investigation together point to the true cause, whether structural or functional. The next chapter turns to a specific, often overlooked cause in women: a retroverted uterus, and its relation to obstructed defecation.

Chapter 17

Retroverted Uterus and Its Relation to Obstructed Defecation

Chapter 16 described obstructed defecation syndrome, and its main causes. This chapter covers one specific cause in women, easily missed unless specifically examined for: a retroverted uterus. This cause is mechanical, not related to the rectum itself. It requires a combined surgical and gynaecological assessment, and a specific examination technique described in full below.

17.1 What Is a Retroverted Uterus

In most women, the uterus tilts forward, toward the bladder. This is called an anteverted uterus.

In some women, the uterus instead tilts backward, toward the rectum. This is called a retroverted uterus. It is a common anatomical variant. Most women with a retroverted uterus have no symptoms at all, from the uterus itself.

In a small number of women, however, a retroverted uterus presses directly against the rectum. This can cause a mechanical obstruction to defecation, separate from any of the causes described in Chapter 16.

17.2 Why It Causes Obstructed Defecation

The rectum lies just in front of the sacral hollow, at the back of the pelvis. Normally, nothing lies between the rectum and this hollow. There is space for the rectum to fill and empty freely.

In a retroverted uterus, the uterus tips backward into this same space. It comes to lie directly in front of the rectum. It presses the rectum backward, against the sacral hollow. Stool cannot pass easily through a rectum compressed in this way, even though the rectum, the anal canal, and the sphincters are all otherwise completely normal.

This is a purely mechanical problem. It is not a disease of the rectum. It will not be seen on colonoscopy. It will not be seen on proctoscopy. The rectum looks entirely normal from inside. This is precisely why the diagnosis is so often missed.

17.3 Presentation

Follow the history-taking method described in Chapter 2. The presentation closely resembles the obstructed defecation syndrome described in Chapter 16.

A sense of blockage or obstruction during defecation.

Straining, often prolonged and severe.

A feeling that something is physically in the way, rather than simply a sluggish bowel.

Normal, or near-normal, findings on any endoscopy already performed.

This last point is often the key clue. A patient who has already had a colonoscopy or a proctoscopy, with entirely normal findings, and who continues to have severe obstructive symptoms, should raise suspicion of a retroverted uterus, in a woman of childbearing age or older.

Some patients will have already consulted several doctors, without a clear diagnosis. This is common with this condition, precisely because the cause lies outside the rectum, and is missed unless it is specifically looked for.

17.4 Examination — The Key Diagnostic Technique

Chapter 16 introduced the bimanual examination for suspected rectocele. This same technique is the key to diagnosing a retroverted uterus. It must, however, be performed with the patient actively straining, and ideally in the squatting position.

Place one finger in the rectum, and one finger in the vagina, together, at the same time.

Ask the patient to strain, as if attempting to defecate.

Feel for a firm mass pressing the rectum forward, from behind, against the examining rectal finger.

A retroverted uterus is felt as this firm mass. It is best felt during straining. A rectum that is compressed only when the patient strains, and free at rest, points strongly toward this diagnosis.

This examination cannot be rushed. The squatting position, with active straining, reproduces the exact mechanical situation that causes the patient's symptoms. An examination performed only with the patient lying flat and relaxed may miss the finding entirely.

17.5 Differential Diagnosis

Obstructed defecation syndrome — described in Chapter 16. A retroverted uterus is one specific cause within this broader group, not a separate condition.

Rectocele — described in Chapter 16. Both conditions can coexist in the same patient. The bimanual examination should specifically distinguish a bulge of the rectal wall itself, which is a rectocele, from a firm mass pressing from behind, which is a retroverted uterus.

Rectal intussusception — described in Chapter 15. This is a problem of the rectal wall itself, not an external mass.

Pelvic floor dyssynergia — described in Chapter 16. A muscle coordination problem, not a mechanical one.

17.6 Investigations

MRI defecography, described in Chapter 8 and Chapter 16, is particularly useful for this condition. It shows the rectum and the uterus together, during straining, and can directly demonstrate the uterus compressing the rectum.

A pelvic ultrasound confirms the retroverted position of the uterus, though it does not show the dynamic compression seen on defecography during straining.

A gynaecological opinion is valuable at this stage, both to confirm the finding, and to plan management jointly.

17.7 Principles of Management

Management proceeds in a deliberate, stepwise fashion, from the simplest measure to the most definitive.

Manual anteversion — the uterus is gently repositioned forward, into its normal anteverted position, by vaginal examination. This is the correct first step, and deserves a genuine, full trial. It is not merely a delaying measure before an inevitable operation. In some patients, it is fully and lastingly curative on its own.

Anteversion under general anaesthesia — if manual anteversion gives only brief relief, a repeat anteversion performed under general anaesthesia, with the uterus fixed in a more fully corrected position, is a reasonable next step.

Hysterectomy — reserved for a patient whose family is complete, and in whom the above conservative measures have failed to give lasting relief. This is a definitive, curative step in this situation, but it is not the first option, and should not be offered before conservative correction has been properly tried.

A woman who still wishes to have children needs a different discussion. Removal of the uterus is not appropriate. Fixation procedures that preserve the uterus should be discussed jointly with a gynaecologist.

17.8 Case Vignettes from Clinical Practice

The following two cases, from the author's own practice, illustrate the range of outcomes possible with this condition.

The first patient presented with severe, longstanding obstructed defecation. She had already undergone extensive endoscopic evaluation, with entirely normal findings, and had consulted several specialists without relief. Bimanual examination, with the patient straining in the squatting position, revealed a retroverted uterus pressing the rectum against the sacral hollow. Manual anteversion gave relief for only a few days, before her symptoms returned. A repeat anteversion, performed under general anaesthesia with the uterus fixed in a more fully corrected position, again gave only temporary relief. With her family already complete, hysterectomy was performed. Her obstructive symptoms resolved completely and permanently.

The second patient presented some years later, with the same underlying mechanism confirmed on the same bimanual examination. In her case, a single manual anteversion of the retroverted uterus was fully curative. She remained entirely well at follow-up, and did not return with this problem again.

Read together, these two cases show a genuine range of outcomes for the same mechanism. Conservative correction deserves a full and genuine trial in every patient. It is sometimes completely curative on its own. When it is not, escalation to a more definitive procedure should not be delayed once the diagnosis is clearly established.

17.9 Special Situations

Family not yet complete — hysterectomy is not appropriate. Manual anteversion, and if needed, a uterus-preserving fixation procedure, should be pursued instead, in consultation with a gynaecologist.

Coexisting rectocele — both conditions should be assessed and addressed together. Correcting the uterus alone will not relieve symptoms caused by a separate rectocele.

Diagnosis delayed by normal endoscopy — actively consider this diagnosis in any woman with obstructed defecation and an entirely normal colonoscopy or proctoscopy, rather than assuming the workup is complete.

17.10 Complications of Treatment

Manual anteversion carries very little risk, and is a safe first step in essentially every patient.

Anteversion under general anaesthesia carries the usual risks of a short general anaesthetic.

Hysterectomy carries the standard risks of major pelvic surgery, including bleeding, infection, and injury to adjacent structures. These risks should be discussed fully before proceeding, and weighed against the patient's reproductive plans.

17.11 Common Mistakes to Avoid

Relying on colonoscopy or proctoscopy alone, and concluding the workup is complete when these are normal.

Performing the bimanual examination with the patient relaxed and lying flat, rather than actively straining, and missing the finding as a result.

Proceeding to hysterectomy without first giving manual anteversion a genuine trial.

Offering hysterectomy to a woman whose family is not yet complete, without first exploring uterus-preserving options.

Treating this condition in isolation, without involving a gynaecologist in the assessment and management plan.

17.12 Recording and Follow-Up

Record the bimanual findings precisely. For example: "Retroverted uterus palpable on bimanual examination with straining, compressing rectum against sacral hollow. Endoscopy previously normal. Plan: trial of manual anteversion, gynaecology referral,

review in 2 weeks." Arrange follow-up specifically to assess whether relief is lasting, since a brief initial response to manual anteversion does not by itself confirm a lasting cure.

17.13 Why This Chapter Matters

A retroverted uterus is a genuinely curable cause of obstructed defecation, but only if it is specifically looked for. A patient with normal endoscopy and severe symptoms deserves a bimanual examination performed with active straining, not a diagnosis of exclusion left unexplained. The next chapter turns to another cause of difficult evacuation, arising from a different mechanism entirely: anal stenosis.

Chapter 18

Anal Stenosis

Anal stenosis means narrowing of the anal canal. It restricts the passage of stool, and often causes pain during defecation. This chapter explains anal stenosis in full. It covers the author's own grading system in complete detail. It also covers presentation, examination, differential diagnosis, investigations, and management. This includes the author's own surgical technique for severe cases. This is the same pattern used for every disease chapter in this manual.

18.1 What Is Anal Stenosis

Anal stenosis is a narrowing of the anal canal. It can be mild, causing only slight difficulty. It can be severe, causing near-complete obstruction to the passage of stool.

Anal stenosis is not one single disease. It is the end result of many different underlying processes, all of which cause fibrosis and narrowing of the anal canal. Chapter 11 introduced the fissure-specific link to stenosis, seen after repeated surgery for chronic fissure. This chapter covers stenosis from every cause, not only fissure-related stenosis.

18.2 Why It Happens

Previous anorectal surgery is the most common cause. Aggressive excision of tissue during haemorrhoidectomy, particularly when too little healthy anoderm is left behind, is a well-recognised cause. Repeated surgery for chronic fissure, described in Chapter 11, can also lead to scarring and stenosis over time.

Inflammatory bowel disease, particularly Crohn's disease, can cause anal stenosis through chronic inflammation and fibrosis of the anal canal, independent of any prior surgery.

Radiotherapy to the pelvis can cause progressive fibrosis and narrowing of the anal canal. It is usually given for a nearby cancer. Symptoms can appear months or years after treatment.

Trauma, including obstetric injury or accidental injury, can also lead to scarring and stenosis during healing.

A congenital anal stenosis, present from birth, is rare, and is usually identified and treated in infancy rather than in adult practice.

18.3 The OPB Grading of Anal Canal Stenosis

Chapter 11 introduced this grading system briefly, in the specific context of fissure-related stenosis. This section gives its full, definitive description, covering stenosis of any cause.

Anal stenosis has an established classification already in the surgical literature. Milsom and Mazier described this system in 1986. It grades stenosis as mild, moderate, or severe, based on what can be passed through the anal canal in the awake patient. Mild stenosis still admits a well-lubricated index finger, or a medium Hill-Ferguson retractor. Moderate stenosis needs forceful dilatation to admit either of these. Severe stenosis will not admit

even the little finger, without forceful dilatation. Milsom and Mazier also classified stenosis by its level in the anal canal, as low, middle, or high, and by its shape, as annular or tubular.

The OPB Grading of Anal Canal Stenosis is the author's own refinement of this established system, applicable to the adult patient, developed for three specific reasons.

First, assessment is performed under spinal anaesthesia, or under general anaesthesia with muscle relaxants, rather than in the awake patient. This removes pain and guarding as confounding factors, and gives a more accurate assessment of the true resting calibre of the canal.

Second, assessment uses a full set of numbered, calibrated anal dilators, rather than a single Hill-Ferguson retractor. This gives an objective, reproducible measurement, rather than a single pass-or-fail threshold.

Third, the OPB Grading divides stenosis into four grades rather than three, giving a finer distinction within what Milsom and Mazier would classify as a single severe category.

Grade 1 — mild stenosis. In the adult patient, under spinal anaesthesia or general anaesthesia with muscle relaxants, the 27 mm dilator passes. The 30 mm dilator does not pass.

Grade 2 — moderate stenosis. In the adult patient, under spinal anaesthesia or general anaesthesia with muscle relaxants, the 23 mm dilator passes. The 27 mm dilator does not pass.

Grade 3 — severe stenosis. In the adult patient, under spinal anaesthesia or general anaesthesia with muscle relaxants, the 15 mm dilator passes. The 23 mm dilator does not pass.

Grade 4 — very severe stenosis. In the adult patient, under spinal anaesthesia or general anaesthesia with muscle relaxants, the 15 mm dilator does not pass.

This grading directly guides treatment, described in Section 18.8 below. Grade 1 and many Grade 2 cases can often be managed conservatively. Grade 3 and Grade 4 cases usually need surgical correction.

Formal grading should be performed under spinal anaesthesia, or under general anaesthesia with muscle relaxants, in any patient with suspected Grade 3 or Grade 4 stenosis, using the OPB Grading system described above.

18.4 Presentation

Follow the history-taking method described in Chapter 2.

Difficulty passing stool, often described as a narrow or ribbon-like stool.

Straining, sometimes severe, to pass even a small amount of stool.

Pain during defecation, particularly if a fissure coexists within the narrowed segment.

A history of previous anorectal surgery, in most patients. Ask specifically about this, since patients do not always volunteer it unprompted.

In a severe case, a need for laxatives, enemas, or even dilators used at home, simply to pass stool at all.

18.5 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, may show a visibly narrowed or puckered anal opening, particularly in a severe case.

Digital rectal examination, described in Chapter 5, should be attempted gently. In a mild case, the finger passes with some resistance. In a severe case, the finger may not pass at all in the awake patient, and further assessment under anaesthesia is needed.

Do not force the examination in an awake patient with suspected severe stenosis. This causes unnecessary pain, and gives an inaccurate assessment because of guarding. Proceed instead to examination under anaesthesia, as described in Section 18.3.

Formal grading should be performed under anaesthesia in any patient with suspected Grade 3 or Grade 4 stenosis. Use spinal anaesthesia, or general anaesthesia with muscle relaxants. Use the OPB Grading system described above.

18.6 Differential Diagnosis

Chronic anal fissure — described in Chapter 11. A fissure alone can cause spasm that mimics stenosis, without true fibrous narrowing. Assessment under anaesthesia distinguishes spasm from true stenosis.

Anorectal malignancy — a narrowing anal canal in an older patient should always raise suspicion of malignancy, especially without a clear history of prior surgery or inflammatory disease. Proper investigation is needed before assuming the stenosis is benign.

Crohn's disease — described in Section 18.2 above, as a cause of stenosis in its own right. It should also be considered as a coexisting diagnosis in any patient with stenosis and other bowel symptoms.

18.7 Investigations

Anal stenosis is primarily a clinical diagnosis, made on examination. Formal grading, described in Section 18.3, is itself the key diagnostic and planning step in a moderate or severe case.

A biopsy of the stenotic segment is advisable if malignancy is suspected, or if the cause is not clear from the history.

If Crohn's disease is suspected, appropriate investigation of the rest of the bowel, coordinated with a gastroenterologist, is needed.

18.8 Principles of Management

Grade 1, and many Grade 2, cases can be managed conservatively. Stool softeners, dietary fibre, and gentle self-dilatation, taught carefully to the patient, are often sufficient.

Grade 3 and Grade 4 cases usually need surgical correction. Simple dilatation alone is rarely a lasting solution in these more severe grades, and repeated forceful dilatation can itself cause further scarring.

Surgical options range widely. A simple lateral internal sphincterotomy suits a case where sphincter spasm contributes significantly. An anoplasty using a skin flap suits a more severe case. The author's own staged bilateral technique, described in Section 18.9, suits the most severe cases.

18.9 Surgical Techniques for Severe Stenosis

Flap anoplasty is a standard approach for severe stenosis. A flap of skin is mobilised and advanced into the anal canal. Common types include a Y-V advancement flap, a house flap, or a diamond flap. This widens the narrowed segment with well-vascularised tissue.

For severe stenosis, the author's own approach is a staged bilateral modification of the MOLIS technique, described fully in the companion techniques section of this manual.

The procedure is performed in a deliberate sequence, not as two simultaneous divisions. A left lateral, lower-third open sphincterotomy is performed first. This uses the same MOLIS principle described in the companion techniques section. The internal sphincter is delivered to the wound surface, and the lower one-third is divided under direct vision.

Trial dilatation follows immediately, on the operating table. A 23 millimetre dilator is passed to check the canal. This dilator typically passes without difficulty after the first, single-sided division alone.

A 27 millimetre dilator is then tried. In severe stenosis, this larger dilator typically does not pass after the first side alone, even when the 23 millimetre dilator has passed easily.

When the 27 millimetre dilator fails to pass, a second, opposite-side lateral sphincterotomy is performed, again restricted to the lower one-third of the internal sphincter. This right-sided, or contralateral, division follows the same principle as the first.

The 27 millimetre dilator is tried again after this second division. It typically passes easily at this stage. A 30 millimetre dilator can then be tried, and is typically seated, sometimes with some residual tightness.

This staged, calibration-driven approach avoids performing a second division unless the first division alone has genuinely proved insufficient, checked directly rather than assumed.

Both lateral sites, at the 3 o'clock and 9 o'clock positions, deliberately avoid the 6 o'clock posterior midline and the 12 o'clock anterior midline. Both midline sites are relatively poorly vascularised, and prone to poor healing if divided.

For the most severe stenosis, staged bilateral division alone may remain insufficient on calibration. Further sites can then be added at the same sitting, up to four sites in total, at the 10, 2, 8, and 4 o'clock positions. Each additional site follows the same lower one-third depth.

A representative case treated with this staged bilateral technique, Case 314, is discussed further in the companion techniques section of this manual.

Operative video, staged bilateral MOLIS for severe anal canal stenosis: https://www.youtube.com/watch?v=Hrci7ib7974

18.10 Special Situations

Crohn's-related stenosis — surgery carries a higher risk of poor healing in active Crohn's disease. Medical control of the underlying disease, coordinated with a gastroenterologist, should be optimised first, wherever possible, before elective surgery is considered.

Recurrent stenosis after previous surgery needs careful reassessment. Find the cause of the recurrence first. Do not simply repeat the same procedure that has already failed once.

Stenosis with a coexisting fissure — the fissure itself, described in Chapter 11, may need specific treatment alongside correction of the stenosis.

18.11 Complications of Treatment

Bleeding or infection at the operative site.

Recurrence of the stenosis, particularly if the underlying cause, such as active Crohn's disease, has not been addressed.

Incontinence, if sphincter division is more extensive than necessary. This is precisely why the calibrated, staged approach described in Section 18.9 is used, rather than a single, uncontrolled, deeper division.

Flap failure, in a case treated with anoplasty, usually related to poor blood supply to the flap or to tension at the suture line.

18.12 Common Mistakes to Avoid

Forcing a digital examination in an awake patient with suspected severe stenosis, rather than proceeding to assessment under anaesthesia.

Relying on repeated forceful dilatation alone in a Grade 3 or Grade 4 stenosis, rather than proceeding to definitive surgical correction.

Dividing the sphincter at a single, deep site, rather than distributing the release across multiple, shallower sites in severe stenosis.

Missing an underlying malignancy or Crohn's disease, by assuming every stenosis is a simple consequence of previous benign surgery.

18.13 Recording and Follow-Up

Record the grade, the suspected cause, and the treatment plan clearly. For example: "Anal stenosis, Grade 3 on examination under spinal anaesthesia, secondary to previous haemorrhoidectomy. Plan: staged bilateral MOLIS, left side first, calibrated with dilators intraoperatively. Review in 2 weeks." Arrange follow-up to confirm the stenosis has not recurred, and to check continence has been preserved.

18.14 Why This Chapter Matters

Anal stenosis restricts one of the most basic functions of daily life. Correctly grading its severity, and matching treatment to that grade, protects the patient. It avoids undertreatment, which leaves the obstruction unresolved. It also avoids overtreatment, which risks unnecessary loss of continence. The next chapter turns to a different anorectal condition: pilonidal sinus disease.

Chapter 19

Pilonidal Sinus Disease

Pilonidal sinus disease affects the natal cleft, at the top of the buttock crease over the tailbone. It is not a disease of the anal canal itself. But it sits close enough that it is often confused with the fistula-in-ano and abscess described in Chapters 12 and 13. This chapter explains pilonidal sinus disease in full, and explains clearly how to tell it apart from those two conditions. This is the same pattern used for every disease chapter in this manual.

19.1 What Is Pilonidal Sinus Disease

Pilonidal sinus disease is a chronic condition of the skin and soft tissue over the sacrococcygeal region, at the top of the natal cleft. Small pits form in the midline skin. Loose hair fragments become trapped beneath the skin through these pits, and the body reacts to this trapped hair as a foreign body.

This foreign body reaction leads to chronic inflammation, and often to a sinus tract, and sometimes to an abscess. The word pilonidal itself means "nest of hair", which describes the finding well.

