Dr Paul Ng
English

# Digestive & Liver Health Information Booklet

> This booklet is for patients of this clinic only.

For patients of this clinic, strictly for use in Hong Kong. General information only; this booklet does not constitute medical advice, a personal diagnosis, treatment prescription or consent for a procedure. It does not replace individual assessment by a qualified clinician. Follow your own medical instructions. Seek immediate care or call 999 in an emergency.

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# Information, not an individual diagnosis

This booklet is for patients of this clinic only.

This booklet brings together the website's general health information. It is not a personal diagnosis, treatment recommendation or procedural consent document. Inclusion does not mean that you need a test or treatment, or that every service is available at every location. Discuss your individual risks, benefits and alternatives, including no procedure, with a qualified clinician. Do not start, stop or change medicines yourself. Your individual preparation and discharge instructions take priority. The online information may be more recent.

> Seek urgent care for vomiting blood, black stools or heavy bleeding, severe or worsening abdominal pain, fainting, breathing difficulty, or serious symptoms after a procedure. Attend

> an emergency department; call 999 in an emergency. Do not wait for an online reply.

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# Reflux oesophagitis

Reflux oesophagitis is inflammation or injury to the oesophageal lining caused by stomach contents flowing back into the oesophagus. It may be seen during gastroscopy, although reflux symptoms do not always mean that visible inflammation is present. It is a specific possible consequence of reflux and is not identical to GERD: GERD can cause troublesome symptoms without visible oesophagitis, and oesophagitis severity does not always match how strongly symptoms are felt.

Visible oesophageal inflammation on gastroscopy is one form of reflux-related injury, but symptoms and the appearance of the lining do not always move together. GERD is a broader clinical condition and can be present without visible oesophagitis; likewise,

an inflamed lining can be found when symptoms are mild. The report should be interpreted with the reason for the examination, medicines and biopsy results if taken. If swallowing becomes painful or difficult, food sticks, or bleeding occurs, seek prompt medical advice.

> **For discussion in consultation**
> Assessment considers the endoscopy findings, symptoms, medicines and any warning signs such as painful or difficult swallowing, bleeding, repeated vomiting or unexplained weight loss. The clinician may review other possible causes of oesophageal inflammation and decide whether further testing or follow-up is useful. Bleeding or food becoming stuck requires prompt medical advice.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Wireless oesophageal pH monitoring

Related conditions

Eosinophilic oesophagitis (EoE) Barrett's oesophagus Gastro-oesophageal reflux disease (GERD)
Professional reference: ACG · Acid reflux / GERD

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https://paulng.clinic/en/conditions/oesophagus/#reflux-oesophagitis

# Globus pharyngeus (lump-in-the-throat sensation)

Globus pharyngeus is a persistent or intermittent feeling of a lump or something stuck in the throat without necessarily having an actual object there. Typical globus is painless, often occurs between meals and may improve with eating, while food and drinks still pass normally. It is different from food genuinely sticking, difficulty swallowing (dysphagia) or painful swallowing.

Throat muscle tension, heightened sensitivity and gut–brain interaction may contribute. Stress can amplify symptoms, but this does not make them imaginary. Reflux may coexist in some people; a throat sensation alone does not establish acid reflux. Assessment reviews the symptom pattern, medicines, smoking and alcohol use and includes

examination of the mouth and neck; ENT assessment with flexible nasolaryngoscopy may be needed. Gastroscopy, reflux monitoring or oesophageal manometry are considered selectively, not automatically for everyone. After appropriate assessment finds no concerning cause, care may include explanation, hydration, reducing repeated throat clearing and dry swallowing, and speech therapy or relaxation techniques when appropriate. Acid-suppressing medicines do not help everyone and should be used only when indicated.

> **For discussion in consultation**
> Have persistent or recurrent symptoms assessed. Progressive swallowing difficulty, painful swallowing, unexplained weight loss, persistent hoarseness, one-sided throat pain or a neck lump need prompt medical review rather than being assumed to be globus. Breathing

> difficulty, food impaction or inability to swallow saliva requires immediate emergency care.

Related conditions

Gastro-oesophageal reflux disease (GERD) Oesophageal dysmotility Disorders of gut–brain interaction (DGBI)

Professional reference: Frontline Gastroenterology (BSG / BMJ) · Managing a patient with globus pharyngeus

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https://paulng.clinic/en/conditions/oesophagus/#globus-pharyngeus

# Barrett's oesophagus (Barrett's esophagus)

Barrett's oesophagus is a change in the cells lining the lower oesophagus, usually associated with long-term reflux. It is diagnosed by gastroscopy with tissue biopsies, not by symptoms alone. Barrett's is not cancer, and most people with it do not develop oesophageal cancer, although a small increase in future risk means that the biopsy findings and extent may guide discussion of monitoring.