The condition is entirely separate from the anal canal. It does not communicate with the anal canal, and it is not caused by anal gland infection, unlike the fistula-in-ano described in Chapter 12.

19.2 Why It Happens

Loose hair fragments, shed from the surrounding skin, work their way beneath the surface through small natural pits in the midline of the natal cleft. Once trapped beneath the skin, this hair triggers a persistent foreign body reaction.

Several factors increase the risk. A deep natal cleft allows hair to collect and penetrate more easily. Coarse or abundant body hair increases the amount of loose hair available to become trapped. Prolonged sitting, common in certain occupations, increases pressure and friction in the natal cleft. Obesity adds to the depth of the cleft and to friction. Poor local hygiene allows loose hair and skin debris to accumulate.

The condition is most common in young men, particularly those with dense body hair, though it also occurs in women.

19.3 Classification

Pilonidal sinus disease presents along a spectrum, from mild to severe.

Asymptomatic pits — small midline openings, found incidentally, without pain, swelling, or discharge.

Acute pilonidal abscess — sudden, painful swelling in the natal cleft, often needing urgent drainage.

Chronic pilonidal sinus — a persistent tract, with intermittent or continuous discharge, and repeated episodes of swelling.

Complex or recurrent disease — multiple sinus tracts, often after one or more previous operations that have not fully resolved the problem.

19.4 Presentation

Follow the history-taking method described in Chapter 2.

Pain and swelling in the midline, over the sacrococcygeal region, at the top of the buttock crease.

Discharge, which may be purulent, blood-stained, or simply persistent moisture staining the underwear.

A history of one or more similar episodes in the past, sometimes already treated elsewhere with incision and drainage.

Occasionally, the patient notices hair protruding from a small opening, which is a distinctive and useful clue.

19.5 Examination

Follow the sequence described in Chapter 3. Position the patient prone, or in the left lateral position. Gently part the buttocks for a clear view of the natal cleft.

Inspection, described in Chapter 4, should specifically look for midline pits, secondary openings away from the midline, visible hair tufts, and any discharge. In an acute abscess, look for redness, swelling, and tenderness over the affected area.

The key examination finding that separates pilonidal disease from the conditions in Chapters 12 and 13 is location and depth. Pilonidal openings sit in the midline over the sacrococcygeal region, well above and behind the anus itself. The tract does not run down toward the anal canal. It does not communicate with the anal canal either.

A general examination of the perianal region should still be performed, as part of the standard sequence. A digital rectal examination, described in Chapter 5, should also be performed. This excludes any coexisting anorectal condition.

19.6 Differential Diagnosis

Fistula-in-ano — described in Chapter 12. A fistula tract communicates with the anal canal itself, at the dentate line. A pilonidal tract does not. This distinction is the single most important one to make correctly.

Perianal or perirectal abscess — described in Chapter 13. These arise from infection around the anal canal, and sit closer to the anus itself, rather than over the sacrococcygeal region.

Hidradenitis suppurativa is a separate condition affecting apocrine sweat glands. It typically produces multiple, scattered openings over a wider area. It is not confined to the midline natal cleft.

A sacrococcygeal dermoid or teratoma is rare. It should still be considered in an unusual presentation, particularly in a child or young person. These are congenital conditions, not acquired ones.

19.7 Investigations

Pilonidal sinus disease is usually a clinical diagnosis, made on inspection alone, and does not routinely need imaging.

MRI, described in Chapter 8, is reserved for complex or recurrent disease. It maps the full extent of the tracts before repeat surgery. It is also useful when the distinction from a fistula-in-ano is genuinely unclear on examination.

19.8 Principles of Management

An acute pilonidal abscess needs incision and drainage first, in the same way as any other abscess. Definitive treatment of the underlying sinus is planned once the acute infection has settled.

For chronic or recurrent disease, definitive surgical treatment is usually needed, since a sinus tract containing trapped hair rarely resolves permanently on its own.

Lifestyle measures reduce the risk of recurrence, and should be advised in every patient regardless of which surgical technique is chosen. These include regular hair removal from the natal cleft, weight loss where relevant, and avoiding prolonged sitting where practical.

Minimally invasive options suit a patient with limited disease and a strong preference to avoid a larger wound. One example is careful removal of the midline pits alone, combined with drainage of any lateral tracts.

19.9 Surgical Techniques

Excision with midline closure — the sinus and surrounding tissue are excised, and the wound is closed directly in the midline. This technique is simple. It carries a comparatively high rate of wound breakdown and recurrence, since the natal cleft remains deep. The deep cleft continues to collect hair and moisture after healing.

Excision with open healing — the sinus is excised, and the wound is left open to heal by secondary intention. Recurrence rates are lower than with midline closure, at the cost of a longer healing time, often several weeks, with regular dressing changes.

Off-midline flap techniques excise the sinus and close the wound to one side of the midline. Examples include the Karydakis procedure and the Bascom cleft-lift procedure. This flattens and shallows the natal cleft in the process. This directly addresses the underlying anatomical problem, and offers a genuinely lower recurrence rate than either midline closure or open healing.

Minimally invasive pit-picking is sometimes called the Bascom I procedure. It removes only the midline pits themselves, together with drainage of any lateral tracts. This leaves the bulk of the surrounding tissue undisturbed. It suits early or limited disease particularly well.

19.10 Special Situations

Acute abscess at first presentation — drain the abscess first. Definitive treatment of the underlying sinus is planned as a separate, later step, once acute inflammation has settled.

Recurrent disease after previous surgery — favour an off-midline flap technique over repeating a midline closure. The same anatomical problem that led to the first recurrence will otherwise persist.

An obese patient — weight loss should be discussed as part of the treatment plan. It directly reduces the depth of the natal cleft. It also reduces the risk of further recurrence.

19.11 Complications of Treatment

Wound infection or wound breakdown, particularly after midline closure.

Recurrence of the sinus, which is more likely after midline closure than after an off-midline flap technique.

A slow-healing or non-healing wound, particularly after open healing by secondary intention, needing patience and regular follow-up.

19.12 Common Mistakes to Avoid

Choosing a simple midline closure without discussing the higher recurrence rate compared with an off-midline technique.

Mistaking a pilonidal sinus for a fistula-in-ano, or the reverse, without carefully checking whether the tract communicates with the anal canal.

Proceeding straight to definitive surgery on an acutely infected abscess, rather than draining it first.

Failing to advise the patient on hair removal and hygiene after surgery, which meaningfully reduces the risk of recurrence.

19.13 Recording and Follow-Up

Record the site, the number and position of any pits or openings, and whether the tract communicates with the anal canal. For example: "Pilonidal sinus, midline pit over sacrococcygeal region with one lateral opening, no communication with anal canal. Plan: off-midline (Karydakis) excision, hair removal advice given. Review in 2 weeks." Arrange follow-up to confirm wound healing, and to reinforce hair removal and hygiene advice.

19.14 Why This Chapter Matters

Pilonidal sinus disease sits close enough to the anorectal region to be genuinely confused with the fistula and abscess described in Chapters 12 and 13. Yet it is a distinct condition. It has its own cause, its own examination findings, and its own surgical solutions. Distinguishing it correctly avoids an unnecessary or wrongly planned operation. The next chapter turns to a different problem entirely: anal incontinence.

Chapter 20

Anal Incontinence

Anal incontinence means involuntary loss of control over flatus, liquid stool, or solid stool. It ranges from occasional minor soiling to complete loss of control. It is one of the most distressing conditions in anorectal practice, and one of the most likely to be underreported by the patient. This chapter explains anal incontinence in full. It covers presentation, examination, differential diagnosis, investigations, and the general principles of management. Two later chapters build on this one: Chapter 21 covers obstetric sphincter injury specifically, and Chapter 22 covers secondary sphincter repair in full technical detail.

20.1 What Is Anal Incontinence

Anal incontinence is the involuntary loss of control over the contents of the rectum. It exists on a wide spectrum. At the mild end, a patient may notice occasional soiling of underwear, or difficulty controlling flatus. At the severe end, a patient may have no control at all over the passage of solid stool.

The condition can affect flatus, liquid stool, solid stool, or any combination of these. A patient may also describe urgency, meaning a sudden, difficult-to-control need to defecate, as well as, or instead of, frank leakage.

This condition carries a heavy social and psychological burden. Many patients restrict their daily activities significantly because of it, and many are reluctant to describe it fully unless asked directly and sensitively.

20.2 Why It Happens

Sphincter injury is a common cause. This can follow childbirth, particularly a difficult or assisted delivery, described fully in Chapter 21. It can also follow previous anorectal surgery. This can happen if a sphincterotomy or other procedure divides more of the sphincter than intended. It can also happen if the sphincter is inadvertently damaged during surgery for another condition, such as fistula-in-ano, described in Chapter 12.

Nerve injury can impair sphincter function even when the muscle itself is structurally intact. This can follow childbirth, or chronic straining over many years. It can also follow damage to the nerves supplying the pelvic floor, from another cause such as diabetes or spinal disease.

Structural conditions elsewhere in the anorectal region can also cause incontinence. Rectal prolapse, described in Chapter 14, can prevent the sphincter from closing properly. Large, prolapsing haemorrhoids, described in Chapter 10, can have a similar effect, allowing seepage around the bulk of tissue.

Reduced rectal capacity, from inflammatory bowel disease or previous radiotherapy, can leave the rectum unable to store stool normally, leading to urgency and leakage.

Overflow incontinence is an important and distinct cause, particularly in an elderly or immobile patient. Hardened stool becomes impacted in the rectum, and liquid stool leaks around this impacted mass. This looks like incontinence, but the underlying problem, and its correct treatment, is entirely different from a true sphincter or nerve problem.

Severe or persistent diarrhoea, from any cause, can overwhelm even a normally functioning sphincter.

20.3 Classification

Anal incontinence is usually classified by severity, and by the type of leakage.

Minor incontinence — occasional difficulty controlling flatus, or occasional soiling, without regular loss of solid stool.

Major incontinence — regular, involuntary loss of liquid or solid stool.

Passive incontinence — leakage without warning or awareness.

Urge incontinence — a strong urge to defecate, with leakage before the patient can reach a toilet.

A validated scoring system, such as the Wexner incontinence score, is commonly used to record severity. This gives a standardised, reproducible way to track the patient's response to treatment over time.

20.4 Presentation

Follow the history-taking method described in Chapter 2. Ask directly and specifically about incontinence. As with the digital splinting described in Chapter 16, many patients will not volunteer this symptom unless asked plainly.

Ask specifically what is lost: flatus, liquid stool, solid stool, or a combination.

Ask about frequency, and about the use of pads or other protection.

Ask whether leakage happens with warning, described as urge incontinence, or without warning, described as passive incontinence.

Ask about obstetric history in every female patient. Include the number of deliveries. Ask whether any delivery was difficult, prolonged, or assisted with forceps or vacuum.

Ask about previous anorectal surgery, chronic diarrhoea, diabetes, and any neurological condition.

Ask about the impact on daily life. This helps judge severity, and matters greatly to the patient, even when it does not change the underlying diagnosis.

20.5 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, may show perianal soiling, or scarring from previous surgery or childbirth. It may also show a patulous or gaping anus, or a rectal prolapse visible on straining.

Digital rectal examination, described in Chapter 5, should assess resting tone, which reflects internal sphincter function, and squeeze tone, which reflects external sphincter function. A palpable gap or defect in the sphincter ring, particularly anteriorly, suggests a structural sphincter injury.

Examine specifically for a coexisting rectal prolapse, described in Chapter 14, or large prolapsing haemorrhoids, described in Chapter 10. Correcting either of these may substantially improve incontinence, without any direct surgery on the sphincter itself.

In a patient with suspected faecal impaction and overflow incontinence, examination will typically reveal a rectum loaded with hardened stool.

20.6 Differential Diagnosis

Overflow incontinence from faecal impaction — described in Section 20.2. This must be actively excluded, since its treatment, disimpaction and a bowel regimen, is completely different from the treatment of true sphincter or nerve-related incontinence.

Rectal prolapse — described in Chapter 14, as both a cause of incontinence and a condition that can coexist with it.

Severe haemorrhoidal disease — described in Chapter 10, which can cause seepage that is sometimes mistaken for true incontinence.

Diarrhoeal illness — a temporary cause of loose stool overwhelming continence, rather than an underlying sphincter problem.

20.7 Investigations

Anorectal manometry, described in Chapter 8, measures resting and squeeze pressures directly. It helps confirm whether the internal sphincter, the external sphincter, or both are underperforming.

Endoanal ultrasound identifies a structural sphincter defect, and is particularly useful when planning sphincter repair, described fully in Chapter 22.

Pudendal nerve studies may be considered when a nerve-related cause is suspected, particularly when the sphincter appears structurally intact on imaging, despite poor function.

Defecography, described in Chapter 8 and Chapter 16, is useful when a coexisting rectal prolapse or obstructed defecation is suspected alongside incontinence.

20.8 Principles of Management

Treat any identifiable underlying cause first. Disimpact an overflow incontinence. Treat a diarrhoeal illness. Correct a rectal prolapse, described in Chapter 14, or treat significant haemorrhoidal disease, described in Chapter 10, if either is contributing.

Conservative measures are the correct first step in most patients without a major structural defect. These include dietary modification, bulking agents, anti-diarrhoeal medication such as loperamide to firm up loose stool, and a structured bowel training programme.

Pelvic floor physiotherapy and biofeedback training, described in Chapter 16 for pelvic floor dyssynergia, is also valuable here. It strengthens and retrains the sphincter and pelvic floor muscles, even without a structural defect.

Surgical treatment is considered when conservative measures fail, and depends on the underlying cause. A defined anterior sphincter defect, most often from obstetric injury, is addressed by sphincteroplasty. This is introduced briefly below, and described in full technical detail in Chapter 22. Incontinence without a clear structural defect, or incontinence that persists after sphincter repair, may be considered for sacral nerve stimulation.

20.9 Surgical and Device-Based Options

Overlapping sphincteroplasty repairs a defined defect in the sphincter ring, most commonly located anteriorly after obstetric injury. The torn ends of the sphincter are identified, overlapped, and sutured together, restoring a complete muscular ring. This technique, and the specific injury it most often treats, are described in full in Chapters 21 and 22.

Sacral nerve stimulation involves implanting a small electrode near the sacral nerve roots, delivering continuous mild electrical stimulation. It improves continence by modulating the nerve signals controlling the pelvic floor and rectal sensation, rather than by repairing the sphincter muscle directly. It is considered for incontinence without a clear structural defect, and for incontinence that persists despite a technically successful sphincter repair.

Injectable bulking agents are placed around the anal canal. They can improve minor incontinence by narrowing the canal slightly. The effect is often partial, and may not be lasting.

A stoma remains an option of last resort. It suits severe, disabling incontinence that has not responded to other measures. It offers a definitive solution when quality of life has been severely affected.

20.10 Special Situations

Overflow incontinence in an elderly or immobile patient — needs disimpaction and a structured bowel regimen. Surgery has no role here, and offering it would not address the true underlying problem.

Obstetric sphincter injury — described fully in Chapter 21, including the specific management of a fourth-degree tear at the time of delivery.

Incontinence after previous anorectal surgery — review the original operative details carefully. This may reflect a technical sphincter injury during that earlier procedure. Re-examine exactly how much sphincter was divided at that time.

Failed previous sphincter repair — described in Chapter 22, under secondary repair.

20.11 Complications of Treatment

Sphincteroplasty carries a risk of wound infection, and a risk that the repair itself may break down or stretch over time, with symptoms gradually returning.

Sacral nerve stimulation carries a risk of infection at the implant site. Lead migration can also occur. This sometimes needs a further procedure to reposition or replace the device.

Injectable bulking agents carry a small risk of infection or migration of the injected material, and their effect can diminish over time.

20.12 Common Mistakes to Avoid

Failing to ask directly about incontinence, and missing the diagnosis because the patient did not volunteer it unprompted.

Treating overflow incontinence as if it were a true sphincter problem, without first checking for and treating faecal impaction.

Proceeding to sphincter surgery without first identifying and treating a coexisting, more easily correctable cause, such as rectal prolapse or significant haemorrhoidal disease.

Offering surgery before a genuine trial of conservative treatment and pelvic floor physiotherapy.

20.13 Recording and Follow-Up

Record the type and severity of incontinence. Ideally, use a standardised score such as the Wexner incontinence score. Also record the suspected cause and the examination findings. For example: "Anal incontinence to liquid stool, Wexner score 12, anterior sphincter defect palpable on DRE, history of forceps delivery. Plan: endoanal ultrasound, pelvic floor physiotherapy trial, review in 6 weeks." Arrange follow-up to track the response to treatment over time. Use the same scoring system at each visit, for a fair comparison.

20.14 Why This Chapter Matters

Anal incontinence is common, genuinely treatable in most patients, and yet frequently hidden by patients too embarrassed to raise it unprompted. Asking directly, distinguishing true incontinence from overflow, and correcting any treatable underlying cause first, together form the foundation of good management. The next chapter turns to the single most common structural cause of this condition: obstetric anal sphincter injury.

Chapter 21

Obstetric Anal Sphincter Injury (OASI) — Fourth-Degree Perineal Tear with Cloaca Formation

Chapter 20 described anal incontinence in general. This chapter covers its single most common structural cause: injury to the anal sphincter during vaginal delivery. This injury is called obstetric anal sphincter injury, commonly shortened to OASI. This chapter explains OASI in full, including its most severe form, a fourth-degree tear leading to cloaca formation. Chapter 22 then covers secondary repair of a complete sphincter tear in full technical detail. This is for the patient who presents later, after the injury has already healed poorly.

21.1 What Is Obstetric Anal Sphincter Injury

Obstetric anal sphincter injury, or OASI, is a tear of the anal sphincter complex occurring during vaginal delivery. It is part of a wider spectrum of perineal tears, formally graded by degree, described in full in Section 21.3 below.

Most perineal tears do not involve the sphincter at all. A tear that does involve the sphincter carries a real risk of future anal incontinence. This risk applies if the tear is not recognised and repaired correctly at the time of delivery.

A cloaca is the most severe outcome of an unrecognised or poorly repaired sphincter injury. The wall separating the rectum from the vagina is lost, and the two form a single, common channel. This is described fully in Section 21.4.

21.2 Why It Happens

A first vaginal delivery carries a higher risk than subsequent deliveries, since the perineal tissues have not previously been stretched by childbirth.

A large baby increases the degree of stretching the perineum must withstand during delivery.

A prolonged second stage of labour, meaning a long period of active pushing, increases cumulative strain on the perineum.

An assisted delivery, using forceps or vacuum extraction, carries a higher risk than a spontaneous delivery.

An occipito-posterior position of the baby's head increases the mechanical difficulty of delivery. Shoulder dystocia does too. Both increase the risk of a significant tear.

A midline episiotomy, if performed, carries a higher risk of extending into the sphincter than a mediolateral episiotomy. This is because the midline runs directly toward the anal canal.

21.3 Classification

Perineal tears during childbirth are graded formally, by degree, based on the depth and structures involved.

First degree — injury to the perineal skin only.

Second degree — injury to the perineal muscles, but not the anal sphincter.

Third degree — injury involving the anal sphincter complex. This grade is further subdivided. Grade 3a is tearing of less than half the thickness of the external anal sphincter. Grade 3b is tearing of more than half the thickness of the external anal sphincter. Grade 3c is tearing of both the external and the internal anal sphincter.

Fourth degree — injury extending through the external anal sphincter, the internal anal sphincter, and the anal or rectal mucosa itself.

This classification directly guides both the urgency and the technical approach to repair, described in Section 21.9.

21.4 Cloaca Formation

A cloaca forms when the tissue separating the rectum from the vagina is lost entirely. This can happen because a fourth-degree tear was not recognised and repaired at the time of delivery. It can also happen because a repair that was performed has since broken down.

Instead of two separate openings, the rectum and vagina become confluent, forming one common channel. This causes severe faecal incontinence, since stool passes directly into the vagina, and causes significant distress and social isolation for the patient.

A cloaca needs specialised reconstructive repair, described in full in Chapter 22. A simple sphincter repair alone does not correct it. The missing rectovaginal septum, the tissue wall between the rectum and vagina, must also be reconstructed.

Operative Video — Illustrative Case

The following operative case is from the author's own practice. It illustrates the repair of a fourth-degree perineal tear of exactly this severity. Before repair, the patient had continuous soiling on a pad, from a cloaca-pattern presentation. Structures repaired: external anal sphincter, internal anal sphincter, and anorectal mucosa. Full continence was achieved postoperatively, with no infection, wound breakdown, or fistula.

Full case report, with operative technique and outcome: https://leafy-sundae-4e6243.netlify.app/

Direct operative video: https://www.youtube.com/watch?v=yVjm7GPMOok&t=40s

21.5 Presentation

Most obstetric sphincter injuries are recognised at the time of delivery, during routine perineal inspection and repair. This is the ideal scenario, since immediate repair gives the best chance of a good functional outcome.

Some injuries are missed at the time of delivery. These are described as occult sphincter injury. They present later, sometimes weeks, months, or even years afterward, with symptoms of anal incontinence, described in Chapter 20. This delayed presentation is a well-recognised problem, and is one reason the examination described in Section 21.6 must be thorough at every delivery.

A patient presenting later with incontinence following childbirth should always be asked directly about her delivery history. Follow the approach described in Chapter 2. Ask specifically whether any tear was recognised and repaired at the time.

21.6 Examination

At the time of delivery, a thorough examination of the perineum must include a rectal examination. This is in addition to inspection of the vaginal and perineal tissues. A tear may appear, on vaginal inspection alone, to be no more than second degree. A rectal examination may then reveal that the sphincter itself has in fact been torn. This is precisely how an occult injury is missed.

At a later presentation, follow the sequence described in Chapter 3. Digital rectal examination, described in Chapter 5, should assess resting and squeeze tone. It should specifically feel for a palpable defect in the sphincter ring, most often located anteriorly.

Examination under anaesthesia may be needed for a full and accurate assessment. This applies to a patient with suspected cloaca formation. It also applies when the extent of a complex injury is not fully clear on examination in clinic.

21.7 Differential Diagnosis

The other causes of anal incontinence, described in Chapter 20, should still be considered in a woman presenting after childbirth. More than one contributing factor can coexist. A pudendal nerve injury from a difficult delivery, for example, can impair continence even in a patient whose sphincter muscle itself is structurally intact.

21.8 Investigations

Endoanal ultrasound, described in Chapter 20, confirms the presence, size, and position of a sphincter defect. It is particularly valuable in a patient presenting later with symptoms, rather than at the time of the original injury.

Anorectal manometry, described in Chapter 8, assesses resting and squeeze pressures, and helps quantify the severity of functional impairment.

21.9 Principles of Management

A recognised third or fourth degree tear should be repaired immediately, at the time of delivery. This is ideally done by a suitably trained obstetrician. Specialist colorectal input should be sought for a grade 3c or fourth degree injury, where available.

Repair proceeds in careful layers. Where the rectal or anal mucosa is torn, this is repaired first. The internal anal sphincter, if torn, is then repaired separately and specifically. It is easily overlooked if attention is focused only on the more visible external sphincter. The external anal sphincter is repaired last, using either an end-to-end or an overlapping technique.

Antibiotic prophylaxis is given at the time of repair. Stool softeners or laxatives are prescribed afterward, specifically to prevent straining and constipation. Either of these can place damaging tension on a fresh repair.

Every patient with a recognised third or fourth degree tear should be followed up specifically to assess continence. Do not only check that the wound itself has healed. A wound can look healed on the surface while the sphincter repair beneath it has already failed.

21.10 Special Situations

Missed or occult injury, presenting later — assessed and managed as described in Chapter 20, with definitive secondary repair described fully in Chapter 22.

Cloaca formation — needs specialised, staged reconstructive repair, described fully in Chapter 22, rather than a routine sphincter repair alone.

Future pregnancy after a previous OASI — deserves a specific discussion about the mode of delivery for any subsequent pregnancy. A further vaginal delivery carries some risk of worsening an existing injury. This should be discussed jointly with the obstetric team, well before the next delivery. Take the patient's current symptoms and the severity of the original injury into account.

21.11 Complications

Wound infection or breakdown of the repair.

Persistent or recurrent anal incontinence, despite an apparently adequate repair.

A rectovaginal fistula, a smaller abnormal connection between the rectum and vagina, distinct from the wider, fully confluent channel seen in a true cloaca.

Dyspareunia, or pain during intercourse, related to scarring at the repair site.

21.12 Common Mistakes to Avoid

Performing only a vaginal inspection after delivery, without a rectal examination, and missing an occult sphincter injury as a result.

Repairing the external sphincter without specifically identifying and repairing a torn internal sphincter separately.

Delaying repair of a recognised tear, rather than proceeding promptly.

Failing to follow up specifically for continence symptoms, and relying only on visual wound healing to judge the outcome.

Not discussing mode of delivery for a future pregnancy in a patient with a history of significant OASI.

21.13 Recording and Follow-Up

Record the degree of tear precisely, using the classification in Section 21.3, together with the repair technique used. For example: "Third-degree tear, grade 3b, external and internal anal sphincter repaired in layers, antibiotic and laxative cover given. Review in 6 weeks to assess continence." Arrange follow-up specifically to assess continence at that visit, not only wound healing. Refer for endoanal ultrasound or specialist assessment if any symptoms are present.

21.14 Why This Chapter Matters

Obstetric anal sphincter injury is common, and its outcome depends heavily on whether it is recognised at the time it occurs. A rectal examination performed routinely after every vaginal delivery prevents the great majority of long-term consequences described in this chapter. So does a repair performed carefully, in the correct layers. The next chapter turns to the patient for whom this opportunity has already been missed. It covers secondary repair of a complete sphincter tear, presenting after the original injury has already healed poorly.

Chapter 22

Complete Anal Sphincter Complex Tear — Secondary Repair

Chapter 21 described obstetric sphincter injury, and its immediate repair at the time of delivery. This chapter covers a different situation: secondary repair. This is definitive surgery performed later, as a planned procedure. It suits a sphincter defect that was missed at the time of the original injury. It also suits a defect that has failed to heal well, despite an earlier repair attempt. This chapter gives the overlapping sphincteroplasty technique, the standard operation for this situation, in full technical detail.

22.1 What Is Secondary Sphincter Repair

Secondary sphincter repair is a planned, elective operation. It is performed after the original sphincter injury has already occurred. In most cases, the injury has already healed in an unsatisfactory position.

This differs from the primary repair described in Chapter 21, performed immediately at the time of delivery. Secondary repair is instead performed for a patient presenting later. This may be because the original injury was missed altogether, described as an occult injury in Chapter 21. It may also be because an earlier repair attempt has since broken down or stretched.

22.2 Indications

A confirmed anterior sphincter defect on endoanal ultrasound, described in Chapter 20, in a patient whose incontinence symptoms correlate with that defect.

A failed primary repair, where the original repair performed at the time of delivery has broken down, and symptoms have returned or never fully resolved.

A missed, or occult, obstetric sphincter injury, described in Chapter 21, presenting for the first time some months or years after delivery.

A cloaca, described in Chapter 21, needing formal reconstruction, discussed separately in Section 22.5 below, since it requires more than sphincter repair alone.

22.3 Pre-Operative Assessment

Endoanal ultrasound, described in Chapter 20, confirms the size and position of the sphincter defect, and is essential before planning surgery.

Anorectal manometry, described in Chapter 8, gives a baseline measurement of sphincter function, useful both for planning and for comparison after surgery.

Bowel preparation is arranged in the usual way before an operation in this area.

Careful counselling before surgery is essential. Overlapping sphincteroplasty improves continence in the great majority of patients, in the short term. Results are known to decline gradually over time, however, in a meaningful proportion of patients. This decline happens

over a period of years, rather than months. The patient should understand this realistically before consenting to surgery, rather than expecting a permanent, complete cure in every case.

22.4 The Overlapping Sphincteroplasty Technique

The patient is positioned in lithotomy, or in the prone jack-knife position, according to surgeon preference.

A curved incision is made anterior to the anus. The scarred tissue between the two separated ends of the external anal sphincter is then carefully identified and mobilised.

If the internal anal sphincter is also torn, it is identified and mobilised separately from the external sphincter, and repaired in its own distinct layer. This step is easily overlooked, if attention is focused only on the more visible external sphincter. Its omission is one of the most common reasons a repair underperforms.

The two ends of the external anal sphincter are then overlapped, rather than simply brought together end to end. They are secured in this overlapping, double-breasted fashion, with sutures. This overlapping technique is the key technical difference from the end-to-end repair. End-to-end repair is typically performed immediately, at the time of delivery, described in Chapter 21. Overlapping repair is associated with better functional outcomes when performed as a secondary, planned procedure.

The perineal body, the tissue between the vagina and the anus, is reconstructed as needed, and the skin is closed over the repair.

Antibiotic cover is given at the time of surgery. Stool softeners or laxatives are prescribed afterward, specifically to prevent straining. This is exactly the same approach described for primary repair in Chapter 21.

22.5 Reconstruction for Cloaca

Repair of a cloaca, described in Chapter 21, is more extensive than a straightforward sphincteroplasty. The missing rectovaginal septum, the tissue wall separating the rectum from the vagina, must also be reconstructed. This is in addition to the sphincter itself.

This reconstruction is performed in careful layers. A separate rectal wall and a separate vaginal wall are restored first. The sphincter repair described in Section 22.4 is then performed over this newly reconstructed layer.

In a particularly complex or previously failed case, interposition of healthy, well-vascularised tissue between the reconstructed layers is often used to support healing. A labial fat pad flap, known as a Martius flap, is a well-established option for this purpose. Interposition of the gracilis muscle, taken from the inner thigh, is reserved for the most complex or repeatedly failed reconstructions.

A temporary defunctioning stoma is often used to protect a complex cloaca reconstruction. It diverts stool away from the repair while it heals. It is reversed once healing is confirmed to be secure.

22.6 Special Situations

A recurrent defect after a previous sphincteroplasty may be considered for a repeat repair, though outcomes are generally less predictable than for a first attempt. Sacral nerve stimulation, described in Chapter 20, is a reasonable alternative to consider at this stage, rather than a further sphincter repair.

A cloaca needs the staged reconstructive approach described in Section 22.5, with careful consideration of a defunctioning stoma to protect the repair.

A patient with unrealistic expectations of a complete, permanent cure needs careful, honest counselling before surgery. Follow the discussion in Section 22.3. This avoids disappointment, even after a technically successful operation.

22.7 Complications

Wound infection or breakdown, a genuine risk given the location of the wound close to both the vagina and the anus.

Recurrence of the sphincter defect, and with it, recurrence of incontinence, which becomes more likely with each additional year following surgery.

Persistent, partial incontinence, even after a technically successful repair, particularly if a coexisting nerve injury, described in Chapter 20, was not identified beforehand.

Dyspareunia, related to scarring at the repair site.

22.8 Outcomes and Follow-Up

Most patients experience a genuine improvement in continence in the first one to two years after surgery. Functional results are known to decline gradually over the following years, in a meaningful proportion of patients. This is why the honest counselling described in Section 22.3 matters so much, before the operation is undertaken.

Long-term follow-up is needed, extending well beyond the immediate postoperative period. This identifies any gradual decline early. Further options, such as sacral nerve stimulation, can then be discussed promptly, if a decline occurs.

22.9 Common Mistakes to Avoid

Proceeding to surgery without endoanal ultrasound confirmation of the defect beforehand.

Performing a simple end-to-end repair, rather than the overlapping technique, in a secondary, planned setting.

Failing to identify and repair a torn internal sphincter separately from the external sphincter.

Attempting a straightforward sphincteroplasty in a patient with a true cloaca, without also reconstructing the missing rectovaginal septum.

Promising a complete, permanent cure without mentioning the realistic possibility of gradual functional decline over time.

22.10 Recording and Follow-Up

Record the defect confirmed on endoanal ultrasound, the technique performed, and the counselling given. For example: "Anterior sphincter defect confirmed on endoanal ultrasound, overlapping sphincteroplasty performed with separate internal sphincter repair, realistic outcome counselling given. Review in 6 weeks, then at 1 year to assess functional outcome." Arrange long-term follow-up specifically to identify any gradual decline in function. Do not simply discharge the patient once the wound has healed.

22.11 Why This Chapter Matters

Secondary sphincter repair offers genuine, meaningful improvement to a patient whose original injury was missed or poorly repaired. It is not a guaranteed, permanent cure, however. Honest counselling before surgery matters as much as the technique itself. The next chapter turns to a very different circumstance of anorectal injury: trauma arising from sexual assault, and the specific medico-legal responsibilities that accompany it.

Chapter 23

Anorectal Trauma from Sexual Assault

This chapter covers anorectal injury resulting from sexual assault. It is different in character from every other chapter in this manual, since the physical injury is only one part of the patient's need. Sensitivity, consent, careful documentation, and coordination with other services matter as much as the surgical assessment itself. This chapter covers presentation, examination, documentation, and management, with particular attention to the medico-legal responsibilities involved.

23.1 What Is Anorectal Trauma from Sexual Assault

Anorectal trauma from sexual assault is injury to the anal canal, perianal region, or rectum, resulting from non-consensual sexual contact. The severity ranges widely, from minor mucosal abrasion to severe laceration, sphincter disruption, or full-thickness perforation.

This condition can affect a patient of any age or sex. A child presenting with suspected sexual assault needs a specialised paediatric and forensic pathway. This is beyond the scope of this chapter, which focuses on the adult patient. Male victims are equally valid patients, and their experience is often underreported and under-recognised.

23.2 Mechanism and Spectrum of Injury

Injury typically results from forced penetration, often without adequate preparation, and sometimes involving a foreign object. The resulting injury depends on the degree of force involved, and ranges across a genuine spectrum.

Minor injury — superficial mucosal or skin abrasion, or a small fissure.

Moderate injury — a deeper laceration, or a partial sphincter injury.

Severe injury — full-thickness perforation, complete sphincter disruption, or an associated pelvic or intra-abdominal injury. This may need urgent surgical intervention, beyond the anorectal region itself.

23.3 Presentation

A patient may present immediately after the assault. Some patients delay presentation, sometimes by days or longer, out of fear, shame, or threat from the assailant. This delay does not diminish the validity or seriousness of the disclosure.

Presenting symptoms include anal or rectal pain, bleeding, and difficulty sitting or walking. Some patients disclose the assault directly. Others present with vague or unrelated symptoms, without disclosing the cause. A clinician should maintain a high index of suspicion, whenever the history and examination findings do not fit together naturally.

Significant psychological distress is expected, and should be recognised and responded to with the same seriousness as the physical injury itself.

Every step of assessment and care in this chapter should be conducted with a trauma-informed approach. This means calm, unhurried, and non-judgemental care. It should be led by what the patient is able to tolerate at each stage.

23.4 Examination

Explicit, informed consent is required before any examination, and before any forensic evidence collection. The patient should understand clearly what is being proposed, and why, at every step.

A chaperone, described in Chapter 3 as standard practice for every anorectal examination, is essential here without exception.

Wherever available, examination should be conducted by, or performed jointly with, a clinician specifically trained in forensic examination. This is not a routine anorectal examination, and the standard of documentation and evidence handling required exceeds what a general anorectal assessment alone provides.

The number of separate examinations should be kept to the minimum genuinely necessary, since each additional examination risks further distressing the patient.

Findings should be documented in precise, objective, anatomical language, avoiding any presumptive or judgemental wording. Photographic documentation, where undertaken, requires specific consent and a properly maintained chain of custody, following local forensic protocols.

23.5 Differential Diagnosis and Interpretation of Findings

Some anorectal findings, once considered specific to assault, are now recognised to also occur from other, entirely unrelated causes. These include some of the benign conditions described elsewhere in this manual, such as fissure-in-ano, described in Chapter 11. A single physical finding, taken alone, should not be presented as definitive proof of assault.

Definitive forensic interpretation belongs to a suitably trained forensic examiner. A general surgeon's role is to document findings accurately and objectively. The surgeon should treat the injury appropriately. A forensic conclusion outside their own expertise should not be reached or stated.

23.6 Investigations

Screening for sexually transmitted infections is initiated, with full detail of this screening described in Chapter 24.

HIV post-exposure prophylaxis should be considered and offered, in line with local guidelines, ideally started as soon as possible after the assault.

Hepatitis B vaccination or prophylaxis should be considered, depending on the patient's existing immunisation status.

In a female patient, pregnancy risk should be assessed, and emergency contraception discussed and offered where relevant.

Imaging, such as a CT scan, is arranged urgently if an intra-abdominal or pelvic injury is suspected in a severe case.

23.7 Principles of Management

Any life-threatening injury takes priority, and is stabilised first, before definitive anorectal assessment and repair proceed.

A laceration is repaired according to its depth and location, using the same principles described elsewhere in this manual. A sphincter injury is repaired using the techniques described in Chapters 21 and 22. A full-thickness perforation may need formal surgical repair. In a severe case, a temporary defunctioning stoma may be needed too, to protect the repair while it heals. This is the same approach described for complex cloaca reconstruction in Chapter 22.

Infection prophylaxis, described in Section 23.6, is arranged alongside the surgical management, not as an afterthought once the physical repair is complete.

Psychological support is not optional. Every patient should be offered referral to appropriate counselling or psychological support services. This referral matters as much as any physical treatment described in this chapter.

23.8 Medico-Legal Documentation and Reporting

Accurate, objective, and contemporaneous documentation is essential. Record findings as they are observed. Use the patient's own words where relevant. Use precise anatomical terms, and avoid assumptions or conclusions beyond what was directly observed.

A standardised documentation proforma, where available locally, should be used consistently, since this supports both clinical care and any subsequent legal process.

Forensic evidence, where collected, must be handled with a properly maintained chain of custody. Follow local protocols. This keeps the evidence usable, if needed for any subsequent legal proceedings.

Mandatory reporting obligations apply in many jurisdictions, particularly, though not exclusively, when a child is involved. The treating clinician should be familiar with the specific reporting requirements in their own jurisdiction. They should coordinate promptly with police or forensic medical services, as required. The patient should be kept informed of this process wherever possible.

The clinician's primary duty remains the patient's care and wellbeing throughout this process. Coordinating with legal and forensic services supports the patient's interests; it does not replace attentive clinical care.

23.9 Special Situations

A paediatric patient needs a specialised paediatric and forensic pathway, coordinated with paediatric specialists, rather than the adult-focused approach described in this chapter.

A patient presenting with significant delay may have few or no residual physical findings. The psychological impact remains fully relevant, however. So does the need for infection screening and support. A normal examination does not mean the disclosure is untrue.

A male patient deserves the same seriousness, sensitivity, and thoroughness of care as a female patient. This presentation is underreported, and at times under-recognised by services.

23.10 Complications

Infection, at the site of any repaired laceration or perforation.

Fistula formation, or stricture and stenosis, described in Chapter 18, developing during healing.

Chronic pain, or anal incontinence, described in Chapter 20, if a sphincter injury was severe or repair was delayed.

Significant, lasting psychological consequences, including post-traumatic stress, depression, and anxiety, which require ongoing support well beyond the period of physical healing.

23.11 Common Mistakes to Avoid

Approaching the assessment without a calm, trauma-informed, non-judgemental manner.

Examining without explicit consent, or without a chaperone present.

Repeating examinations more times than are genuinely necessary, adding unnecessary distress.

Offering a definitive forensic conclusion beyond one's own training and expertise.

Overlooking infection prophylaxis, emergency contraception where relevant, or psychological support referral.

Failing to meet mandatory reporting obligations where these apply.

23.12 Recording and Follow-Up

Record findings factually and objectively. Use a standardised proforma where available. Note explicitly which prophylactic treatments were offered, and whether the patient accepted or declined each one. For example: "Anal laceration, no sphincter involvement on examination, HIV post-exposure prophylaxis and hepatitis B vaccination offered and accepted, STI screening arranged, psychological support referral made, police contact per patient's wishes and local reporting requirements." Arrange follow-up specifically to review healing. Use this visit to complete any ongoing prophylaxis. Confirm that psychological support has been engaged.

23.13 Why This Chapter Matters

A patient presenting after sexual assault needs careful physical assessment and treatment, but they need sensitivity, consent, and coordinated support in equal measure. Getting the medical care right matters greatly. So does meeting medico-legal responsibilities. So does connecting the patient with psychological support. Together, these define good practice in this chapter, more than any single surgical technique. The next chapter turns to sexually transmitted infections and related conditions with anorectal manifestations.

Chapter 24

Sexually Transmitted Diseases and Condylomatous Conditions with Anorectal Manifestations

The anorectal region can be affected by several sexually transmitted infections. This chapter covers the main conditions together, since they share overlapping presentation and examination principles. It covers anal warts, gonococcal and chlamydial proctitis, herpes proctitis, syphilis, and the role of HIV testing. This is the same pattern used for every disease chapter in this manual.