The diagnosis is based on the endoscopy appearance together with biopsies confirming the characteristic lining change. The pathology report may describe whether dysplasia is present; uncertain or dysplastic findings may need specialist review. Barrett's is not cancer, and monitoring decisions are

individualized according to the biopsy result, segment length, examination quality, overall health and preferences. New swallowing difficulty, bleeding, persistent vomiting or unexplained weight loss needs assessment rather than waiting for routine surveillance.

> **For discussion in consultation**
> The endoscopy and pathology reports are reviewed to confirm the diagnosis, the length of the affected segment and whether dysplasia (precancerous cell changes) is present. Sampling and specialist pathology review may matter when findings are uncertain. Surveillance is not identical for everyone; the likely benefit, examination quality, biopsy results, overall health and preferences help determine an individual plan.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies Narrow band imaging (NBI)

Related conditions

Gastro-oesophageal reflux disease (GERD) Reflux oesophagitis
Professional reference: ACG · Barrett's oesophagus

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https://paulng.clinic/en/conditions/oesophagus/#barretts-oesophagus

# Eosinophilic oesophagitis (EoE)

EoE is a chronic immune-mediated inflammatory disease of the oesophagus in which eosinophils, a type of white blood cell, accumulate in the lining. It can cause difficulty swallowing, food sticking or impaction, and sometimes reflux-like symptoms; children may have feeding or growth problems. Symptoms can lead to gradual adaptations such as eating slowly or avoiding certain textures.

EoE can be present even when the oesophagus looks unremarkable during endoscopy, making biopsies from multiple levels important when it is suspected. The number and distribution of eosinophils are interpreted with symptoms and other

possible causes; narrowing can develop over time, and follow-up may use both symptoms and tissue findings.

> **For discussion in consultation**
> Diagnosis requires symptoms of oesophageal dysfunction, biopsies showing an increased eosinophil count and consideration of other causes. Endoscopy may appear normal, so tissue samples from more than one oesophageal level are important. Assessment may also consider narrowing or rings and how symptoms and biopsy findings change over time; symptoms alone cannot confirm EoE.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies Swallowing difficulties and eating safely

Related conditions

Reflux oesophagitis  Oesophageal dysmotility

Professional reference: ACG · Eosinophilic oesophagitis

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https://paulng.clinic/en/conditions/oesophagus/#eosinophilic-oesophagitis

# Oesophageal motility disorders

Oesophageal dysmotility refers to abnormal movement or coordination of the oesophagus during swallowing. It is a broad description rather than one diagnosis and may be associated with difficulty swallowing, chest discomfort or regurgitation. Similar symptoms can also arise from narrowing, inflammation, reflux or problems outside the oesophagus.

High-resolution manometry records pressure patterns during swallowing and is used to classify oesophageal motor function; it does not directly show mucosal inflammation or exclude a structural narrowing. Endoscopy or imaging may be needed first or alongside it, and borderline patterns are interpreted with symptoms and the conditions under which the test was performed.

> **For discussion in consultation**
> Evaluation usually begins by considering structural or mucosal causes, often with endoscopy or imaging as appropriate. High-resolution manometry measures pressure and coordination during swallows and can classify several movement patterns, but results must fit the symptoms and other findings. Further tests may be considered when the first results do not explain the problem or when a specific motor disorder is suspected.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Oesophageal manometry Swallowing difficulties and eating safely

Related conditions

Achalasia Eosinophilic oesophagitis (EoE) Globus pharyngeus (lump-in-the-throat sensation)
Professional reference: ACG · Oesophageal physiologic testing

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https://paulng.clinic/en/conditions/oesophagus/#oesophageal-dysmotility

# Achalasia

Achalasia is an uncommon oesophageal motor disorder in which the lower oesophageal sphincter does not relax normally and the oesophagus loses effective forward contractions. It can cause progressive difficulty swallowing both solids and liquids, regurgitation, chest discomfort and sometimes weight loss. Similar symptoms can be caused by other disorders, so symptoms alone do not diagnose achalasia.

Manometry is the principal test for identifying the impaired sphincter relaxation and absent normal peristalsis characteristic of achalasia. Endoscopy helps exclude mechanical obstruction or another cause, while timed barium imaging can show

oesophageal emptying; these tests provide complementary information rather than interchangeable answers.

> **For discussion in consultation**
> Assessment commonly combines upper endoscopy to exclude a blockage or other disease, high-resolution manometry to identify the characteristic motor pattern, and a timed barium oesophagram to assess emptying. Test findings are interpreted together, and additional imaging or biopsies may be needed in selected cases. The diagnosis and type of achalasia guide discussion of the available treatment approaches.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Oesophageal manometry Oesophageal botulinum toxin

injection Swallowing difficulties and eating safely

Related conditions

Oesophageal dysmotility
Professional reference: ASGE · Achalasia guideline

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https://paulng.clinic/en/conditions/oesophagus/#achalasia

# Acid reflux / gastro-oesophageal reflux disease (GERD/GORD)

GERD occurs when stomach contents flow back into the oesophagus and cause troublesome heartburn or regurgitation, or damage the oesophageal lining. Reflux is more likely after meals or when lying down, but chest or upper-abdominal discomfort can have other causes. Symptoms alone do not always establish the diagnosis.