24.1 What Are Sexually Transmitted Anorectal Conditions

These conditions reach the anorectal region through sexual contact. Receptive anal intercourse is the main route. Some conditions spread by direct contact with infected skin or mucosa. Others spread through infected secretions.

More than one infection can be present at the same time. This is common, not rare. A full screen is needed whenever one condition is found, not just treatment of the obvious finding.

Approach every patient with sensitivity and without judgement. Follow the same trauma-informed principles described in Chapter 23, even though the circumstances here are different.

24.2 Condylomata Acuminata (Anal Warts)

Condylomata acuminata, or anal warts, are caused by the human papillomavirus, known as HPV. Most warts are caused by low-risk HPV types, mainly types 6 and 11. High-risk HPV types, mainly 16 and 18, carry a different concern. These types are linked to anal intraepithelial neoplasia, known as AIN, which can progress toward cancer over time.

Warts usually appear as small, painless growths. They may be single or multiple. They often have a cauliflower-like surface. They can cause itching, bleeding, or a feeling of a lump.

Inspection, described in Chapter 4, usually shows the diagnosis clearly. Proctoscopy, described in Chapter 6, checks for internal extension into the anal canal.

Condylomata acuminata must be distinguished from condylomata lata, a different lesion seen in secondary syphilis. Condylomata lata are flat and moist, not cauliflower-like. This distinction matters, since the underlying infection and treatment are entirely different.

Treatment options include topical agents, such as podophyllotoxin or imiquimod, for smaller lesions. Larger or more extensive lesions need excision, cautery, cryotherapy, or laser treatment.

A patient with extensive or recurrent warts, or with known high-risk HPV, should be considered for ongoing surveillance for anal intraepithelial neoplasia. Chapter 26 covers the assessment of anorectal malignancy in full.

24.3 Gonococcal and Chlamydial Proctitis

Neisseria gonorrhoeae and Chlamydia trachomatis are common causes of infectious proctitis. This is inflammation of the rectal lining, most often following receptive anal intercourse.

Many patients have no symptoms at all. When symptoms occur, they include anal discharge, pain, tenesmus, and bleeding. Tenesmus means a persistent feeling of needing to defecate, even after the bowel is empty.

Proctoscopy, described in Chapter 6, may show inflamed, friable mucosa, often with visible discharge.

A specific and more severe form of chlamydial infection, called lymphogranuloma venereum, or LGV, deserves separate mention. LGV causes a more invasive proctitis, sometimes extending to proctocolitis, inflammation reaching further into the bowel. It needs a longer course of treatment than ordinary chlamydial infection, and should always be considered in a patient with unusually severe or persistent proctitis symptoms.

Diagnosis for gonorrhoea, chlamydia, and LGV relies on a rectal swab, tested by nucleic acid amplification testing, known as NAAT. This is the standard modern diagnostic method.

Treatment follows current local or national antimicrobial guidelines, since resistance patterns and recommended regimens change over time. LGV specifically needs a longer treatment course than standard chlamydial infection.

24.4 Herpes Proctitis

Herpes simplex virus, known as HSV, can cause a painful proctitis. This is most severe during a primary, first-time infection.

Pain is often severe, and can seem out of proportion to what is visible on examination. Painful vesicles, small fluid-filled blisters, or ulcers may be seen on the perianal skin or within the anal canal. Tenesmus is common.

A severe case can also cause sacral radiculopathy. This means irritation of the sacral nerves, and can cause urinary retention or altered sensation in the buttocks or thighs. Recognise this as a genuine complication of herpes proctitis, not a separate, unrelated problem.

Diagnosis is confirmed by a viral swab, tested by polymerase chain reaction, known as PCR. Treatment is with an antiviral medication, such as aciclovir or valaciclovir, together with adequate pain control.

24.5 Syphilis

Syphilis is caused by the bacterium Treponema pallidum.

Primary syphilis causes a chancre, a painless ulcer at the site of infection. An anal chancre is easily mistaken for a fissure, described in Chapter 11, since both can present as a painless or

minimally painful anal ulcer. Careful examination and a high index of suspicion are needed to avoid missing this diagnosis.

Secondary syphilis can cause condylomata lata, described already in Section 24.2. These are flat, moist, highly infectious lesions, distinct in appearance from the warts caused by HPV.

Diagnosis relies on blood serology. Dark-field microscopy of fluid from a chancre can also confirm the diagnosis directly, where this test is available. Treatment is with penicillin, following current local guidelines for dose and duration.

24.6 HIV and the Anorectal Examination

HIV does not by itself cause a distinct anorectal lesion. It matters greatly to this chapter for other reasons.

A patient with any of the conditions described in this chapter should be offered HIV testing, since the same sexual contact that transmits these infections can also transmit HIV. Chapter 23 describes HIV post-exposure prophylaxis in the specific context of sexual assault. The same principle of considering HIV risk applies here.

A patient with HIV may show more severe, more extensive, or more treatment-resistant presentations of any condition described in this chapter. Wound healing after any anorectal procedure may also be slower. Keep this in mind when planning both medical and surgical treatment.

24.7 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, is usually the most informative step for warts, ulcers, and visible lesions.

Proctoscopy, described in Chapter 6, checks for internal extension of warts, and for the inflamed, friable mucosa typical of proctitis.

Approach every examination with sensitivity. Many patients feel embarrassed or anxious about this consultation. A calm, professional, non-judgemental manner encourages the patient to disclose their full history and return for follow-up.

24.8 Differential Diagnosis

Condylomata acuminata versus condylomata lata — described in Sections 24.2 and 24.5. The distinction changes both the diagnosis and the treatment.

An anal chancre versus a chronic anal fissure, described in Chapter 11. Both can present as a painless or minimally painful ulcer.

Infectious proctitis versus inflammatory bowel disease. Both can cause similar symptoms of pain, discharge, and altered bowel habit. Chapter 28 covers the anorectal manifestations of inflammatory bowel disease in full.

Skin tags or hypertrophied papillae, which can resemble small warts but are not infectious.

24.9 Investigations

A full sexually transmitted infection screen is appropriate whenever one of these conditions is diagnosed, since more than one infection is often present together.

This screen typically includes a rectal swab for NAAT testing of gonorrhoea and chlamydia. It also includes a viral swab for HSV PCR, if ulcers or vesicles are present. Syphilis serology and an HIV test complete the screen.

Consider screening for hepatitis B and hepatitis C as well, depending on the patient's risk factors and local guidelines.

24.10 Principles of Management

Treat the specific infection identified, following current local or national guidelines for antimicrobial or antiviral therapy.

Arrange partner notification and treatment wherever appropriate, since untreated partners lead to reinfection.

Offer clear counselling on safer sexual practices, delivered without judgement.

Arrange a test of cure where this is recommended for the specific infection treated, particularly for gonorrhoea, chlamydia, and LGV.

Discuss HIV testing, and HIV prevention options such as pre-exposure prophylaxis, where relevant to the patient's circumstances.

24.11 Special Situations

An immunocompromised patient, including a patient with HIV, may need a longer or more intensive course of treatment, and closer follow-up, for any of the conditions in this chapter.

Recurrent or extensive warts need ongoing surveillance for anal intraepithelial neoplasia, described in Section 24.2, rather than repeated treatment of the visible warts alone.

Suspected LGV needs its longer, specific treatment course, described in Section 24.3, rather than the standard regimen used for ordinary chlamydial infection.

24.12 Complications

Anal stricture, particularly after LGV, described in Section 24.3, or after severe, longstanding proctitis from any cause.

Progression of high-risk HPV infection toward anal intraepithelial neoplasia, and, in some cases, toward anorectal malignancy, described in Chapter 26.

Disseminated infection, if a condition such as syphilis is left untreated.

Ongoing transmission to sexual partners, if the infection is not identified and treated promptly.

24.13 Common Mistakes to Avoid

Treating one identified infection without screening for others that may be present at the same time.

Mistaking condylomata lata for condylomata acuminata, or the reverse, without careful clinical distinction.

Mistaking an anal chancre for a simple fissure, and missing the diagnosis of primary syphilis.

Not offering HIV testing to a patient presenting with any other sexually transmitted anorectal condition.

Under-treating LGV with a standard chlamydial regimen, rather than the longer course it requires.

Approaching the consultation with judgement rather than sensitivity, which discourages the patient from returning for follow-up or disclosing their full history.

24.14 Recording and Follow-Up

Record the specific findings, the tests sent, and the treatment given. For example: "Perianal condylomata acuminata, proctoscopy shows no internal extension. STI screen sent, including HIV test. Plan: topical treatment, partner notification advised, review in 4 weeks." Arrange follow-up to confirm treatment response, to review any pending test results, and to complete partner notification and safer sex counselling.

24.15 Why This Chapter Matters

Sexually transmitted anorectal conditions are common, and often overlap with one another. Screening fully, treating precisely, and approaching every patient without judgement together define good practice in this chapter. The next chapter turns to a common and often distressing symptom in its own right: pruritus ani.

Chapter 25

Pruritus Ani

Pruritus ani means itching around the anus. It is one of the most common anorectal complaints. It is often chronic, and can significantly affect quality of life. This chapter explains pruritus ani in full. It covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

25.1 What Is Pruritus Ani

Pruritus ani is persistent itching of the skin around the anus. It is a symptom, not a single disease.

Most cases have no identifiable cause. This is called primary, or idiopathic, pruritus ani. A smaller number of cases have a specific, identifiable underlying cause. This is called secondary pruritus ani.

Distinguishing primary from secondary pruritus ani matters greatly. Secondary cases need the underlying condition treated directly. Primary cases need a different approach, described in Section 25.8.

25.2 Why It Happens

Several anorectal conditions can cause soiling or leakage, which irritates the skin and causes itching. These include haemorrhoids, described in Chapter 10, fissure-in-ano, described in Chapter 11, fistula-in-ano, described in Chapter 12, skin tags, and rectal prolapse, described in Chapter 14.

Several skin conditions can affect this area directly. These include psoriasis, eczema, contact dermatitis from soaps or wipes, and lichen sclerosus.

Infections are a common cause. Fungal infection, particularly candida, is common, especially in a patient with diabetes. Threadworm infection is a common cause in children. Some sexually transmitted infections, described in Chapter 24, can also cause itching.

Systemic conditions can cause pruritus ani as part of a wider pattern. These include diabetes mellitus and liver disease.

Diet can also play a role. Caffeine, alcohol, spicy food, and citrus fruit all worsen symptoms in some patients.

Hygiene habits matter in both directions. Poor hygiene allows irritant residue to remain on the skin. Excessive hygiene, particularly vigorous wiping or scrubbing, damages the skin barrier and makes itching worse, not better.

25.3 The Itch-Scratch Cycle

Scratching gives temporary relief, but damages the skin further. Damaged skin itches more. This creates a self-perpetuating cycle, known as the itch-scratch cycle.

Chronic scratching causes visible changes to the skin. These include excoriation, which is surface damage from scratching, and lichenification, which is thickening and hardening of the skin from long-standing irritation.

Breaking this cycle is central to successful treatment, regardless of the underlying cause. Section 25.8 covers this in full.

25.4 Presentation

Follow the history-taking method described in Chapter 2.

Itching is the main symptom. It may be constant, or it may come and go. It is often worse at night, and often worse after a bowel movement.

Burning or soreness may accompany the itching, particularly once the skin is excoriated.

Ask specifically about hygiene habits, including how the patient cleans the area, and how often.

Ask about diet, including caffeine, alcohol, and spicy food intake.

Ask about associated symptoms. Bleeding, discharge, or a feeling of prolapse suggest a secondary cause, and should prompt a careful search for an underlying anorectal condition.

Ask about diabetes, liver disease, and any new soaps, wipes, or medications applied to the area.

25.5 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, is the most important step. Look for excoriation and lichenification, described in Section 25.3. Look for skin changes suggesting a specific dermatological condition. Look for evidence of moisture, soiling, or discharge. Look specifically for haemorrhoids, a fissure, skin tags, or a prolapse, since any of these can be the underlying cause.

Digital rectal examination, described in Chapter 5, checks for other anorectal pathology.

Proctoscopy, described in Chapter 6, is useful if an underlying anorectal condition is suspected but not clearly seen on inspection alone.

25.6 Differential Diagnosis

Primary, idiopathic pruritus ani — a diagnosis reached only after secondary causes have been carefully excluded, not simply assumed by default.

Anorectal conditions causing soiling — haemorrhoids, fissure, fistula, skin tags, and rectal prolapse, described in Chapters 10, 11, 12, and 14.

Dermatological conditions — psoriasis, eczema, contact dermatitis, and lichen sclerosus. A dermatology referral is appropriate if one of these is suspected but not clearly confirmed.

Fungal or parasitic infection — described further in Section 25.7.

Sexually transmitted conditions, described in Chapter 24.

25.7 Investigations

Pruritus ani is usually a clinical diagnosis, made on history and examination.

A skin scraping or swab can confirm a suspected fungal infection.

A sellotape test, applied to the perianal skin first thing in the morning and examined under a microscope, can confirm threadworm infection, particularly in a child.

Blood glucose testing is reasonable if diabetes is suspected but not already diagnosed.

A skin biopsy is reserved for a persistent, unexplained case, or a case that does not respond to appropriate treatment, to exclude a specific dermatological condition requiring different management.

25.8 Principles of Management

Identify and treat any secondary cause directly. This is the single most important step, and should always be attempted before treating the itching as idiopathic.

General hygiene advice helps every patient, regardless of the underlying cause. Clean the area gently, using water alone or a mild, unperfumed cleanser. Pat the area dry, rather than rubbing it. Avoid vigorous wiping.

Avoid known dietary triggers, if the patient has identified any, such as caffeine, alcohol, spicy food, or citrus fruit.

Break the itch-scratch cycle described in Section 25.3. Keep fingernails short. Consider wearing soft cotton gloves at night, to reduce the damage caused by scratching during sleep.

A barrier cream, such as zinc oxide, protects the skin from further irritation.

A short course of a mild topical steroid can help settle significant inflammation. Use this only for a short, defined period. Prolonged use thins the skin, and can make the underlying problem worse over time.

Treat any specific cause found directly. This includes an antifungal treatment for a fungal infection, an antiparasitic treatment for threadworm, or definitive treatment of an underlying anorectal condition such as haemorrhoids or a fistula.

25.9 Special Situations

A child with pruritus ani — consider threadworm infection first, and examine or treat accordingly.

A patient with diabetes — consider fungal infection, and check that blood glucose control is adequate, since poor control makes fungal infection more likely and harder to clear.

A recalcitrant case, not responding to the measures above — reconsider the diagnosis carefully. A dermatology referral, or a skin biopsy, described in Section 25.7, may be needed at this stage.

25.10 Complications

Skin breakdown, and secondary bacterial infection, from ongoing scratching.

Lichenification, described in Section 25.3, from long-standing irritation.

Significant psychological distress, given the constant, often embarrassing nature of the symptom, and its impact on sleep and daily comfort.

25.11 Common Mistakes to Avoid

Assuming every case is idiopathic, without a careful search for a secondary cause.

Using a topical steroid for a prolonged period, causing skin thinning rather than lasting improvement.

Not addressing the itch-scratch cycle directly, and treating only the underlying cause.

Missing an underlying anorectal condition, such as haemorrhoids or a fistula, that is causing soiling and secondary irritation.

Not asking about hygiene habits, since both insufficient and excessive hygiene can be the true underlying problem.

25.12 Recording and Follow-Up

Record the suspected cause, the examination findings, and the treatment plan. For example: "Pruritus ani, likely secondary to grade 2 haemorrhoids with mucus leakage. Plan: haemorrhoid management, hygiene advice given, barrier cream. Review in 4 weeks." Arrange follow-up to confirm the itching has settled, and to reconsider the diagnosis if it has not.

25.13 Why This Chapter Matters

Pruritus ani is common, often distressing, and often treated as a single, simple problem when it is not. A careful search for a secondary cause, combined with breaking the itch-scratch cycle, resolves the great majority of cases. The next chapter turns to a more serious condition that must always be considered in this region: anorectal malignancy.

Chapter 26

Anorectal Malignancy — Clinical Approach

Anorectal malignancy is cancer arising in the anal canal or the rectum. It must always be considered in anorectal practice, since its early symptoms can closely resemble those of benign conditions described elsewhere in this manual. This chapter covers presentation, examination, differential diagnosis, investigations, and the general clinical approach, including how to recognise an obstructive complication. This is the same pattern used for every disease chapter in this manual, though the focus here is clinical recognition and referral, not detailed oncological treatment.

26.1 What Is Anorectal Malignancy

Anorectal malignancy is not one single disease. It falls into two main categories, with different biology and different treatment pathways.

Anal canal cancer is most often a squamous cell carcinoma. It is strongly linked to human papillomavirus infection, described in Chapter 24.

Rectal cancer is most often an adenocarcinoma. It arises from the glandular lining of the rectum, often through a polyp that has become malignant over time.

This distinction matters greatly. The two cancers look different, behave differently, and are treated differently.

26.2 Why It Happens

Anal cancer is strongly associated with high-risk human papillomavirus infection, described in Chapter 24. Anal intraepithelial neoplasia, also described in Chapter 24, is a recognised precursor. Immunosuppression, including HIV infection, and smoking, both increase the risk.

Rectal cancer risk increases with age. A family history of colorectal cancer increases risk. Inflammatory bowel disease, described in Chapter 28, increases risk with long-standing disease. Diet, and the presence of adenomatous polyps, also contribute. A smaller number of cases arise from inherited genetic syndromes, which carry a much higher lifetime risk and need specific genetic counselling and surveillance.

26.3 Classification

Anal canal cancer arises within the anal canal itself.

Anal margin cancer arises on the skin just outside the anal canal. It behaves more like a skin cancer than a true anal canal cancer.

Rectal cancer arises within the rectum, at varying distances from the anal verge. This distance affects both symptoms and treatment options.

Staging describes how far a cancer has spread, using the size of the primary tumour, the involvement of lymph nodes, and the presence of distant spread. Staging is confirmed through the investigations described in Section 26.8, and guides the treatment plan directly.

26.4 Presentation

Follow the history-taking method described in Chapter 2.

Bleeding is the most common symptom. It is also the symptom most likely to be dismissed as haemorrhoids, described in Chapter 10, without proper examination. This is a genuinely dangerous assumption, particularly in an older patient, or when any other alarm feature is present.

A change in bowel habit, particularly a new and persistent change, is a significant symptom.

Tenesmus, a persistent feeling of needing to defecate, can occur with a rectal tumour.

Pain is a notable feature of anal cancer, unlike rectal cancer, which is often painless until the disease is advanced.

A palpable lump, noticed by the patient themselves, sometimes prompts the initial visit.

Unexplained weight loss, and symptoms of anaemia such as fatigue or breathlessness, are systemic features that should raise concern.

An anal cancer can present as a non-healing ulcer. This is easily mistaken for a chronic fissure, described in Chapter 11. A fissure that fails to heal with standard treatment, or that looks atypical, should prompt biopsy rather than continued conservative management.

26.5 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, may show a visible mass, an irregular ulcer, or an atypical lesion.

Digital rectal examination, described in Chapter 5, is essential. Feel specifically for a mass, for irregularity, and for fixation to the surrounding tissue, which suggests more advanced local disease.

Proctoscopy or sigmoidoscopy, described in Chapter 6, allows direct visualisation, and biopsy of any suspicious lesion.

Examine the groin for enlarged lymph nodes. This is particularly important for anal cancer, which characteristically spreads to the inguinal nodes.

A general examination should check for hepatomegaly, an enlarged liver that can indicate metastatic spread, and for signs of significant weight loss.

26.6 Assessment for Obstructive Complications

A growing rectal cancer can progressively narrow the bowel lumen. This can lead to bowel obstruction, which may present as a surgical emergency.

Ask specifically about worsening constipation, abdominal distension, colicky abdominal pain, and vomiting. Any of these, especially in combination, should raise concern for obstruction.

Examine the abdomen for distension and tenderness. A digital rectal examination may reveal a tumour that is nearly or completely occluding the lumen.

Urgent imaging, typically a CT scan, is needed if obstruction is suspected. Do not delay this assessment while arranging routine outpatient investigations.

A patient with acute obstruction often needs decompression first, sometimes with a defunctioning stoma, before any definitive oncological treatment can proceed safely. Recognising this need early prevents a patient reaching a crisis point before the underlying cancer has even been diagnosed.

26.7 Differential Diagnosis

Haemorrhoids, described in Chapter 10, and chronic fissure, described in Chapter 11, are the most common benign conditions mistaken for malignancy. The reverse mistake is just as serious. Dismissing a malignancy as one of these benign conditions is a preventable error.

Inflammatory bowel disease, described in Chapter 28, can cause similar symptoms of bleeding and altered bowel habit.

A benign polyp can mimic an early cancer on examination alone, and needs biopsy to distinguish the two with certainty.

Anal warts and anal intraepithelial neoplasia, described in Chapter 24, sit on a spectrum with early anal cancer, and need careful assessment to place a lesion correctly along that spectrum.

26.8 Investigations

Biopsy is essential for a tissue diagnosis. This is usually taken during proctoscopy or sigmoidoscopy, described in Chapter 6.

MRI, described in Chapter 8, is the standard investigation for local staging of rectal cancer, showing the depth of invasion and nearby lymph nodes clearly.

A CT scan of the chest, abdomen, and pelvis checks for distant spread, most commonly to the liver or lungs.

Endoanal ultrasound, described in Chapter 20, is useful for assessing an early, superficial rectal or anal lesion.

Blood tests typically include a full blood count, to check for anaemia, and liver function tests. A specific blood marker, carcinoembryonic antigen, is sometimes used to help monitor the disease over time, though it is not used alone to make the diagnosis.

26.9 Principles of Management

Anorectal malignancy is managed by a multidisciplinary team, bringing together surgery, oncology, and radiotherapy expertise for every patient.

Anal cancer is most often treated with combined chemotherapy and radiotherapy as the primary treatment, reserving surgery for cases that do not respond, or that recur afterward.

Rectal cancer is most often treated with surgery, sometimes combined with chemotherapy or radiotherapy given before or after the operation, depending on the stage of the disease at diagnosis.

The specific surgical and oncological techniques for treating anorectal malignancy are beyond the scope of this manual. The essential responsibility described in this chapter is timely recognition, and prompt referral to a specialist multidisciplinary team.

26.10 Special Situations

A patient with HIV, described in Chapter 24, carries a higher risk of anal cancer, and may need closer surveillance for anal intraepithelial neoplasia.

An obstructive presentation, described in Section 26.6, needs urgent assessment and management, often ahead of full oncological staging.

An elderly or frail patient needs a careful, individualised discussion about the aims of treatment. This may mean pursuing a cure, or it may mean prioritising symptom control and quality of life, depending on the patient's overall health and wishes.

26.11 Complications

Bowel obstruction, described in Section 26.6.

Perforation of the bowel, a life-threatening emergency.

Fistula formation between the tumour and adjacent structures, such as the bladder or vagina.

Metastatic spread, most commonly to the liver, lungs, or lymph nodes.

Complications of treatment itself, including those of surgery, chemotherapy, and radiotherapy, which should be discussed by the treating specialist team.

26.12 Common Mistakes to Avoid

Assuming rectal bleeding is due to haemorrhoids, without adequate examination, particularly in an older patient or when any alarm feature is present.

Treating a non-healing or atypical anal ulcer as a simple chronic fissure, without biopsy.

Delaying biopsy of a suspicious lesion, hoping it will resolve with conservative treatment.

Missing early signs of obstruction, described in Section 26.6, until the patient presents as an emergency.

Omitting a groin examination in a patient with suspected anal cancer.

26.13 Recording and Follow-Up

Record the examination findings, the biopsy result if available, and the referral made. For example: "Irregular ulcerated lesion, anal canal, biopsy taken, urgent referral to colorectal multidisciplinary team made. No signs of obstruction." Arrange urgent follow-up to review the biopsy result, and ensure the referral pathway is actively followed up, not simply initiated and left.

26.14 Why This Chapter Matters

Anorectal malignancy can mimic the benign conditions that make up most of this manual, and the cost of missing it is severe. A careful examination, a low threshold for biopsy, and prompt recognition of an obstructive complication together protect the patient from a delayed diagnosis. The next chapter turns to a different kind of anorectal emergency: trauma and foreign bodies.

Chapter 27

Anorectal Trauma and Foreign Bodies

This chapter covers anorectal injury and retained foreign bodies from causes other than sexual assault, which is covered separately in Chapter 23. It includes accidental injury, impalement, and self-inserted objects. This chapter covers presentation, examination, investigations, and management, including how to recognise a perforation. This is the same pattern used for every disease chapter in this manual.

27.1 What Is Anorectal Trauma and Foreign Bodies

Anorectal trauma means injury to the anal canal, rectum, or surrounding tissue. It can be accidental, or it can result from a foreign body.

A foreign body is any object retained in the rectum or anal canal. Objects reach this area for many reasons. These include recreational insertion, accidental insertion, and retained medical devices.

Approach every patient without judgement. Follow the same principle described in Chapter 23. A calm, non-judgemental manner encourages an honest history, which is essential for safe treatment.

27.2 Why It Happens

Accidental trauma can follow a fall onto a sharp or pointed object, an impalement injury. It can also follow an industrial accident, a road traffic accident with an associated pelvic fracture, or injury during a medical procedure such as an enema or endoscopy.

A foreign body may be inserted recreationally. It may also be inserted or retained for other reasons. These include concealment of an object, or a repeated pattern of behaviour that may benefit from psychological assessment, described in Section 27.9.

A retained medical device, such as a thermometer or an enema tip, is another recognised cause.

27.3 Classification

Trauma may be penetrating, from a sharp object, or blunt, from a fall or impact.

Injury severity ranges widely. A superficial injury affects only the perianal skin or soft tissue. A more severe injury involves the sphincter complex directly. The most severe injury causes a full-thickness perforation of the rectal wall, with a genuine risk of contamination of the abdominal cavity.

A foreign body may be low-lying, within reach of the examining finger, or high-lying, above the rectosigmoid junction. A high-lying object is harder to retrieve, and carries a higher risk of injury during removal.

27.4 Presentation

Follow the history-taking method described in Chapter 2.

Pain is common, and can be severe, particularly after an impalement injury.

Bleeding may be present, ranging from minor to significant.

Take an honest, detailed history of how the injury happened, or how the object was inserted. This history guides both the urgency and the method of treatment.

Ask specifically whether the patient has already attempted to remove the object themselves. This attempt can itself cause further injury, and changes the assessment needed.

Ask about fever, abdominal pain, and abdominal distension. These symptoms suggest a possible perforation, described fully in Section 27.6, and need urgent attention.

A patient may delay presentation out of embarrassment. This delay does not change the urgency of assessment once the patient presents.

27.5 Examination

Assess the whole patient first, not only the anorectal area. Check for signs of shock, including a fast heart rate and low blood pressure, particularly after a significant injury.

Examine the abdomen carefully. Abdominal tenderness, distension, or rigidity are concerning signs of possible perforation.

Follow the local anorectal sequence described in Chapter 3, once the general assessment is complete.

Inspection, described in Chapter 4, assesses the extent of visible injury, and may show a foreign body at or near the anal verge.

Digital rectal examination, described in Chapter 5, should be gentle. Do not attempt a digital examination if a sharp object is suspected. This risks pushing the object deeper, or causing additional injury. Proceed instead to imaging, described in Section 27.7.

Do not attempt blind removal of a foreign body in the clinic or emergency department if it is high-lying, sharp, or fragile. This risks incomplete removal, further injury, or the object breaking apart. Examination under anaesthesia is the safer approach in this situation.

27.6 Assessment for Perforation

A full-thickness injury to the rectal wall allows bowel contents to enter the abdominal cavity. This is a genuine surgical emergency.

During abdominal examination, look for peritonism: tenderness with guarding and rigidity.

Fever and a fast heart rate both raise concern for perforation and early sepsis.

Urgent imaging, described in Section 27.7, is needed whenever perforation is suspected. Do not delay this assessment.

A confirmed or strongly suspected perforation needs urgent surgical involvement, often without delay.

27.7 Investigations

A plain X-ray can show a radio-opaque foreign body, and can also show free air under the diaphragm, which indicates perforation.

A CT scan gives a more detailed assessment. It is essential whenever perforation is suspected, and is also useful for locating a high-lying foreign body precisely before any attempt at removal.

Examination under anaesthesia allows a full, pain-free assessment, and safe removal of a foreign body that cannot be assessed or removed safely in clinic.

27.8 Principles of Management

Resuscitate the patient first if there are signs of shock or significant blood loss, before proceeding to definitive local treatment.

A low-lying, blunt foreign body can often be removed manually, or with simple instruments, in the clinic or emergency department, with adequate local anaesthesia or sedation.

A high-lying, sharp, or fragile object is more safely removed under general anaesthesia, described in Section 27.5, rather than attempted blindly.

After any foreign body removal, check the rectal wall carefully. Proctoscopy or sigmoidoscopy, described in Chapter 6, confirms there is no residual injury or perforation from the object or its removal.

A sphincter injury identified during assessment is repaired following the same principles described in Chapters 21 and 22.

A confirmed perforation needs urgent surgical repair. This often needs a temporary defunctioning stoma to protect the repair, in the same way described for other severe anorectal injuries in this manual.

Antibiotic cover is appropriate whenever contamination is possible, given the risk of infection from bowel contents.

27.9 Special Situations

Suspected concealment of an object, sometimes for the purpose of smuggling, needs careful, sensitive assessment. Imaging is important, since a concealed packet at risk of rupture can cause serious, sometimes life-threatening, contamination or toxicity. Appropriate coordination with other services may be needed, handled with the same sensitivity as every other patient in this chapter.

A patient with repeated episodes of self-inserted objects may benefit from a compassionate psychological assessment, offered supportively rather than punitively.

Trauma associated with a pelvic fracture needs coordinated assessment with the wider trauma team, since the anorectal injury is only one part of a more complex picture.

27.10 Complications

Perforation and peritonitis, described in Section 27.6.

Sphincter injury, with the risk of later incontinence, described in Chapter 20.

Infection or abscess formation at the site of injury.

Fistula formation, developing during healing.

Significant psychological distress, which deserves the same attention as the physical injury itself.

27.11 Common Mistakes to Avoid

Attempting blind removal of a foreign body without first assessing its position, shape, and risk, particularly when it is high-lying or sharp.

Focusing only on the local anorectal findings, and missing signs of perforation elsewhere in the abdomen.

Approaching the patient with judgement, which discourages an honest history and delays safe treatment.

Failing to check the rectal wall after foreign body removal, and missing a resulting injury.

Delaying imaging when perforation is a genuine possibility.

27.12 Recording and Follow-Up

Record the mechanism of injury, the examination findings, and the treatment given. For example: "Low-lying foreign body, removed manually under local anaesthesia. Proctoscopy after removal shows an intact rectal wall, no bleeding. No signs of perforation." Arrange follow-up to confirm healing, and to offer psychological support where appropriate.

27.13 Why This Chapter Matters

Anorectal trauma and foreign bodies need calm, careful assessment, not judgement. Checking for perforation, avoiding blind removal of a high-risk object, and confirming the rectal wall is intact afterward together protect the patient from a missed, serious injury. The next chapter turns to the anorectal manifestations of systemic and inflammatory bowel disease.

Chapter 28

Anorectal Manifestations of Systemic and Inflammatory Bowel Disease

The anorectal region can be affected by disease that begins elsewhere in the body. This chapter covers the anorectal manifestations of inflammatory bowel disease, particularly Crohn's disease. Recognising these manifestations matters greatly, since their management differs fundamentally from the standard anorectal disease described earlier in this manual. This chapter covers presentation, examination, differential diagnosis, investigations, and management. This is the same pattern used for every disease chapter in this manual.

28.1 What Are Anorectal Manifestations of Systemic and Inflammatory Bowel Disease

Inflammatory bowel disease is a group of chronic conditions causing inflammation of the digestive tract. The two main types are Crohn's disease and ulcerative colitis.

Crohn's disease can affect any part of the digestive tract, from the mouth to the anus. Perianal disease is a common and distinctive feature.

Ulcerative colitis affects only the colon and rectum, in a continuous pattern starting from the rectum. This condition causes perianal disease far less often than Crohn's disease does.

This distinction matters greatly, and is described further in Sections 28.2 and 28.3.

28.2 Crohn's Disease — Anorectal Manifestations

Perianal fistulas are a hallmark feature of Crohn's disease. They are often complex, with multiple tracts, unlike the simpler cryptoglandular fistula described in Chapter 12. This complexity needs a different management approach, described in Section 28.9.

Perianal abscess, described in Chapter 13, can be more severe, and more likely to recur, in a patient with Crohn's disease.

An anal fissure in Crohn's disease often looks different from the typical fissure described in Chapter 11. It may sit off the midline, rather than in the usual posterior position. It may also be multiple, rather than single. This atypical appearance is an important diagnostic clue.

Skin tags in Crohn's disease are often large and swollen, sometimes described as oedematous or elephant-ear tags. They look different from the small, simple skin tags seen in other anorectal conditions.

Anal stenosis, described in Chapter 18, can develop from chronic inflammation and scarring.

A rectovaginal fistula, an abnormal connection between the rectum and vagina, can also occur in Crohn's disease, and needs specialist assessment.

28.3 Ulcerative Colitis — Anorectal Manifestations

Perianal disease is much less common in ulcerative colitis than in Crohn's disease. When a fissure does occur, it is usually less complex than a Crohn's-related fissure.

Pouchitis is a specific complication that can occur after surgery for ulcerative colitis, when the rectum has been removed and a pouch created from the small bowel. It causes inflammation of this pouch, with symptoms similar to a flare of the original disease.

28.4 Distinguishing Crohn's Perianal Disease from Ordinary Anorectal Disease

An atypical location is a key clue. A fissure off the midline, described in Section 28.2, should raise suspicion, rather than being treated as a standard fissure.

Multiple lesions, rather than a single lesion, should also raise suspicion.

A complex fistula, with more than one tract, is unusual for simple cryptoglandular disease, and should prompt consideration of Crohn's disease.

Coexisting gastrointestinal symptoms are an important clue. These include diarrhoea, abdominal pain, weight loss, and blood or mucus in the stool.

A known diagnosis of inflammatory bowel disease, or a family history of it, should immediately raise the possibility that a new anorectal finding is related.

28.5 Presentation

Follow the history-taking method described in Chapter 2.

Ask specifically about diarrhoea, abdominal pain, weight loss, and blood or mucus in the stool.

Ask about a known diagnosis of Crohn's disease or ulcerative colitis, and about any family history of either condition.

Ask about symptoms outside the digestive tract. These include joint pain, eye symptoms, and certain skin conditions, all of which can accompany inflammatory bowel disease.

A patient may present with a perianal symptom, such as pain or discharge, without yet having a diagnosis of inflammatory bowel disease. The anorectal finding may be the first clue to the underlying condition.

28.6 Examination

Follow the sequence described in Chapter 3.

Inspection, described in Chapter 4, should specifically look for the atypical features described in Section 28.2. These include an off-midline fissure, multiple lesions, large oedematous skin tags, and complex fistula openings.

Assess for anal stenosis, described in Chapter 18, which can develop from chronic Crohn's-related inflammation.

A general examination should check for weight loss and for pallor, which can indicate anaemia from chronic disease.

28.7 Differential Diagnosis

Ordinary cryptoglandular fistula, described in Chapter 12, versus a complex Crohn's-related fistula. The distinction changes the management approach significantly.

A typical, posterior midline fissure, described in Chapter 11, versus an atypical, off-midline, or multiple fissure suggesting Crohn's disease.

A simple skin tag versus the large, oedematous tag characteristic of Crohn's disease.

Anorectal malignancy, described in Chapter 26, can occasionally arise within a long-standing Crohn's fistula tract, and should be considered in a chronic, non-healing case.

28.8 Investigations

MRI, described in Chapter 8, is the key investigation for assessing a complex Crohn's-related fistula, showing the full extent of the tracts clearly.

Colonoscopy, with biopsy, confirms the diagnosis of inflammatory bowel disease if this is not already known, and assesses disease activity elsewhere in the bowel.

Examination under anaesthesia is often needed for a full, accurate assessment of complex perianal Crohn's disease, and is frequently combined with MRI for the most complete picture.

Blood tests assess inflammatory markers and check for anaemia, both of which help gauge overall disease activity.

28.9 Principles of Management

Management of Crohn's-related anorectal disease differs fundamentally from the management of ordinary anorectal disease, and this distinction is the single most important message in this chapter.

Medical treatment of the underlying inflammatory bowel disease is often the first priority. This may include immunosuppressive medication or biologic therapy, coordinated closely with a gastroenterologist.

Surgical treatment is deliberately more conservative in Crohn's disease. A standard fistulotomy or sphincterotomy, described in Chapters 12 and 10, carries a higher risk of poor healing in active Crohn's disease, and can result in a non-healing wound.

A loose seton, providing gentle drainage without dividing the sphincter, is often preferred over definitive fistula surgery in active Crohn's disease.

A multidisciplinary approach, combining gastroenterology and colorectal surgery, gives the best outcome. Optimising medical control of the underlying disease before any elective surgery, wherever possible, improves the chances of successful healing.

28.10 Special Situations

A rectovaginal fistula in Crohn's disease, described in Section 28.2, is complex, and needs specialist multidisciplinary assessment.

Anal stenosis in Crohn's disease is best approached conservatively where possible, given the same healing concerns that apply to fistula surgery in this condition.

Pouchitis, described in Section 28.3, needs assessment and treatment coordinated with the gastroenterology team that manages the patient's underlying ulcerative colitis.

28.11 Complications

A non-healing wound is a characteristic and troublesome problem in Crohn's disease, reflecting the impaired healing associated with active inflammation.

Recurrent or multiple fistula tracts, despite treatment.

Anal stenosis, described in Chapter 18, from chronic scarring.

Malignant change, rarely, within a long-standing, chronic fistula tract.

28.12 Common Mistakes to Avoid

Treating a Crohn's-related fistula or fissure with a standard technique, such as fistulotomy or sphincterotomy, without recognising the underlying disease, risking a non-healing wound.

Missing a diagnosis of inflammatory bowel disease in a patient with an atypical, multiple, or off-midline anorectal lesion.

Proceeding to surgery without first coordinating with a gastroenterologist to optimise disease control.

Being unnecessarily aggressive surgically, when a more conservative approach, such as a loose seton, would serve the patient better.

28.13 Recording and Follow-Up

Record the anorectal findings, the suspected or known diagnosis, and the management plan. For example: "Complex perianal fistula, multiple tracts, known Crohn's disease. Plan: MRI, gastroenterology referral for medical optimisation, loose seton insertion." Arrange follow-up jointly with the gastroenterology team managing the underlying disease, rather than in isolation.

28.14 Why This Chapter Matters

Anorectal disease in a patient with inflammatory bowel disease needs a different mindset from standard anorectal practice. Recognising the atypical features described in this chapter, and treating conservatively while the underlying disease is optimised, protects the patient from a non-healing wound and a difficult recovery. This chapter completes Part II of

this manual. The next chapter turns to the author's own techniques, beginning with OPB-MOLIS.

Chapter 29

OPB-MOLIS: Technique, Indications, and Outcomes

This chapter opens Part III of this manual, covering the author's own techniques. It gives the full, definitive description of OPB-MOLIS, referenced throughout this manual, particularly in Chapter 11 and Chapter 18. This chapter covers the technique step by step, its indications, and the outcomes from the author's own 333-case prospective series.

29.1 What Is OPB-MOLIS

OPB-MOLIS stands for Modified Open Lateral Internal Sphincterotomy. It is commonly shortened to MOLIS in this manual and in the author's own practice.

MOLIS is the author's own technique, developed for the surgical treatment of chronic anal fissure, described in Chapter 11.

MOLIS is a modification of lateral internal sphincterotomy, the standard surgical treatment for chronic fissure. The modification addresses a specific limitation of the standard technique, described in Section 29.2.

29.2 Why MOLIS Was Developed

A standard lateral internal sphincterotomy divides the internal anal sphincter without directly seeing it. The surgeon works by feel and by positional judgement, estimating how much of the sphincter has been divided.

This creates genuine uncertainty. Dividing too little sphincter risks the fissure not healing. Dividing too much sphincter risks incontinence.

MOLIS was developed to remove this uncertainty. Instead of dividing the sphincter where it lies, the technique delivers the internal anal sphincter to the surface of the wound first. The lower one-third of the sphincter can then be identified and divided under direct vision, rather than estimated by feel alone.

29.3 Indications

The primary indication for MOLIS is chronic anal fissure that has not responded to conservative treatment, described in Chapter 11.

MOLIS is considered once conservative measures, including topical treatment, have been given a genuine trial and have failed to achieve healing.

A modification of this technique, for severe anal canal stenosis of any cause, is described fully in Chapter 18. A further modification, for fissure recurrence, is described fully in Chapter 30.

29.4 The MOLIS Technique

The patient is positioned according to the standard sequence described in Chapter 3, most often in the left lateral position.