Reflux can sometimes inflame or narrow the oesophagus, but a normal endoscopy does not rule out GERD because the lining may look normal between episodes. A clear response to acid-suppressing medicine can support a reflux diagnosis, but is not proof that every throat, chest or stomach symptom is caused by acid. Persistent

symptoms despite appropriate care may prompt a review of how medicines are used, alternative causes, endoscopy or reflux monitoring. Difficulty swallowing, food sticking, bleeding, repeated vomiting or unexplained weight loss should be raised promptly rather than managed as routine heartburn. Reflux episodes can be influenced by meal timing, body position and individual factors; keeping a brief record of symptoms and possible associations may make consultation more useful. Any proposed lifestyle changes or medicine review should be practical and considered alongside other health needs. A symptom diary can note timing after meals, lying down, sleep and any medicines already tried. This context helps distinguish a recurring reflux pattern from symptoms that need a different assessment, and supports a focused discussion of whether testing would change care.

> For discussion in consultation

> A clinician considers how often symptoms occur, their effect on daily life, response to previous care and warning signs such as difficulty or pain with swallowing, persistent vomiting, bleeding or unexplained weight loss. Those details help decide whether an initial treatment discussion is reasonable or whether investigation is needed.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Wireless oesophageal pH monitoring

Related conditions

Reflux oesophagitis Barrett's oesophagus Functional dyspepsia Bile reflux (duodenogastric reflux) Globus pharyngeus (lump-in-the-throat sensation)

Professional reference: ACG · Acid reflux / GERD

https://paulng.clinic/en/conditions/stomach/#gerd

# Bile reflux (duodenogastric reflux)

Bile is made by the liver and normally enters the duodenum through the bile ducts to help digest fat. Bile reflux occurs when duodenal contents flow back into the stomach and sometimes the oesophagus. It differs from acid reflux, although both can coexist. Upper abdominal discomfort, nausea, bitter regurgitation or yellow-green vomit may occur, but symptoms alone cannot diagnose it.

Small amounts of duodenogastric reflux can occur without disease. Troublesome reflux may relate to gastric surgery, pyloric function or altered gut movement; having had a gallbladder removed does not establish the diagnosis. Assessment reviews symptoms, operations and medicines. Gastroscopy may

assess the lining and allow biopsies, but seeing bile alone does not prove it causes symptoms. Oesophageal pH monitoring assesses acid exposure, not bile directly. Impedance monitoring can identify non-acid reflux but does not by itself establish that it is bile. Care is individualised according to the likely cause and mucosal findings, and may involve dietary and lifestyle measures, medicines or, rarely, surgical assessment. Evidence for drug treatments is limited. Acid suppression can treat coexisting acid reflux but does not directly stop bile reflux.

> **For discussion in consultation**
> Persistent upper abdominal symptoms, vomiting or regurgitation need assessment rather than self-diagnosis. Unexplained weight loss, swallowing difficulty or persistent vomiting warrant prompt review. Vomiting blood, black stools, severe abdominal pain, distension

> with yellow-green vomiting or inability to keep fluids down require urgent emergency assessment.

Related conditions

Gastro-oesophageal reflux disease (GERD) Gastritis Post-cholecystectomy symptoms

Professional reference: Gastroenterology Research and Practice · Bile reflux gastritis review

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https://paulng.clinic/en/conditions/stomach/#bile-reflux

# H. pylori (Helicobacter pylori) infection

H. pylori is a bacterium that lives in the stomach lining and can cause long-lasting inflammation. Many people have no symptoms, while others develop indigestion, gastritis or peptic ulcers; infection is also linked with a higher lifetime risk of stomach cancer. Active infection can be checked with a breath or stool test, or identified from stomach biopsies taken at gastroscopy.

A breath test or stool antigen test can detect active infection without endoscopy; blood antibody tests may remain positive after an old infection and are not generally used to prove eradication. Some acid medicines, antibiotics and bismuth can affect test accuracy, so a clinician may advise how to prepare. Antibiotic resistance and previous

treatment influence the regimen, which should be taken exactly as prescribed. A test of cure is commonly performed after treatment at an appropriate interval; do not assume that symptoms or their absence show whether the bacterium remains. Household exposure and regional infection rates may be relevant to a clinician's assessment, but testing is guided by the individual's history and reason for consultation. If treatment causes troublesome adverse effects or doses are missed, contact the treating clinician for advice rather than changing the regimen independently. Bring a list of previous eradication courses and antibiotic allergies to the consultation, because these can affect the next testing or medicine choices. Follow the laboratory instructions about temporary medicine holds; the appropriate timing depends on the test and your situation.

> For discussion in consultation

> The reason for testing and choice of an eradication regimen depend on the clinical history, allergies and previous antibiotic exposure, as resistance patterns vary. Treatment commonly uses a combination of medicines rather than one antibiotic alone. A properly timed follow-up test is important to check that infection has cleared; symptom improvement by itself cannot confirm eradication.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies H. pylori culture and antibiotic sensitivity testing Urea breath test for Helicobacter pylori

Related conditions

Gastritis Gastric ulcer Gastric intestinal metaplasia Autoimmune gastritis Functional dyspepsia

Professional reference: ACG · H. pylori

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https://paulng.clinic/en/conditions/stomach/#h-pylori

# Gastritis

Gastritis means inflammation of the stomach lining, which may be short-lived or persist over time. It can be associated with Helicobacter pylori, some medicines such as anti-inflammatory pain relievers, alcohol or immune conditions, but the cause is not always clear. Some people have no symptoms; others notice upper-abdominal discomfort, nausea or indigestion. Similar symptoms can occur without gastritis, so symptoms alone cannot confirm it.

Gastroscopy biopsies can identify inflammation that is not obvious from symptoms or the lining's appearance alone. H. pylori, anti-inflammatory medicines and other factors can contribute, but inflammation patterns have different causes and implications. A biopsy report should be

read with the endoscopy findings, medication history and reason for testing; indigestion alone does not show that gastritis is present. Report vomiting blood, black stools, worsening pain or inability to keep fluids down promptly.

> **For discussion in consultation**
> Assessment considers the symptom pattern, medicines and relevant health history. Depending on the situation, testing for H. pylori, blood tests or gastroscopy with biopsies may help identify inflammation and its cause. “Gastritis” on a report can describe different microscopic patterns; the biopsy wording and findings should be interpreted with the full endoscopy and clinical history.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies H. pylori culture and antibiotic sensitivity testing Urea breath test for Helicobacter pylori

Related conditions

Bile reflux (duodenogastric reflux) Helicobacter pylori infection Autoimmune gastritis Functional dyspepsia

Professional reference: AGA · Atrophic gastritis clinical update

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https://paulng.clinic/en/conditions/stomach/#gastritis

# Stomach ulcers & duodenal ulcers (peptic ulcers)

A gastric ulcer is a break in the stomach lining that extends beyond a superficial irritation. Common contributors include H. pylori infection and anti-inflammatory pain medicines, but an ulcer can have other causes. Some cause upper-abdominal pain or indigestion, while others cause few symptoms until a complication develops. An ulcer is not the same as gastritis, and finding H. pylori is not the only explanation for an ulcer.

An ulcer seen at gastroscopy may be sampled to assess its nature, and clinicians commonly consider H. pylori testing and medicine review. H. pylori is one important cause, but a negative result does not rule out ulcers from anti-inflammatory medicines or

other causes. The need and timing of repeat endoscopy depends on the ulcer's features, biopsy findings and clinical context. Vomiting blood, black tarry stools, fainting or sudden severe abdominal pain are urgent warning signs.

Duodenal ulcers and peptic ulcer disease

Gastric ulcers occur in the stomach; duodenal ulcers occur in the duodenum, the first part of the small bowel. Both are peptic ulcers, but they are not the same anatomical condition. H. pylori infection and NSAID pain medicines are common contributors. Symptoms cannot reliably locate an ulcer. Diagnosis, medicines, H. pylori treatment and follow-up need individual assessment; gastric-ulcer biopsy plans do not automatically apply to every duodenal ulcer.

> **For discussion in consultation**
> Gastroscopy can show the ulcer and allow biopsies when needed; clinicians may also test for H. pylori and review

> pain medicines, other medicines and medical history. Biopsy and follow-up plans depend on the ulcer's appearance and context. Vomiting blood, passing black tarry stools, fainting or sudden severe abdominal pain needs urgent medical assessment.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies H. pylori culture and antibiotic sensitivity testing Urea breath test for Helicobacter pylori

Related conditions

Helicobacter pylori infection
Professional reference: ACG · H. pylori and peptic ulcer disease

https://paulng.clinic/en/conditions/stomach/#gastric-ulcer

# Gastric intestinal metaplasia

Gastric intestinal metaplasia is a microscopic change in which some stomach-lining cells take on features more like intestinal cells. A biopsy is needed to identify it. It is not stomach cancer, but it can be part of a pathway associated with increased future risk; most people with the finding will not necessarily develop cancer. Risk varies with its extent and other factors.

The finding describes a tissue pattern, not a visible mass, and the amount of stomach sampled affects how confidently its extent can be mapped. More extensive or incomplete-type changes, persistent H. pylori and a close family history may alter risk, but no single factor gives an exact prediction for an individual. Treating H. pylori, when present, is an important risk-reduction

step. The potential value of repeat endoscopy depends on the biopsy details, overall risk, health and preferences; surveillance intervals should be based on a clinician's review rather than a generic schedule. Ask for the pathology wording and the areas sampled to be explained, since "metaplasia" alone does not describe how much of the stomach is involved. If surveillance is discussed, the expected benefit, procedural burden and any change in health or preferences can be revisited. A pathology report should be interpreted with the endoscopy findings and biopsy locations, since limited sampling may not represent the entire stomach. A clinician can explain whether the finding is focal or more widespread and what that means for your individual risk.