Local, regional, or general anaesthesia is used, depending on the individual case and the surgeon's preference.

A lateral site is chosen, at the 3 o'clock or 9 o'clock position. The midline positions, at 6 o'clock and 12 o'clock, are deliberately avoided, since these sites are more prone to poor healing.

A small incision is made at the chosen lateral site.

The internal anal sphincter is then carefully delivered to the surface of the wound. This is the key step that distinguishes MOLIS from a standard lateral internal sphincterotomy, and gives the technique its name.

During this step, fibres of the corrugator cutis ani, described in Chapter 1, are commonly encountered at the wound edge. These fibres should be recognised for what they are, and gently displaced with a cotton gauze pledget, rather than divided or injured.

With the internal anal sphincter now delivered to the wound surface, the lower one-third of the sphincter is divided under direct vision. This is the standard, safe depth of division.

Haemostasis is achieved. The wound is then closed or left open, according to surgeon preference and the specific circumstances of the case.

Operative video, the MOLIS technique for chronic anal fissure: https://www.youtube.com/watch?v=tvmpUaSC0no&t=11s

29.5 Postoperative Care

Standard wound care applies, including gentle cleaning and regular sitz baths.

Stool softeners are prescribed, to prevent straining and to protect the healing wound.

Adequate pain control is provided. Discomfort after MOLIS is typically less severe than the pain caused by the original fissure.

Follow-up is arranged to confirm wound healing, and to assess fissure resolution and continence.

29.6 The 333-Case Series — Outcomes

The author has performed and prospectively followed 333 cases of MOLIS for chronic anal fissure, between January 2016 and December 2025.

Continence was assessed at each postoperative follow-up, using the Wexner Incontinence Score. Across the full series, no case of postoperative incontinence was recorded, at any timepoint.

This series is reported here as the author's own prospectively collected clinical experience. It represents a single-surgeon series, not yet a multicentre or independently replicated trial. It is offered as a transparent account of the results achieved, rather than as a claim of universal or guaranteed outcomes for every surgeon performing this technique.

29.7 Special Situations

Severe anal canal stenosis, of any cause, is managed with a staged bilateral modification of MOLIS, described fully in Chapter 18.

Fissure recurrence, after a previous MOLIS or standard sphincterotomy, is managed with contralateral MOLIS, described fully in Chapter 30.

29.8 Complications

Bleeding or infection at the operative site, as with any anorectal surgery.

A non-healing wound, though this is uncommon with appropriate postoperative care.

Incontinence remains a theoretical risk of any sphincterotomy, though none was recorded across the author's own 333-case series, described in Section 29.6.

A keyhole deformity can result from dividing the sphincter at a midline site. This is precisely why MOLIS, like standard lateral internal sphincterotomy, deliberately avoids the midline.

29.9 Common Mistakes to Avoid

Attempting to divide the internal anal sphincter without first delivering it to the wound surface, which defeats the central purpose of this technique.

Dividing the sphincter deeper than the lower one-third, without a specific indication to do so.

Failing to recognise the corrugator cutis ani, described in Section 29.4, and injuring these fibres by mistake.

Choosing a midline site, at 6 o'clock or 12 o'clock, rather than the safer lateral position.

29.10 Recording and Follow-Up

Record the site of surgery, the depth of division, and any specific findings. For example: "MOLIS performed at the 9 o'clock position, lower one-third division under direct vision, corrugator cutis ani identified and preserved. Review in 4 weeks." Arrange follow-up to confirm wound healing, fissure resolution, and continence.

29.11 Why This Chapter Matters

MOLIS addresses a genuine limitation in the standard surgical treatment of chronic anal fissure, replacing positional judgement with direct vision. The 333-case series described in this chapter offers a transparent account of the results achieved with this technique. The next chapter turns to two further applications of MOLIS, for severe stenosis and for fissure recurrence.

Chapter 30

Special Applications — Bilateral and Contralateral MOLIS

Chapter 29 described the standard MOLIS technique, for a first presentation of chronic anal fissure. This chapter covers two special applications of the same technique. The first is staged bilateral MOLIS, for severe anal canal stenosis, described fully in Chapter 18. The second is contralateral MOLIS, for fissure recurrence, given its full technical description here for the first time. This chapter also references illustrative cases from the author's own practice.

30.1 What Are These Special Applications

Standard MOLIS, described in Chapter 29, suits a first presentation of chronic anal fissure, at a single lateral site.

Two situations need a modification of this standard approach. Severe anal canal stenosis, of any cause, needs a more extensive release than a single site can safely provide. Fissure recurrence, after a previous sphincterotomy, needs a fresh operative site, rather than working through already-scarred tissue.

30.2 Staged Bilateral MOLIS for Severe Stenosis — Summary

Staged bilateral MOLIS is described in full technical detail in Chapter 18. This includes the sequence of division, the specific dilator sizes used for calibration, and the four-site escalation reserved for the most severe cases.

In summary, a left lateral division is performed first, and checked with a 23 millimetre and then a 27 millimetre dilator. A second, contralateral division is performed only if the 27 millimetre dilator fails to pass. Readers needing the complete technique should refer directly to Chapter 18.

Case 314, referenced in Chapter 18, illustrates this technique in the author's own practice.

Operative video, staged bilateral MOLIS for severe anal canal stenosis: https://www.youtube.com/watch?v=Hrci7ib7974

30.3 Contralateral MOLIS for Fissure Recurrence — Rationale

A fissure can recur after a standard sphincterotomy or a previous MOLIS. Re-operating at the original site carries a specific problem. The tissue at that site is already scarred from the first procedure. This scarring heals less predictably than fresh, unoperated tissue.

This same principle applies elsewhere in anorectal surgery. A secondary sphincter repair, described in Chapter 22, faces a comparable challenge when working through previously operated tissue.

There is a second reason for choosing the contralateral side, beyond the scar. The first procedure already reduced tone on that side, as far as a safe, lower-third division can go. Under anaesthesia, this may allow a 27 millimetre dilator to pass, but not a 30 millimetre

dilator. This incomplete release can explain the recurrence itself. Some tightness remains. The vicious cycle described in Chapter 11 continues.

Re-dividing the same side again adds little further benefit. That muscle has already given up what a safe division can offer. Fresh, undivided muscle on the contralateral side is different. Dividing it adds a genuine further drop in tone, on top of the first side. This follows the same staged, calibration-driven logic used for severe stenosis in Section 18.9. Check the dilator size achieved. Add a contralateral division only if it is not yet enough.

Contralateral MOLIS avoids both problems directly, by performing the second procedure at a fresh site, on the opposite side of the anal canal from the original operation.

30.4 The Contralateral MOLIS Technique

Assess the recurrent fissure, and the site of the original operation, before planning the contralateral procedure.

If the original MOLIS was performed at the 3 o'clock position, the contralateral procedure is performed at the 9 o'clock position, or the reverse, depending on the original site.

The patient is positioned according to the standard sequence described in Chapter 3.

A small incision is made at the fresh, contralateral site, following the same principle described in Chapter 29.

The internal anal sphincter is delivered to the surface of the wound, exactly as in the standard MOLIS technique. This controlled, direct-vision approach applies equally at this fresh site.

Fibres of the corrugator cutis ani, described in Chapter 1, may again be encountered at this new site, and should be recognised and gently displaced, rather than injured.

The lower one-third of the internal anal sphincter is divided under direct vision, at this contralateral site.

The original operative site is left undisturbed. There is no need to re-explore or revise the earlier, already-healed scar.

Operative video, the contralateral MOLIS technique for fissure recurrence: https://www.youtube.com/watch?v=zjsJSb_v9X0&t=20s

30.5 Illustrative Cases

Cases 314, 219, and 245, from the author's own practice, illustrate these special applications.

Case 314, described in Chapter 18, illustrates staged bilateral MOLIS for severe anal canal stenosis.

Cases 219 and 245 illustrate contralateral MOLIS for fissure recurrence, performed following the technique described in Section 30.4.

Full individual case narratives are held in the author's own clinical records, and can be added to this chapter in future revisions as they become available for publication.

30.6 Special Situations

A patient with both severe stenosis and a coexisting fissure may need elements of both techniques described in this chapter, planned together rather than as entirely separate procedures.

A second recurrence, after a contralateral MOLIS has already been performed, needs careful individual reassessment, rather than a further sphincterotomy performed by default.

30.7 Complications

The complications of contralateral MOLIS are the same as those described for standard MOLIS in Chapter 29. These include bleeding, infection, and a theoretical risk of incontinence.

A further recurrence remains possible, even after a well-performed contralateral procedure, and should prompt the careful reassessment described in Section 30.6.

30.8 Common Mistakes to Avoid

Re-operating at the original, already-scarred site, rather than choosing a fresh contralateral position.

Proceeding directly to the four-site technique, rather than trying the staged bilateral approach first and escalating only if calibration shows it is needed.

Failing to check whether the original operative site and the new contralateral site are genuinely on opposite sides of the anal canal.

30.9 Recording and Follow-Up

Record the site of the original procedure, and the site chosen for the contralateral procedure. For example: "Fissure recurrence following MOLIS at 3 o'clock. Contralateral MOLIS performed at 9 o'clock, corrugator cutis ani identified and preserved. Original site left undisturbed. Review in 4 weeks." Arrange follow-up to confirm healing at the new site, and resolution of the recurrent fissure.

30.10 Why This Chapter Matters

These two special applications extend the same core principle described in Chapter 29, direct-vision division of the internal sphincter, to situations the standard technique alone cannot safely address. This chapter completes Part III of this manual. The appendices that follow provide supporting reference material, including the glossary of abbreviations used throughout.

Appendix A

Quick-Reference Diagnostic Algorithms

This appendix gives a fast route from a presenting symptom to the most likely diagnosis. It is organised by symptom, since this is how a patient actually presents, not by disease. Each algorithm gives the key branching questions, and points to the chapter with full detail. Use this appendix for a quick orientation. Use the full chapter for complete assessment and management.

A.1 Rectal Bleeding

Bright red, painless, on the paper or dripping → Haemorrhoids (Chapter 10).

Bright red, with severe tearing pain on defecation → Fissure-in-ano (Chapter 11).

Mixed with mucus, altered bowel habit, especially in an older patient → Anorectal malignancy (Chapter 26). Refer urgently.

With diarrhoea and abdominal pain → Inflammatory bowel disease (Chapter 28).

After receptive anal intercourse, or with discharge → Sexually transmitted proctitis (Chapter 24).

A.2 Anal Pain

Severe, tearing, during and after defecation → Fissure-in-ano (Chapter 11).

Constant, throbbing, worse sitting, with swelling → Perianal or perirectal abscess (Chapter 13).

Sudden lump, very painful, bluish → Thrombosed external pile (Chapter 10).

Pain out of proportion to visible findings, with vesicles or ulcers → Herpes proctitis (Chapter 24).

Following known trauma or a foreign body → Anorectal trauma or foreign body (Chapter 27).

A.3 Perianal Swelling or Lump

Painful, tender, red, hot → Abscess (Chapter 13).

Soft, reducible, at the anal margin → Prolapsed pile or skin tag (Chapter 10).

With an opening discharging pus or serous fluid → Fistula-in-ano (Chapter 12).

In the natal cleft, above the anus, with hair → Pilonidal sinus disease (Chapter 19).

Large, oedematous tags, with gastrointestinal symptoms → Consider Crohn's disease (Chapter 28).

A.4 Anal Discharge or Itching

Itching, worse at night, with soiling → Pruritus ani. Search for a secondary cause (Chapter 25).

Discharge from an opening near the anus → Fistula-in-ano (Chapter 12).

Discharge with painless, wart-like growths → Condylomata acuminata, HPV (Chapter 24).

Discharge with diarrhoea or bleeding → Inflammatory bowel disease (Chapter 28) or infective proctitis (Chapter 24).

A.5 Something Prolapsing or Coming Out

Reduces on its own, only on straining, painless → Haemorrhoids (Chapter 10) or early rectal prolapse (Chapter 14).

Does not reduce, or needs manual reduction, full circumference → Full-thickness rectal prolapse (Chapter 14).

Internal bulge felt on straining, not visible externally → Rectal intussusception (Chapter 15).

In a woman, with obstructed defecation and normal endoscopy → Check bimanually for a retroverted uterus (Chapter 17).

A.6 Difficulty or Straining with Defecation

Straining with digital splinting, incomplete emptying → Obstructed defecation syndrome (Chapter 16).

Narrow, ribbon-like stool, history of previous surgery → Anal stenosis (Chapter 18).

Normal endoscopy, symptoms persist, patient is a woman → Reassess for a retroverted uterus (Chapter 17).

With abdominal distension or vomiting → Consider malignant obstruction. Assess urgently (Chapter 26).

A.7 Faecal Incontinence or Soiling

History of a difficult or assisted delivery → Obstetric anal sphincter injury (Chapter 21).

Elderly or immobile patient, soiling with liquid stool → Check for faecal impaction and overflow first (Chapter 20).

After previous anorectal surgery → Review the original procedure. Consider a sphincter injury (Chapters 20 to 22).

With a coexisting rectal prolapse or large piles → Treat the underlying cause first (Chapters 10 and 14).

Appendix B

Glossary of Abbreviations

This glossary lists every abbreviation used in this manual, in alphabetical order. It is built as a running list, and updated each time a new chapter introduces a new term.

AIN — Anal Intraepithelial Neoplasia — a precancerous change linked to high-risk HPV infection, described in Chapter 24

CT — Computed Tomography — used for urgent imaging when intra-abdominal or pelvic injury is suspected, described in Chapter 23

DRE — Digital Rectal Examination

EAS — External Anal Sphincter

GSP-SPCI — Global Science Portal for Surgical, Procedural and Clinical Innovations — the open-access journal founded by the author, referenced in this manual as the intended home for dedicated case reports arising from its techniques

GTN — Glyceryl Trinitrate — a topical ointment used to relax the internal sphincter in the chemical treatment of fissure-in-ano

HIV — Human Immunodeficiency Virus — post-exposure prophylaxis is considered after sexual assault, described in Chapter 23

HPV — Human Papillomavirus — causes condylomata acuminata (anal warts); high-risk types are linked to anal intraepithelial neoplasia, described in Chapter 24

HSV — Herpes Simplex Virus — causes herpes proctitis, described in Chapter 24

IAS — Internal Anal Sphincter

LGV — Lymphogranuloma Venereum — a severe form of chlamydial proctitis needing a longer treatment course, described in Chapter 24

LIFT — Ligation of the Intersphincteric Fistula Tract — a sphincter-preserving surgical technique for fistula-in-ano

MRI — Magnetic Resonance Imaging — used for fistulogram, defecography, and other complex anorectal imaging throughout this manual

NAAT — Nucleic Acid Amplification Testing — the standard diagnostic swab test for gonorrhoea and chlamydia, described in Chapter 24

OASI — Obstetric Anal Sphincter Injury — a tear of the anal sphincter complex occurring during vaginal delivery, graded by degree (1st-4th); described fully in Chapter 21

OPB-BIG — Bhandari's Index-Guided (BIG) Vessel-Sealer Haemorrhoidectomy — the author's technique for giant haemorrhoids, using a vessel-sealing energy device with the surgeon's index finger placed in the anal canal to guide and protect the dissection

OPB Grading of Anal Canal Stenosis — the author's own grading system for anal canal narrowing, of any cause, assessed under spinal anaesthesia or general anaesthesia with muscle relaxants, using calibrated anal dilators

OPB-MOLIS (MOLIS) — Modified Open Lateral Internal Sphincterotomy — Dr. O. P. Bhandari's own technique, named after him, and commonly shortened to MOLIS in the text

PCR — Polymerase Chain Reaction — used to confirm herpes simplex virus infection from a viral swab, described in Chapter 24

STARR — Stapled Trans-Anal Rectal Resection — a stapled procedure for rectocele and coexisting intussusception, described in Chapter 16

STI — Sexually Transmitted Infection — screening and prophylaxis discussed in Chapters 23 and 24

Appendix C

Sample Case Sheets and Examination Proformas

This appendix gives practical templates for everyday use. They follow the same sequence taught throughout this manual, from history to management plan. Adapt the wording to your own patient, and add local letterhead as needed.

C.1 General Anorectal Case Sheet

Patient Details

Name: _____

Age / Sex: _____

Date: _____

Occupation: _____

Contact number: _____

Presenting Complaint

Main complaint, with duration: _____

Associated symptoms: _____

History of Presenting Complaint (follow Chapter 2)

Bleeding: colour, amount, timing: _____

Pain: site, character, timing, relation to defecation: _____

Swelling or lump: onset, whether it reduces: _____

Discharge: type, amount: _____

Change in bowel habit: _____

Prolapse: frequency, whether it reduces spontaneously: _____

Bowel habit and stool consistency: _____

Red Flag Screen

☐ Unexplained weight loss

☐ Persistent change in bowel habit

☐ Anaemia or unexplained fatigue

☐ Age over 50 with new symptoms

☐ Family history of colorectal cancer

Past History

Previous anorectal surgery: _____

Obstetric history (if relevant): _____

Relevant medical conditions (diabetes, IBD, HIV): _____

Medications: _____

Examination (follow Chapters 3 to 6)

General examination: pallor, weight, abdomen, groin nodes: _____

Inspection: findings at rest and on straining: _____

Digital rectal examination: tone, tenderness, mass, blood on glove: _____

Proctoscopy / sigmoidoscopy findings: _____

Provisional Diagnosis: _____

Investigations Planned: _____

Management Plan: _____

Follow-Up Arranged: _____

C.2 Digital Rectal Examination — Quick Findings Template

Resting tone (normal / reduced / increased): _____

Squeeze tone (normal / reduced): _____

Tenderness (present / absent), site: _____

Mass (present / absent), position, mobility: _____

Sphincter defect (present / absent), position: _____

Prostate (if male): size, consistency: _____

Blood on glove (present / absent): _____

Stool in rectum (present / absent), consistency: _____

C.3 Sample Operative Note — MOLIS

Date: _____

Indication: _____

Anaesthesia: _____

Position: _____

Operative site (o'clock position): _____

Findings: _____

Internal sphincter delivered to wound surface (yes / no): _____

Corrugator cutis ani identified and preserved (yes / no): _____

Depth of division: _____

Haemostasis: _____

Estimated blood loss: _____

Postoperative instructions: _____

C.4 Postoperative Follow-Up Proforma

Date of review: _____

Days since surgery: _____

Wound (healing / not healing), any discharge: _____

Pain (resolved / ongoing): _____

Bowel habit: _____

Continence (normal / any change, specify): _____

Further follow-up needed (yes / no); if yes, date: _____

Appendix D — Clinical Vignette Questions for MS and MCh Entrance Examinations

The following questions are drawn directly from the teaching content of this manual. They are written in the clinical-vignette style used in MS and MCh entrance examinations, with two questions per chapter. Each item is followed by its answer and a brief explanation grounded in the relevant chapter section.

Chapter 1 — Applied Anatomy and Physiology of the Anorectum

Q1. A 45-year-old man has a small growth 1 cm above the dentate line, and reports no pain even on firm palpation. He has a second growth just below the dentate line, which is acutely tender. What best explains this difference?

— A. Above the dentate line is supplied by somatic nerves; below by autonomic nerves

— B. Above the dentate line is supplied by autonomic nerves (visceral, pain-insensate); below by somatic nerves (pudendal, pain-sensitive)

— C. Both regions share identical nerve supply; the difference is due to infection

— D. The dentate line has no bearing on pain sensation in the anal canal

Answer: B

Explanation: Above the dentate line, the autonomic nervous system supplies the rectum and upper anal canal. This system senses stretch, not sharp pain. Below the dentate line, the inferior rectal nerve takes over. This is a branch of the pudendal nerve. It carries pain, touch, and temperature sensation richly. This is why fissures and thrombosed external piles hurt so much. Internal piles, above the line, do not hurt in the same way.

Q2. List the structures and mechanisms that together maintain anal continence, as described in Chapter 1.

Model answer:

— The anal cushions, which give a fine watertight seal for gas and liquid

— The internal and external anal sphincters

— The puborectalis sling, which maintains the anorectal angle (~90° at rest)

— Intact sensory innervation below the dentate line, allowing discrimination of rectal contents

— Normal rectal compliance and capacity

Chapter 2 — History-Taking in Anorectal Disease

Q3. A 58-year-old man reports a change in bowel habit for 6 weeks, with unexplained weight loss, and occasional dark blood mixed with stool. Which feature in this history should be treated as a red flag requiring urgent referral?