> **For discussion in consultation**
> The pathology report is reviewed for which stomach areas were sampled and involved, and whether H. pylori is present

> or has been treated. Family history, background risk and the quality of the original examination can also matter. A repeat gastroscopy or surveillance is not automatically beneficial for everyone; the possible benefit and burden should be considered individually.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies Narrow band imaging (NBI) Magnifying endoscopy Urea breath test for Helicobacter pylori

Related conditions

Autoimmune gastritis Helicobacter pylori infection
Professional reference: AGA · Gastric intestinal metaplasia

https://paulng.clinic/en/conditions/stomach/#gastric-metaplasia

# Autoimmune gastritis

Autoimmune gastritis occurs when the immune system damages acid-producing glands in the stomach, mainly in its body and upper part. Reduced acid and intrinsic factor can affect iron and vitamin B12 absorption. Some people have few digestive symptoms and are investigated because of a deficiency or anaemia.

It differs from H. pylori-related gastritis, although both can coexist. Diagnosis brings together stomach biopsies, blood counts, iron and vitamin B12 levels, and selected antibody tests; a positive antibody test alone does not establish the diagnosis. Pernicious anaemia is a later manifestation in some people, not another name for every case of autoimmune gastritis. Assessment also considers associated autoimmune

conditions, particularly thyroid disease, and H. pylori. Care includes correcting deficiencies and individual follow-up. The condition can increase the risk of certain stomach tumours, but does not mean cancer is present. Decisions about repeat endoscopy depend on biopsy findings, disease extent, other risks and shared discussion, rather than one fixed interval for everyone.

> **For discussion in consultation**
> Unexplained iron or vitamin B12 deficiency deserves assessment rather than supplements alone. Report numbness, tingling or balance problems promptly. Vomiting blood, black tarry stools, fainting or severe breathlessness requires urgent care.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies

Related conditions

Gastritis Helicobacter pylori infection Gastric intestinal metaplasia

Professional reference: AGA · Diagnosis and management of atrophic gastritis

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https://paulng.clinic/en/conditions/stomach/#autoimmune-gastritis

# Gastroparesis

Gastroparesis is delayed emptying of food from the stomach when there is no physical blockage. It may cause feeling full after a few bites, prolonged fullness after meals, nausea, vomiting, bloating or upper-abdominal discomfort. Poor intake and repeated vomiting can affect hydration and nutrition, although these symptoms also occur in other conditions.

A gastric-emptying test is usually considered only after a physical blockage has been excluded and medicines that alter motility have been reviewed. The test measures how quickly a standard meal leaves the stomach over time; results can be affected by preparation, blood glucose and medicines. Diabetes, previous surgery and some neurological or connective-tissue disorders

may be associated, but sometimes no cause is identified. Symptoms alone cannot diagnose gastroparesis, and symptom intensity does not reliably measure the delay. Persistent vomiting, dehydration or difficulty maintaining nutrition deserves timely clinical attention. The clinician may also assess whether symptoms could arise from another stomach or bowel condition. Test results should be interpreted using the prescribed protocol, because an incomplete or altered test meal can make comparison unreliable. The clinician may ask about meal size, vomiting frequency and weight or hydration changes, since these help assess the effect on nutrition. Report medicines and supplements accurately, as some can alter motility or test results; do not stop prescribed medicines without advice.

> **For discussion in consultation**
> Review may include diabetes control, prior surgery, other illnesses and medicines that slow stomach

> movement. If symptoms and history support it, a standardized gastric-emptying test may be considered after obstruction is excluded. Test preparation and timing matter, and the measured delay does not always match how severe symptoms feel.

Related procedure information

Pyloric injection is not recommended routinely for gastroparesis. This link is not a treatment recommendation.

Pyloric botulinum toxin injection  Nutritional management  Nutritional assessment and malnutrition  Dietary support and oral nutritional supplements  Feeding-tube insertion: nasogastric and nasojejunal tubes  PEG-J (gastrostomy with jejunal extension)

Related conditions

Functional dyspepsia
Professional reference: ACG · Gastroparesis

https://paulng.clinic/en/conditions/stomach/#gastroparesis

# Bowel polyps / colonic polyps

Colonic polyps are growths on the inner surface of the large bowel and usually cause no symptoms. Adenomas and some serrated lesions can slowly develop into cancer, whereas other polyp types have little or no cancer potential. Colonoscopy allows a clinician to remove many polyps and send them for laboratory examination, which establishes the type more reliably than appearance alone.

The colonoscopy report records how well the bowel was prepared and seen, whether the examination reached the intended area, and whether a polyp was removed completely. Pathology may identify an adenoma, a serrated lesion or a non-neoplastic growth, each with different implications. A larger or more numerous group of precancerous

polyps can alter the timing of follow-up, but intervals also depend on examination quality and personal risk. Keep the pathology and procedure reports together for review; recommendations may change if an examination was incomplete or removal was uncertain. Some larger lesions require removal in stages or by a specialist technique, making the endoscopist's documentation especially important. Screening recommendations for relatives, if relevant, depend on the exact pathology and family history and should be discussed rather than inferred from the word "polyp." The exact pathology wording matters: "precancerous" does not mean that a polyp is already cancer, and removal is an important prevention opportunity. A personal history of polyps or colorectal cancer in close relatives may affect the recommended follow-up discussion.

## Understanding adenomas

### Tubular and villous patterns

An adenoma is a gland-forming polyp with the potential to develop into cancer over time. Under a microscope, tubular adenomas are mainly made up of tube-shaped glands; villous adenomas have more finger-like projections, while tubulovillous adenomas contain both patterns. These terms describe tissue architecture, not the size of the polyp. Villous features are associated with a higher chance of advanced changes, but the pattern alone cannot predict an individual outcome. The type is confirmed by pathology after removal, not by appearance alone.

### Size, dysplasia and other factors

A larger adenoma, particularly one measuring 10 mm or more, is generally more concerning than a smaller one. Dysplasia describes how abnormal its cells appear: low-grade changes are less advanced; high-grade dysplasia is a

more advanced precancerous change, but is not the same as invasive cancer. Risk and follow-up also depend on the number of adenomas, whether removal was complete, bowel-preparation and examination quality, previous polyp findings, and relevant personal or family history. Serrated polyps follow a different classification.

The pathology and colonoscopy reports should be reviewed together. No single feature determines a surveillance interval for everyone; your clinician will explain whether and when another examination is appropriate.

Professional reference: US Multi-Society Task Force · Follow-up after colonoscopy and polypectomy

> **For discussion in consultation**
> The pathology, number, size and location of polyps are considered together with whether removal was complete, bowel preparation and visibility, and personal

> or family history. These details determine whether and when another colonoscopy may be useful; there is no single interval suitable for every finding. Blood in stool or a new bowel change should be assessed rather than assumed to be caused by a polyp.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy Colonic polypectomy Endoscopic mucosal resection (EMR) Chromoendoscopy Narrow band imaging (NBI) Magnifying endoscopy
Professional reference: ACG · Colon polyps

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https://paulng.clinic/en/conditions/bowel/#colonic-polyps

# Diverticular disease / diverticulosis and diverticulitis

Diverticulosis means small pouches in the bowel wall, usually the colon. Many cause no symptoms. Diverticulitis is inflammation involving a pouch; diverticular bleeding is a different complication and can occur without pain.

Diverticula are not bowel polyps and are not themselves cancer. Abdominal pain has many possible causes, so finding diverticula does not prove they explain symptoms. Suspected acute diverticulitis may need examination, blood tests and imaging such as CT. Antibiotics and hospital treatment depend on severity, complications and individual risk; they are not automatic for every uncomplicated episode. Colonoscopy may be considered after recovery when

appropriate, rather than routinely during acute inflammation. Long-term dietary advice is individual; a blanket ban on nuts and seeds is not generally required.

> **For discussion in consultation**
> Seek urgent care for severe or worsening abdominal pain, fever with significant illness, persistent vomiting, or substantial rectal bleeding. Fainting or bleeding with marked weakness warrants emergency assessment.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy

Related conditions

Irritable bowel syndrome (IBS) Haemorrhoids (hemorrhoids)
Professional reference: ACG · Diverticulosis and diverticulitis

https://paulng.clinic/en/conditions/bowel/#diverticular-disease

# Ulcerative colitis (UC)

Ulcerative colitis is a chronic inflammatory bowel disease that affects the lining of the large intestine, usually beginning in the rectum and extending continuously for a variable distance. It can cause diarrhoea, blood or mucus in stool, urgency and abdominal discomfort, with periods of greater activity and remission. The pattern and severity differ between people.

Ulcerative colitis usually affects the rectum and colon continuously, although the length of involved bowel varies. Endoscopy and biopsies help confirm the pattern and extent; symptom improvement does not by itself show whether inflammation is controlled, so assessment may also use stool or blood markers and consider colorectal surveillance over time.

> **For discussion in consultation**
> Assessment brings together symptoms, examination, blood and stool tests, and endoscopy with biopsies when appropriate. Clinicians consider the extent and activity of inflammation, possible infection, nutrition and complications; the diagnosis is distinguished from Crohn disease and other causes of colitis. Long-term review may include treatment response and colorectal cancer risk according to disease history.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy Endoscopic biopsies Chromoendoscopy Stool PCR for gastrointestinal pathogens Faecal calprotectin

Related conditions

Crohn disease Radiation proctitis Microscopic colitis

Professional reference: ACG · Inflammatory bowel disease

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https://paulng.clinic/en/conditions/bowel/#ulcerative-colitis

# Crohn's disease

Crohn disease is a chronic inflammatory bowel disease that can affect any part of the digestive tract, most often the small bowel and colon. Inflammation may involve deeper bowel layers and occur in separated areas. Symptoms can include abdominal pain, diarrhoea, fatigue and weight loss; complications may include narrowing, abscesses or abnormal connections between organs.