— A. The patient's age alone

— B. Dark blood mixed with stool, combined with weight loss and a change in bowel habit lasting more than a few weeks

— C. A single episode of bright red bleeding after straining

— D. Mild discomfort on sitting for long periods

Answer: B

Explanation: Chapter 2 lists these as red flag symptoms: a persistent change in bowel habit, unexplained weight loss, and blood mixed into the stool rather than just coating it. Red flag symptoms need urgent referral or investigation, without delay. They raise concern for cancer, not just a benign anorectal cause.

Q4. A patient describes rectal bleeding. List the key characteristics of the bleeding history that should be asked about, and briefly state why each matters.

Model answer:

— Colour (bright red vs dark red vs black) — indicates how close to the anus the source likely is

— Relationship to defecation (on the paper, coating the stool, mixed in, or dripping after) — helps distinguish piles/fissure from a more proximal source

— Quantity and frequency — assesses severity and chronicity

— Associated pain — painless bleeding suggests piles; painful bleeding suggests fissure

— Any change in bowel habit or weight loss alongside the bleeding — red flags for malignancy

Chapter 3 — Clinical Examination — General Approach

Q5. Before beginning an anorectal examination on an anxious first-time patient, what is the most important first step described in this chapter?

— A. Proceed directly to digital rectal examination to save time

— B. Explain in simple words what will happen and why, and obtain the patient's consent before starting

— C. Ask the patient to undress fully before any conversation

— D. Perform proctoscopy first, since it gives the most information

Answer: B

Explanation: Chapter 3 stresses this step. A brief, honest explanation builds trust. Getting consent does too. Both also relax the patient's muscles. This makes the examination easier and more accurate. Skipping this step increases pain. It also reduces what the examination can find.

Q6. List the items that should be ready in the examination room before an anorectal patient is brought in, as described in Chapter 3.

Model answer:

— An examination table with a step

— Clean gloves in more than one size

— Water-based lubricant

— A proctoscope and sigmoidoscope, cleaned and ready, plus a good light source

— A drape/sheet, and tissue paper or swabs for after the examination

Chapter 4 — Inspection

Q7. On inspection at rest, a patient's perianal skin appears entirely normal. What should be done next, according to Chapter 4, before concluding inspection is normal?

— A. Stop the examination and record a normal finding

— B. Ask the patient to strain gently, as if trying to pass stool, since this can reveal a prolapse, internal piles, or a hidden fistula opening invisible at rest

— C. Proceed directly to proctoscopy without further inspection

— D. Repeat inspection in the supine position only

Answer: B

Explanation: Chapter 4 explains why straining matters. It can bring a prolapse into view. It can also reveal internal piles. It can show a hidden fistula opening too. These findings stay invisible if the patient is inspected at rest only.

Q8. A patient is found on inspection to have a small skin tag and a linear tear, both in the posterior midline. Using the systematic inspection checklist from Chapter 4, list the other features that should specifically be looked for before finishing inspection.

Model answer:

— Overall skin condition — colour, rash, excoriation, or old surgical scarring

— Other swellings — external piles, additional skin tags, or an abscess

— Fistula openings elsewhere in the perianal skin

— Any prolapsing tissue, particularly on straining

Chapter 5 — Palpation and Digital Rectal Examination (DRE)

Q9. A patient has a hot, tender, fluctuant swelling beside the anus. Palpation is very painful even with gentle fingertip pressure. What is the most appropriate next step regarding the full digital rectal examination?

— A. Force the finger in regardless, since DRE must never be skipped

— B. A full digital examination may need to wait, since forcing a finger into an acutely painful, infected area causes needless pain and can spread infection

— C. Abandon assessment of this patient entirely

— D. Proceed directly to sigmoidoscopy instead of DRE

Answer: B

Explanation: Chapter 5 notes this for an acutely tender, fluctuant area. This finding suggests an abscess. A full digital examination may need to wait. Forcing the finger in causes needless pain. It also risks spreading the infection. Examination under anaesthesia may be more appropriate instead.

Q10. Explain, using the teaching saying quoted in Chapter 5, why digital rectal examination should never be skipped, and list two findings that can only be detected by DRE and not by inspection alone.

Model answer:

— The saying: "If you do not put your finger in, you may put your foot in it" — meaning a skipped DRE can lead to a missed diagnosis and real harm to the patient

— A low rectal growth, which needs a finger to be found

— The internal opening of a fistula

— Sphincter tone, and deep tenderness not visible from outside

Chapter 6 — Proctoscopy and Sigmoidoscopy

Q11. How far does a rigid sigmoidoscope typically reach from the anal verge, according to Chapter 6, and what bowel preparation is required before its use?

— A. 10 cm; no preparation needed

— B. 20 to 25 cm; one phosphate enema shortly before the procedure

— C. 40 cm; a full oral bowel preparation the day before

— D. 5 cm; the same as proctoscopy, no preparation needed

Answer: B

Explanation: Chapter 6 states the rigid sigmoidoscope often reaches 20 to 25 centimetres from the anal verge. A single phosphate enema is given shortly before the procedure. This clears the rectum and lower sigmoid well enough for a clear view. Proctoscopy is different. It needs no preparation at all.

Q12. Explain why proctoscopy and sigmoidoscopy must always follow, and never replace, a proper history and digital rectal examination.

Model answer:

— Each step in the examination builds on the one before it; history and DRE give essential information that instrumentation cannot replace

— The finger can feel more than the eye can see; a normal proctoscopy does not rule out something felt on DRE

— Skipping history and DRE risks a common error: diagnosing too quickly from instrumentation alone, without the fuller clinical picture

Chapter 7 — Formulating a Provisional Diagnosis

Q13. A patient reports painless bleeding seen as drops after defecation. Proctoscopy shows soft, swollen cushions at 3, 7, and 11 o'clock, with no tear seen anywhere. What provisional diagnosis does this history-examination pattern point to?

— A. Fissure-in-ano

— B. Internal haemorrhoids (piles)

— C. Fistula-in-ano

— D. Rectal prolapse

Answer: B

Explanation: Painless bleeding is one clue. Soft, swollen cushions at the classic 3, 7, and 11 o'clock positions are the other. Together, on proctoscopy, this is the textbook pattern for internal piles described in Chapter 7. Here, the story and the finding match.

Q14. A patient's history strongly suggests fissure-in-ano, but no tear is visible on careful inspection. According to Chapter 7, what should the doctor do when the story and the examination finding do not match?

Model answer:

— Recognise the mismatch as a warning sign, not something to override

— Go back and check both the history and the examination again, since something may have been missed in either

— Do not force a diagnosis to fit an incomplete picture

— Keep a differential diagnosis open until the story and the findings agree

Chapter 8 — Relevant Investigations

Q15. A patient is being worked up for suspected sphincter injury after a difficult vaginal delivery. Which investigation is most appropriate to assess the structural integrity of the sphincter, as distinct from its function?

— A. Anorectal manometry

— B. Endoanal ultrasound

— C. Colonoscopy

— D. MRI fistulogram

Answer: B

Explanation: Chapter 8 draws a key distinction. Endoanal ultrasound answers questions about sphincter structure. It shows small tears. Manometry answers a different question. It shows sphincter pressure and function. This distinction matters when planning management of a suspected sphincter injury.

Q16. For each of the following, name the investigation from Chapter 8 that best answers the stated clinical question: (a) is there a sphincter pressure/function problem, (b) what is the complex anatomy of this fistula, (c) is there disease elsewhere in the large bowel?

Model answer:

— (a) Anorectal manometry — assesses sphincter pressure and function

— (b) MRI fistulogram — maps complex fistula anatomy

— (c) Colonoscopy — assesses disease anywhere in the large bowel, not just the anal canal

Chapter 9 — Arriving at a Final Diagnosis and Treatment Planning

Q17. A patient is found to have both piles and a fissure at the same visit. According to Chapter 9, what is the correct approach to recording and planning treatment?

— A. Record only the more severe diagnosis and ignore the other

— B. State both diagnoses clearly, and plan treatment for each, in the right order

— C. Delay diagnosis until only one condition remains

— D. Treat empirically without stating either diagnosis

Answer: B

Explanation: Chapter 9 addresses this scenario directly. When two conditions are found together, state both diagnoses clearly. Plan treatment for each. Treat them in the appropriate order.

Q18. List the components that a complete treatment plan should state, according to Chapter 9.

Model answer:

— The treatment chosen

— The expected outcome

— Any alternative considered, and why it was not chosen

— The follow-up arrangement

Chapter 10 — Haemorrhoids (Piles)

Q19. A patient's internal piles prolapse on straining but require manual reduction; they do not reduce on their own. What grade of internal piles is this, using the classification in Chapter 10?

— A. First degree

— B. Second degree

— C. Third degree

— D. Fourth degree

Answer: C

Explanation: Third degree piles prolapse on straining. They need to be pushed back manually. Second degree piles reduce on their own. Fourth degree piles stay prolapsed at all times. They cannot be reduced at all.

Q20. List at least five recognised risk factors for developing haemorrhoids, as described in Chapter 10.

Model answer:

— Chronic constipation and straining

— Prolonged sitting on the toilet

— A low-fibre diet

— Low fluid intake

— Pregnancy (raised pelvic pressure and hormonal changes)

— A family history of piles

— A sedentary lifestyle

Chapter 11 — Fissure-in-Ano

Q21. On examination, a fissure shows a sentinel pile, a hypertrophied anal papilla, and visible internal sphincter fibres at its base. How should this fissure be classified, and why does the distinction matter?

— A. Acute fissure; responds well to simple conservative treatment

— B. Chronic fissure; these features mark chronicity and it often needs more active treatment

— C. Traumatic fissure unrelated to sphincter spasm

— D. This combination of findings is not described in the manual

Answer: B

Explanation: Chapter 11 lists the features of a chronic fissure. These are a sentinel pile, a hypertrophied anal papilla, visible internal sphincter fibres, and raised, indurated edges. A fissure is called chronic once it has been present for six weeks or more. Chronic fissures often need more active treatment. Acute fissures usually respond to conservative measures alone.

Q22. Describe the 'vicious cycle' by which a fissure becomes self-sustaining, as explained in Chapter 11.

Model answer:

— A hard stool or straining first tears the anal lining

— Pain from the tear causes internal sphincter spasm

— Spasm raises pressure in the anal canal

— High pressure reduces blood flow, especially at the posterior midline

— Poor blood flow slows healing, so the tear fails to close

— The unhealed tear causes more pain and spasm, and the cycle repeats

Chapter 12 — Fistula-in-Ano

Q23. A fistula's external opening lies clearly behind an imaginary transverse line drawn across the anus. Using Goodsall's rule, where would the internal opening most likely be expected?

— A. A straight, radial tract to the nearest point on the anal canal

— B. A curved tract, with the internal opening in the posterior midline

— C. Goodsall's rule does not apply to posterior openings

— D. The internal opening cannot be predicted by external opening position

Answer: B

Explanation: Goodsall's rule has two parts. An external opening behind the transverse line usually points to a curved tract. Its internal opening lies in the posterior midline. An opening in front of the line usually points to a straight, radial tract instead. Chapter 12 notes one caution: this is a useful guide, not an absolute law. It is less reliable for openings further from the anus.

Q24. List the four types of fistula tract described in Chapter 12, classified by their path relative to the sphincter muscles, and state which is most common.

Model answer:

— Intersphincteric — runs between the internal and external sphincters (most common)

— Trans-sphincteric — crosses both internal and external sphincters

— Suprasphincteric — rises above the puborectalis before curving to the skin (uncommon, higher risk to continence)

— Extrasphincteric — bypasses the sphincter complex entirely, often linked to pelvic disease

Chapter 13 — Perianal and Perirectal Abscess

Q25. A patient has an abscess that spreads around the back of the anal canal, linking the ischiorectal spaces on both sides. What type of abscess is this, and what does it require?

— A. Perianal abscess; simple bedside incision and drainage

— B. Horseshoe abscess; careful surgical planning

— C. Supralevator abscess; usually linked to a simple gland infection only

— D. Intersphincteric abscess; rarely causes severe pain

Answer: B

Explanation: Chapter 13 describes a horseshoe abscess clearly. It spreads around the back of the anal canal. It links the ischiorectal spaces on both sides. This type needs careful surgical planning. A simple perianal abscess does not need the same level of planning.

Q26. List the five anatomical spaces used to classify perianal/perirectal abscess in Chapter 13, and state which is the rarest and most serious.

Model answer:

— Perianal — just under the skin near the anal margin (most common, easiest to diagnose)

— Ischiorectal — the fat-filled space beside the anal canal

— Intersphincteric — between the internal and external sphincters

— Supralevator — above the levator ani, high in the pelvis (rarest and most serious)

— Horseshoe — spreads posteriorly, linking both ischiorectal spaces

Chapter 14 — Rectal Prolapse

Q27. An elderly woman presents with tissue protruding from the anus on straining. On examination, only the inner lining of the rectum has slid down, protruding a short distance, and it is initially mistaken for large piles. What is the correct classification?

— A. Full-thickness prolapse

— B. Mucosal prolapse

— C. Internal intussusception

— D. Rectal intussusception

Answer: B

Explanation: Chapter 14 describes mucosal prolapse clearly. Only the inner lining slides down. It usually protrudes a short distance. It is sometimes mistaken for large haemorrhoids. Full-thickness prolapse is different. There, the whole wall of the rectum comes down.

Q28. List the factors that weaken the normal supports of the rectum and predispose to rectal prolapse in adults, as described in Chapter 14.

Model answer:

— Chronic straining, often from long-standing constipation

— Childbirth injury to the pelvic floor and anal sphincter

— A chronic cough, adding repeated strain

— Heavy lifting over many years

Chapter 15 — Rectal Intussusception

Q29. On defecography, a patient's rectal wall is found to fold inward, with the fold reaching the anal canal but staying in its upper part, without reaching the lower anal canal or protruding through the anus. Which grade of rectal intussusception is this?

— A. High rectal intussusception

— B. Low rectal intussusception

— C. High anal intussusception

— D. Low anal intussusception

Answer: C

Explanation: Chapter 15 grades intussusception by how far the fold travels. A fold that enters the anal canal but stays in its upper part is called high anal intussusception. This matches the finding described. This grade is one step more advanced than low rectal intussusception. In low rectal intussusception, the fold reaches only the upper anal canal. It does not fully enter it. High anal intussusception is also one step less advanced than low anal intussusception. In low anal intussusception, the fold travels all the way down into the lower anal canal.

Q30. Explain the key difference between rectal intussusception (Chapter 15) and full-thickness rectal prolapse (Chapter 14).

Model answer:

— In full-thickness prolapse, the rectum comes out through the anus

— In intussusception, the rectal wall folds inward on itself instead, like one part of a telescope sliding into another

— The folding may reach the anal canal but does not pass through the anus, which is the key distinguishing feature

— This is why intussusception is sometimes called "internal prolapse"

Chapter 16 — Obstructed Defecation Syndrome (ODS)

Q31. A patient with obstructed defecation is found to have both a rectocele and pelvic floor dyssynergia together. Why does Chapter 16 emphasise separating these two causes carefully?

— A. Because only one of the two conditions is ever clinically significant

— B. Because treatment differs sharply between an anatomical cause (rectocele) and a functional cause (dyssynergia)

— C. Because dyssynergia always requires surgery, while rectocele never does

— D. Because the two conditions cannot coexist and one diagnosis must be wrong

Answer: B

Explanation: Chapter 16 stresses an important point. Many patients have more than one cause of obstructed defecation together. Careful assessment is essential. It must separate an anatomical cause, like rectocele, from a functional cause, like pelvic floor dyssynergia. This matters because treatment differs sharply between the two.

Q32. Explain what pelvic floor dyssynergia (anismus) is, and how it differs mechanistically from a rectocele as a cause of obstructed defecation.

Model answer:

— Dyssynergia is functional: the puborectalis and external sphincter should relax during straining but instead contract, working against the patient

— No physical blockage is present — it is often a learned pattern from years of habitual straining

— A rectocele, by contrast, is anatomical: a bulge of the front rectal wall into the vagina, forming a pouch that physically traps stool

— The mechanisms differ: one is about muscle coordination, the other is a structural pouch. Treatment differs sharply too — dyssynergia needs biofeedback and retraining, not surgery

Chapter 17 — Retroverted Uterus and Its Relation to Obstructed Defecation

Q33. A woman has severe straining and a sense of blockage during defecation. Colonoscopy and proctoscopy are both entirely normal. According to Chapter 17, what should this combination of findings specifically prompt the examiner to consider?

— A. A diagnosis of primary pruritus ani

— B. A retroverted uterus pressing on the rectum, requiring a specific examination technique and combined gynaecological assessment

— C. That the patient's symptoms are not genuine, since all tests are normal

— D. An urgent referral for anal manometry only

Answer: B

Explanation: Chapter 17 identifies a key clue that is often missed. Normal, or near-normal, findings on endoscopy are that clue. A patient may have entirely normal colonoscopy and proctoscopy results. If obstructive symptoms persist despite this, examine specifically for a retroverted uterus. This is a purely mechanical cause. It stays invisible on endoscopy.

Q34. Explain, in mechanical terms, how a retroverted uterus can obstruct defecation even though the rectum, anal canal, and sphincters are all otherwise entirely normal.

Model answer:

— The rectum normally lies against the sacral hollow with free space to fill and empty

— In a retroverted uterus, the uterus tips backward into this same space, coming to lie directly in front of the rectum

— The uterus presses the rectum backward, against the sacral hollow, compressing it

— Stool cannot pass easily through a rectum compressed this way, even though the rectum, anal canal, and sphincters are structurally normal

— It is a purely mechanical problem. It stays invisible on colonoscopy or proctoscopy. This is why it is so often missed

Chapter 18 — Anal Stenosis

Q35. Using the established Milsom and Mazier classification described in Chapter 18, a patient's anal canal will not admit even a well-lubricated index finger or a medium Hill-Ferguson retractor without forceful dilatation, but does admit the little finger with force. How is this stenosis classified?

— A. Mild stenosis

— B. Moderate stenosis

— C. Severe stenosis

— D. This falls outside the Milsom-Mazier system

Answer: B

Explanation: The Milsom and Mazier system, from 1986, has three grades. Mild stenosis still admits a well-lubricated index finger, or a medium Hill-Ferguson retractor. Moderate stenosis needs forceful dilatation to admit either of these. Severe stenosis will not admit even the little finger without forceful dilatation. This case does not admit the finger or retractor without force. It does admit the little finger, with force. This places it in the moderate category.

Q36. In an adult patient, under spinal anaesthesia with full relaxation of the anal sphincters, the 23 mm dilator passes. The 27 mm dilator does not pass. Using the OPB Grading of Anal Canal Stenosis, what grade is this?

— A. Grade 1

— B. Grade 2

— C. Grade 3

— D. Grade 4

Answer: B

Explanation: The OPB Grading assesses stenosis in the adult patient. It is done under spinal anaesthesia, or general anaesthesia with muscle relaxants. A calibrated dilator set is used. In Grade 1, the 27 mm dilator passes, but the 30 mm dilator does not. In Grade 2, the 23 mm dilator passes, but the 27 mm dilator does not. In Grade 3, the 15 mm dilator passes, but the 23 mm dilator does not. In Grade 4, the 15 mm dilator does not pass. In this case, the 23 mm dilator passes, but the 27 mm dilator does not. This is Grade 2, moderate stenosis.

Q37. Describe the staged, calibration-driven sequence used in the author's staged bilateral MOLIS approach for severe anal stenosis (Section 18.9), including the specific dilator sizes used to decide whether a second division is needed.

Model answer:

— A left lateral, lower-third open sphincterotomy is performed first

— A 23 mm dilator is passed immediately on the table to check the canal

— A 27 mm dilator is then tried; in severe stenosis this typically fails to pass after the first side alone

— If the 27 mm dilator fails, a second, contralateral lateral sphincterotomy is performed, again restricted to the lower one-third

— The 27 mm dilator is retried and typically passes; a 30 mm dilator can then be tried and is typically seated

Chapter 19 — Pilonidal Sinus Disease

Q38. A young man with dense body hair presents with a chronically discharging sinus in the midline over the sacrococcygeal region. He has no anal symptoms. How does Chapter 19 distinguish this condition from a fistula-in-ano?

— A. It is identical to fistula-in-ano and treated the same way

— B. It is entirely separate from the anal canal, does not communicate with it, and is not caused by anal gland infection

— C. It always requires the same MOLIS technique used for fistula-in-ano

— D. It only occurs in women, unlike fistula-in-ano

Answer: B

Explanation: Chapter 19 is explicit on this point. Pilonidal sinus disease is entirely separate from the anal canal. It does not communicate with the anal canal. It is not caused by anal gland infection. This makes it different from fistula-in-ano, covered in Chapter 12. The two conditions are often confused, simply because they sit close together.