Crohn disease can affect different digestive-tract sites and may cause inflammation through the bowel wall, sometimes with areas of normal tissue between affected segments. Endoscopy, small-bowel imaging, laboratory markers and nutritional review can answer

different questions; narrowing, fistulas and abscesses are complications clinicians may assess for when appropriate.

> **For discussion in consultation**
> Evaluation considers the symptom pattern, blood and stool tests, endoscopy with biopsies and small-bowel imaging as indicated. Clinicians look for the location and activity of inflammation, nutritional effects and complications, while excluding infections and other explanations. Monitoring depends on the disease course and may use symptoms, laboratory markers, endoscopy or imaging rather than symptoms alone.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy Video capsule endoscopy Endoscopic

biopsies Chromoendoscopy Stool PCR for gastrointestinal pathogens Faecal calprotectin Nutritional management Nutritional assessment and malnutrition

Related conditions

Microscopic colitis Ulcerative colitis (UC) Anal fissure Bile acid diarrhoea / bile acid malabsorption

Professional reference: ACG · Inflammatory bowel disease

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https://paulng.clinic/en/conditions/bowel/#crohn-disease

# Microscopic colitis

Microscopic colitis is inflammation of the colon that usually causes persistent watery, non-bloody diarrhoea. Urgency, night-time stools or leakage may occur. The bowel can look normal or almost normal during colonoscopy; the changes are seen in biopsies under a microscope.

The main forms are collagenous colitis and lymphocytic colitis. It is not the same as IBS, ulcerative colitis or Crohn disease, although symptoms may overlap. Assessment reviews the diarrhoea pattern, hydration, medicines and other causes such as infection, coeliac disease or bile acid diarrhoea. When suspected, colonoscopy with biopsies from different parts of the colon helps establish the diagnosis; a normal visual examination alone does not exclude it. Some medicines

are associated with microscopic colitis, but association does not prove that a medicine caused an individual case. Do not stop prescribed treatment without discussing it. Care may include a clinician-led medicine review and prescribed treatment such as budesonide, according to symptoms, biopsy findings and individual risk.

> **For discussion in consultation**
> Persistent watery diarrhoea warrants review rather than assuming it is IBS. Blood in the stool, unexplained weight loss or worsening symptoms need prompt assessment. Severe dehydration, fainting or severe abdominal pain requires urgent care.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy  Endoscopic biopsies  Stool PCR for gastrointestinal pathogens

Related conditions

Irritable bowel syndrome (IBS) Bile acid diarrhoea / bile acid malabsorption Ulcerative colitis (UC) Crohn disease Celiac (coeliac) disease Professional reference: UEG / EMCG · Microscopic colitis guideline

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https://paulng.clinic/en/conditions/bowel/#microscopic-colitis

# Coeliac disease (celiac disease)

Celiac disease is an immune-mediated condition triggered by gluten in genetically susceptible people. It can injure the small-intestinal lining and interfere with nutrient absorption, but symptoms vary and may include diarrhoea, bloating, abdominal discomfort, anaemia or no obvious digestive symptoms. It is distinct from wheat allergy and non-celiac gluten sensitivity.

Celiac-specific antibody testing and small-bowel biopsies are interpreted together with symptoms and nutritional findings. Starting a gluten-free diet before evaluation can make tests less informative, so diagnostic testing is planned and interpreted in context; after diagnosis, follow-up may consider symptom course, blood tests and nutrient status.

> For discussion in consultation

> Assessment commonly includes celiac-specific blood tests and, for many adults, upper endoscopy with small-bowel biopsies. Testing can be affected if gluten has already been removed from the diet, so results and preparation require clinical interpretation. Clinicians also consider nutritional deficiencies, associated conditions and whether the findings fit together; blood tests alone do not establish every diagnosis.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD) Endoscopic biopsies Nutritional management Nutritional assessment and malnutrition

Related conditions

Microscopic colitis  Lactose intolerance  Small intestinal bacterial overgrowth (SIBO)

Professional reference: ACG · Celiac disease

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https://paulng.clinic/en/conditions/bowel/#celiac-disease

# Small intestinal bacterial overgrowth (SIBO)

SIBO describes an excessive number or altered pattern of bacteria in the small intestine, where bacterial levels are normally lower than in the colon. It can be associated with bloating, gas, abdominal discomfort, diarrhoea and, in some cases, problems absorbing nutrients. These complaints are common and have many possible causes, so they do not prove SIBO.