Q39. List the risk factors for pilonidal sinus disease described in Chapter 19.

Model answer:

— A deep natal cleft

— Coarse or abundant body hair

— Prolonged sitting

— Obesity

— Poor local hygiene

Chapter 20 — Anal Incontinence

Q40. A patient has normal sphincter muscle bulk on endoanal ultrasound but still has poor control of stool. According to Chapter 20, what mechanism could explain incontinence despite a structurally intact sphincter?

— A. This is impossible; incontinence always means a torn sphincter

— B. Nerve injury impairing sphincter function even when the muscle itself is structurally intact

— C. The ultrasound must be technically wrong

— D. This always indicates malignancy

Answer: B

Explanation: Chapter 20 explains this mechanism. Nerve injury can impair sphincter function on its own. It can come from childbirth, chronic straining, diabetes, or spinal disease. This can happen even when the muscle itself looks structurally intact on imaging. It is distinct from a direct injury to the sphincter muscle.

Q41. List the categories of underlying cause of anal incontinence described in Chapter 20.

Model answer:

— Sphincter injury (childbirth, previous anorectal surgery)

— Nerve injury, impairing function even with an intact muscle (childbirth, chronic straining, diabetes, spinal disease)

— Structural conditions elsewhere, such as rectal prolapse or large prolapsing haemorrhoids

— Reduced rectal capacity (inflammatory bowel disease, previous radiotherapy)

— Overflow incontinence from faecal impaction

— Severe or persistent diarrhoea overwhelming a normal sphincter

Chapter 21 — Obstetric Anal Sphincter Injury (OASI) — Fourth-Degree Perineal Tear with Cloaca Formation

Q42. During delivery, a perineal tear is found to involve more than half the thickness of the external anal sphincter, but the internal anal sphincter is intact and the mucosa is not breached. How should this tear be classified?

— A. Grade 3a

— B. Grade 3b

— C. Grade 3c

— D. Fourth degree

Answer: B

Explanation: Grade 3b tears more than half the thickness of the external anal sphincter. The internal sphincter stays intact. Grade 3a tears less than half the thickness. Grade 3c involves both the external and internal sphincter. Fourth degree extends further still. It goes through both sphincters and the anal or rectal mucosa.

Q43. Explain what a cloaca is, how it forms, and why a simple sphincter repair alone does not correct it (Chapter 21, Section 21.4).

Model answer:

— A cloaca forms when the tissue separating the rectum from the vagina (the rectovaginal septum) is lost entirely, so the rectum and vagina become one common channel

— It results from an unrecognised or poorly repaired fourth-degree tear, or breakdown of an earlier repair

— It causes severe faecal incontinence, since stool passes directly into the vagina

— A simple sphincter repair alone does not correct it, because the missing rectovaginal septum must also be reconstructed

Chapter 22 — Complete Anal Sphincter Complex Tear — Secondary Repair

Q44. A woman presents two years after delivery with incontinence and a confirmed anterior sphincter defect on endoanal ultrasound that correlates with her symptoms. What type of procedure is indicated, as described in Chapter 22?

— A. Primary repair, performed immediately as at the time of delivery

— B. Secondary sphincter repair — a planned, elective operation

— C. No surgical option exists this long after delivery

— D. Immediate emergency repair under general anaesthesia within 24 hours

Answer: B

Explanation: Chapter 22 defines secondary sphincter repair clearly. It is a planned, elective operation. It is performed after the original injury has already occurred and healed. It is indicated here for a clear reason. Ultrasound confirms a defect. This defect correlates with her symptoms. She is presenting well after the original delivery.

Q45. List the four indications for secondary sphincter repair given in Chapter 22.

Model answer:

— A confirmed anterior sphincter defect on endoanal ultrasound, correlating with symptoms

— A failed primary repair that has broken down

— A missed (occult) obstetric sphincter injury presenting later

— A cloaca needing formal reconstruction

Chapter 23 — Anorectal Trauma from Sexual Assault

Q46. A patient presents after a sexual assault with anorectal injury. According to Chapter 23, which factor is emphasised as mattering as much as the surgical assessment itself?

— A. Only the physical severity of the injury

— B. Sensitivity, consent, careful documentation, and coordination with other services

— C. Immediate surgery in all cases regardless of injury severity

— D. Exclusively the involvement of law enforcement, before any clinical assessment

Answer: B

Explanation: Chapter 23 states this explicitly. Sensitivity matters as much as the surgical assessment. So does consent. So does careful documentation. So does coordination with other services. The physical injury is only one part of the patient's need.

Q47. List the three-tier spectrum of injury severity described in Chapter 23 for anorectal trauma from sexual assault.

Model answer:

— Minor injury — superficial mucosal or skin abrasion, or a small fissure

— Moderate injury — a deeper laceration, or a partial sphincter injury

— Severe injury — full-thickness perforation, complete sphincter disruption, or an associated pelvic/intra-abdominal injury

Chapter 24 — Sexually Transmitted Diseases and Condylomatous Conditions with Anorectal Manifestations

Q48. A patient is found to have anal warts. Which HPV types are most associated with the warts themselves, and which types instead carry a risk of progression toward anal intraepithelial neoplasia (AIN) and cancer?

— A. Types 6 and 11 cause warts and also carry the highest cancer risk

— B. Low-risk types 6 and 11 mainly cause the warts; high-risk types 16 and 18 are linked to AIN, which can progress toward cancer

— C. All HPV types carry an equal risk of malignant progression

— D. HPV is unrelated to anal intraepithelial neoplasia

Answer: B

Explanation: Chapter 24 draws a clear distinction. Low-risk HPV types 6 and 11 cause most warts. High-risk types 16 and 18 are different. They are linked to anal intraepithelial neoplasia, or AIN. AIN can progress toward cancer over time. This distinction has direct implications for surveillance.

Q49. Explain why Chapter 24 recommends a full sexually transmitted infection screen whenever one anorectal STI is found, rather than treating only the obvious finding.

Model answer:

— More than one sexually transmitted infection is often present at the same time — this is common, not rare

— Treating only the obvious finding risks leaving a second, coexisting infection undiagnosed

— The same sexual contact that transmits one infection can transmit others, including HIV, so HIV testing should also be offered

— A full screen (NAAT, HSV PCR if ulcers present, syphilis serology, HIV test) ensures nothing is missed

Chapter 25 — Pruritus Ani

Q50. A patient has chronic anal itching with no identifiable underlying cause found after full assessment. How is this classified, and why does the distinction from the alternative category matter?

— A. Secondary pruritus ani; needs treatment of an underlying condition

— B. Primary (idiopathic) pruritus ani; needs a different management approach than secondary cases, which need their underlying condition treated directly

— C. This cannot be classified without a skin biopsy

— D. Both categories are managed identically, so the distinction does not matter

Answer: B

Explanation: Chapter 25 divides pruritus ani into two types. Primary pruritus ani is idiopathic. It has no identifiable cause. Secondary pruritus ani has a specific underlying cause. This distinction matters greatly. Secondary cases need the underlying condition treated directly. Primary cases need a different approach instead.

Q51. List the four broad categories of cause of secondary pruritus ani described in Chapter 25, with one example of each.

Model answer:

— Anorectal conditions causing soiling — e.g. haemorrhoids

— Skin conditions — e.g. eczema or contact dermatitis

— Infections — e.g. candida (fungal) or threadworm

— Systemic conditions — e.g. diabetes mellitus

Chapter 26 — Anorectal Malignancy — Clinical Approach

Q52. A patient is diagnosed with a squamous cell carcinoma of the anal canal, strongly linked to HPV infection. A second patient is diagnosed with an adenocarcinoma of the rectum, arising from a polyp. According to Chapter 26, why does this distinction matter so much?

— A. It does not matter; both cancers are treated identically

— B. The two cancers look different, behave differently, and are treated differently

— C. Only rectal adenocarcinoma requires any treatment at all

— D. Anal SCC is never linked to HPV in this manual's teaching

Answer: B

Explanation: Chapter 26 states this plainly. Anal canal cancer and rectal cancer fall into two main categories. Anal canal cancer is usually a squamous cell carcinoma, linked to HPV. Rectal cancer is usually an adenocarcinoma, arising from a polyp. The two have different biology. They look different. They behave differently. They are treated differently.

Q53. List the recognised risk factors for rectal adenocarcinoma described in Chapter 26.

Model answer:

— Increasing age

— A family history of colorectal cancer

— Inflammatory bowel disease, with long-standing disease

— Diet, and the presence of adenomatous polyps

— Inherited genetic syndromes (a smaller number of cases, much higher lifetime risk)

Chapter 27 — Anorectal Trauma and Foreign Bodies

Q54. A patient presents with a retained rectal foreign body inserted recreationally. According to Chapter 27, what approach does the manual recommend when taking this patient's history?

— A. A judgemental tone, to discourage repeat presentations

— B. A calm, non-judgemental manner, since this encourages an honest history essential for safe treatment

— C. Refusal to treat unless the patient explains their reasons in full

— D. Immediate police involvement before any clinical assessment

Answer: B

Explanation: Chapter 27 states this clearly. Every patient should be approached without judgement. This follows the same principle described in Chapter 23. A calm, non-judgemental manner encourages an honest history. An honest history is essential for safe treatment.

Q55. List the causes of anorectal foreign bodies described in Chapter 27, distinguishing recreational, accidental, and medical causes.

Model answer:

— Recreational — objects inserted recreationally

— Accidental — a fall onto a sharp object (impalement), industrial accident, road traffic accident with pelvic fracture, injury during a medical procedure

— Medical — a retained medical device, such as a thermometer or enema tip

— Other — concealment of an object, or a repeated pattern of behaviour that may benefit from psychological assessment

Chapter 28 — Anorectal Manifestations of Systemic and Inflammatory Bowel Disease

Q56. A patient with known Crohn's disease develops a perianal fistula with multiple tracts. How does Chapter 28 describe this compared with a typical cryptoglandular fistula (Chapter 12)?

— A. It is simpler and easier to manage than a typical cryptoglandular fistula

— B. It is often complex, with multiple tracts, unlike the simpler cryptoglandular fistula, and needs a different management approach

— C. Crohn's disease never causes perianal fistulas

— D. It is managed identically to a simple cryptoglandular fistula

Answer: B

Explanation: Chapter 28 states this clearly. Perianal fistulas are a hallmark feature of Crohn's disease. They are often complex, with multiple tracts. This is unlike the simpler cryptoglandular fistula covered in Chapter 12. This added complexity needs a different management approach.

Q57. Explain the key difference in how Crohn's disease and ulcerative colitis affect the anorectal region, as described in Chapter 28.

Model answer:

— Crohn's disease can affect any part of the digestive tract, from mouth to anus. Perianal disease is a common, distinctive feature. This includes fistulas, abscesses, atypical fissures, and oedematous skin tags

— Ulcerative colitis is different. It affects only the colon and rectum, in a continuous pattern from the rectum. It causes perianal disease far less often

— When a fissure does occur in ulcerative colitis, it is usually less complex than a Crohn's-related fissure

— Ulcerative colitis instead carries its own specific complication, pouchitis, after pouch surgery

Chapter 29 — OPB-MOLIS: Technique, Indications, and Outcomes

Q58. During the MOLIS procedure, fibres of the corrugator cutis ani are encountered at the wound edge as the internal sphincter is delivered to the surface. What is the correct handling of these fibres, according to Chapter 29?

— A. They should be divided to improve surgical access

— B. They should be recognised for what they are and gently displaced with a cotton gauze pledget, rather than divided or injured

— C. They should be ligated before proceeding

— D. They are not encountered during MOLIS and this describes a different procedure

Answer: B

Explanation: Chapter 29 gives a specific instruction here. Corrugator cutis ani fibres are commonly encountered at the wound edge during this step. They should be recognised for what they are. They should be gently displaced with a cotton gauze pledget. They should not be divided or injured. This step is what distinguishes careful MOLIS technique.

Q59. Describe the key step that distinguishes MOLIS from a standard lateral internal sphincterotomy, and state the standard depth of division used.

Model answer:

— Instead of dividing the internal anal sphincter where it lies (by feel), MOLIS first delivers the internal anal sphincter to the surface of the wound

— This allows the sphincter to be divided under direct vision, rather than estimated by feel alone

— The standard, safe depth of division is the lower one-third of the internal anal sphincter

Chapter 30 — Special Applications — Bilateral and Contralateral MOLIS

Q60. A patient previously had a MOLIS procedure at the 3 o'clock position for fissure, and now has a recurrent fissure. Where should the contralateral MOLIS procedure be performed, according to Chapter 30?

— A. At the same 3 o'clock position, repeating the original procedure

— B. At the 9 o'clock position, the fresh contralateral site

— C. At the 6 o'clock posterior midline

— D. At the 12 o'clock anterior midline

Answer: B

Explanation: Chapter 30 states this rule clearly. If the original MOLIS was performed at the 3 o'clock position, the contralateral procedure is performed at the 9 o'clock position. Or the reverse is true, if the original was at 9 o'clock. This follows the same principle described in Chapter 29. The original operative site is left undisturbed. Recurrence often means the first side did not lower sphincter tone quite enough; fresh muscle on the contralateral side can still add the extra reduction needed.

Q61. Explain why the original MOLIS operative site is left undisturbed when a contralateral procedure is performed for fissure recurrence (Chapter 30).

Model answer:

— Re-operating at the original site means working through tissue already scarred from the first procedure

— Scarred tissue heals less predictably than fresh, unoperated tissue

— Contralateral MOLIS avoids this by performing the second procedure at a fresh site, on the opposite side of the anal canal

— There is no need to re-explore or revise the earlier, already-healed scar

— The first side has already given up as much tone reduction as a safe division can offer; re-cutting it adds little further benefit

— Fresh muscle on the contralateral side can still add a genuine further drop in sphincter tone, following the same staged, calibration-driven logic used for stenosis in Section 18.9

Appendix E

Operation Protocol — The WHO Surgical Safety Checklist

This appendix sets out a structured, fillable operation protocol. It is based on the World Health Organization's Surgical Safety Checklist. The World Health Organization introduced this checklist in 2008. It was part of the Safe Surgery Saves Lives programme. A large multi-country study followed, published in 2009. It showed that using this checklist reduced both death and major complications after surgery. Many hospitals worldwide have adopted it since.

The pages that follow are designed to be photocopied, or reproduced, and completed by hand for each patient. Resident doctors, on both the surgical and anaesthesia side, may fill this in together with the nursing team, at each stage of the patient's care.

Patient and Procedure Details

Patient's Name:		**Ward/Bed No.:**	
I.P. No.:		**UHID No.:**	
Age/Sex:		**Date:**	
Name of Surgeon:		**Name of Anaesthetist:**	
Procedure:		**Unit:**	

E.1 Pre-Operative Preparation

Item	Yes	No
Written, informed consent taken, for surgery and anaesthesia		
Pre-anaesthesia check-up completed		
Nil by mouth confirmed, for the required period		
Dentures, ornaments, nail polish, spectacles, and contact lenses removed		
Operative site prepared and marked		
Investigation reports attached to the case file		

E.2 Sign In — Before Induction of Anaesthesia

To be completed by the anaesthesia team, with the patient awake, before any anaesthetic drug is given.

Item	Yes	No
Patient's identity, surgical site, procedure, and consent confirmed		
Surgical site marked, or marking confirmed as not applicable		
Anaesthesia safety check complete		
Pulse oximeter on the patient, and working		
Known allergy checked		
Difficult airway or aspiration risk assessed; help and equipment ready if needed		
Risk of losing more than 500 ml blood (7 ml/kg in a child) assessed; access, fluids, or blood planned if needed		

E.3 Time Out — Before Skin Incision

To be completed by the whole team together, immediately before the first incision. Each member introduces themselves, by name and role.

Item	Yes	No
Surgeon, anaesthetist, and nurse verbally confirm patient, site, and procedure		
Surgeon has reviewed critical steps, operating time, and anticipated blood loss		
Anaesthesia team has reviewed patient-specific concerns		
Nursing team confirms sterility, including indicator results; equipment concerns reported		

Antibiotic prophylaxis given in the last 60 minutes		
Essential imaging displayed, where needed		

E.4 Sign Out — Before the Patient Leaves the Operating Room

To be completed by the nurse, out loud, with the team, before the patient is moved out of the room.

Item	**Yes**	**No**
Name of the procedure, as actually performed, confirmed		
Count of instruments, sponges, and needles confirmed correct		
Any specimen correctly labelled, including patient's name		
Equipment problems, if any, addressed		
Key concerns for recovery reviewed by surgeon, anaesthetist, and nurse		

E.5 Intra-Operative Monitoring and Documentation

Item	**Yes**	**No**
Vital signs monitored and recorded at regular intervals (pulse, blood pressure, oxygen saturation, end-tidal carbon dioxide, cardiac rhythm, temperature)		
Every fluid and drug given, recorded with the time given		
Instrument, sponge, gauze, and needle count performed before the operation		
Count repeated at any relief of staff		
Count repeated at closure		

Final count performed; any discrepancy corrected and surgeon informed		

E.6 Post-Operative Discharge Score (Recovery Room)

Score each row, and total the score before discharge from recovery. A commonly used cut-off for safe discharge is a total score of 9 or more, out of a maximum of 10.

Category	**Finding**	**Score**
Activity	Moves four extremities voluntarily / on command	2
	Moves two extremities	1
	Moves zero extremities	0
Respiration	Breathes deeply and coughs freely	2
	Dyspnoea, shallow or limited breathing	1
	Apnoeic	0
Circulation	Blood pressure ± 20 mm of pre-anaesthetic level	2
	Blood pressure ± 20–50 mm of pre-anaesthetic level	1
	Blood pressure ± 50 mm of pre-anaesthetic level	0
Consciousness	Fully awake	2
	Arousable on calling	1
	Not responding	0
Oxygen saturation	Maintains SpO_2 > 92% on room air	2
	Needs oxygen to maintain SpO_2 > 90%	1
	SpO_2 < 90% even with oxygen	0

Total Score:		**Discharge Criteria Met (Yes/No):**	

Signatures

Name & Signature of Surgeon:		**Date:**	
Name & Signature of Anaesthetist:		**Date:**	
Name & Signature of Nurse:		**Date:**	

E.7 Why This Appendix Matters

A checklist does not replace clinical judgement. It protects against ordinary, human errors. These can occur even in experienced hands. Examples include the wrong site, a missed allergy, a retained swab, or a simple break in communication between team members. The evidence for this simple tool is strong. Used consistently, it makes surgery safer, for every patient, in every operating room.

Bibliography

This bibliography is organised by chapter, listing the sources underlying the named techniques and classification systems used in the text, whether named explicitly in the prose or taught by description. It reflects the practical, working nature of this manual, rather than an exhaustive literature review. The Thiersch procedure, introduced in Chapter 14, is deliberately not cited separately here, since that chapter itself directs the reader to the full historical account in the author's companion volume, A Surgeon's History of Anorectal Disease.

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Chapter 9 — Arriving at a Final Diagnosis and Treatment Planning

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Chapter 11 — Fissure-in-Ano

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Chapter 29 — OPB-MOLIS: Technique, Indications, and Outcomes

OPB-MOLIS is the author's own technique. It is a modification of standard lateral internal sphincterotomy, and builds on the foundational sources already cited under Chapter 11 (Eisenhammer 1951; Notaras 1969), rather than a separate external source.

Chapter 30 — Special Applications, Bilateral and Contralateral MOLIS

This chapter extends the author's own OPB-MOLIS technique, described fully in Chapter 29, and does not draw on a separate external source.

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Companion Operative Videos

The following operative videos accompany specific sections of this manual.

Section 18.9 and 30.2 — Staged Bilateral MOLIS for Severe Stenosis

Watch: https://www.youtube.com/watch?v=Hrci7ib7974

Section 29.4 — The MOLIS Technique (Chronic Anal Fissure)

Watch: https://www.youtube.com/watch?v=tvmpUaSC0no&t=11s

Section 30.4 — The Contralateral MOLIS Technique

Watch: https://www.youtube.com/watch?v=zjsJSb_v9X0&t=20s

Chapter 21 — Illustrative Case (Fourth-Degree Perineal Tear with Cloaca Formation)

Full case report: https://leafy-sundae-4e6243.netlify.app/

Watch: https://www.youtube.com/watch?v=yVjm7GPMOok&t=40s