SIBO can develop secondary to various gastrointestinal conditions, including impaired gut movement or altered bowel anatomy after surgery, and may be associated with medication use. Assessment should review overall health, medical and surgical history, nutrition and all regular medicines, rather than focusing only on SIBO

or a breath-test result. Addressing contributing factors is part of care. Do not stop or change prescribed medicines without discussing this with your clinician. Breath testing commonly measures hydrogen and methane after a prepared drink; results depend on the test method, preparation and how quickly material moves through the intestine. A positive result is not automatically proof that bacteria explain every symptom, and a negative test may not exclude every relevant problem. Clinicians look for reasons bacterial overgrowth might occur, such as altered anatomy or impaired movement, and may consider other common explanations for gas and diarrhoea. Repeated antibiotics without a clear indication can cause side effects and resistance, so testing and treatment are best interpreted in context. A clinician can explain the preparation instructions and what the chosen test can or cannot establish before it is done. Persistent diarrhoea, unintended weight loss or signs of nutritional deficiency

deserve broader evaluation rather than assuming SIBO is the only cause. If symptoms return after treatment, review of the original reason for testing and possible underlying motility or anatomical factors may be more useful than repeating antibiotics automatically. Mention persistent diarrhoea, weight loss or nutritional concerns during follow-up.

> **For discussion in consultation**
> A clinician may consider prior intestinal surgery, altered gut anatomy or movement, and other risk factors before deciding whether testing is useful. Breath tests measure gases after a test sugar is taken; preparation and intestinal transit can affect results, and false positive or negative findings occur. Treatment decisions should not rely on symptoms or a single test in isolation.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

SIBO and IMO breath testing (hydrogen and methane)

Related conditions

Irritable bowel syndrome (IBS) Celiac (coeliac) disease Lactose intolerance
Professional reference: ACG · Small intestinal bacterial overgrowth

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https://paulng.clinic/en/conditions/bowel/#sibo

# Lactose intolerance

Reduced activity of the enzyme lactase can leave lactose, the sugar in milk, incompletely digested. It can then cause gas, bloating, cramps or diarrhoea. Lactose intolerance is not the same as a milk-protein allergy.

Symptoms depend partly on the amount eaten and individual tolerance; not everyone needs to avoid all dairy products. Lactose malabsorption can occur without symptoms, and intolerance may be temporary or secondary to small-bowel conditions such as coeliac disease. Assessment may use a supervised reduction and reintroduction of lactose, or a hydrogen breath test when appropriate, interpreted alongside symptoms. Avoid unnecessary long-term dietary restriction. Lactose-free options,

individual portions or lactase supplements may help some people, while maintaining adequate calcium and vitamin D.

> **For discussion in consultation**
> Review persistent symptoms and nutrition with a clinician or dietitian. Blood in the stool, weight loss or ongoing diarrhoea should not simply be attributed to lactose intolerance. Suspected allergy needs a different assessment.

Related conditions

Irritable bowel syndrome (IBS) Small intestinal bacterial overgrowth (SIBO) Celiac (coeliac) disease
Professional reference: ACG · Lactose intolerance

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https://paulng.clinic/en/conditions/bowel/#lactose-intolerance

# Bile acid diarrhoea / bile acid malabsorption

Excess bile acids reaching the colon can cause watery diarrhoea and urgency. Bile acid diarrhoea can occur on its own or be associated with disease or surgery affecting the ileum, and sometimes after gallbladder removal.

Not all chronic diarrhoea is IBS, and not all diarrhoea after gallbladder surgery is caused by bile acids. Assessment considers medicines, bowel and surgical history, nutrition and alternative causes. Tests such as SeHCAT or fasting serum C4 may support diagnosis where available; availability varies and this page does not imply these tests are offered at the clinic. Treatment may include a prescribed bile acid sequestrant and individual dietary advice. These medicines

can affect absorption of other drugs, so dosing and timing need professional review rather than self-treatment.

> **For discussion in consultation**
> Persistent watery diarrhoea warrants assessment, including consideration of dehydration and other conditions. Seek prompt care for blood in the stool, unexplained weight loss or significant dehydration; do not change prescribed medicines without advice.

Related conditions

Irritable bowel syndrome (IBS) Crohn disease Post-cholecystectomy symptoms Microscopic colitis
Professional reference: CAG · Management of bile acid diarrhoea

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https://paulng.clinic/en/conditions/bowel/#bile-acid-diarrhoea

# Haemorrhoids (hemorrhoids / piles)

Haemorrhoids are vascular cushions in the anal canal that can become symptomatic. Internal haemorrhoids may cause painless bright-red bleeding or prolapse, while external haemorrhoids can cause discomfort, swelling or a tender lump. Rectal bleeding should not automatically be attributed to haemorrhoids because other conditions can cause it.

Haemorrhoids are common, but visible bleeding can also arise from other colorectal conditions and requires interpretation in the context of age, history and examination. Anoscopy can help identify internal haemorrhoids, while persistent or atypical

bleeding may prompt additional evaluation; treatment choices depend on anatomy and symptom burden.

> **For discussion in consultation**
> Assessment considers bleeding, pain, bowel habits, examination findings and relevant medical history; examination may include inspection and anoscopy. The clinician considers whether additional evaluation is appropriate, especially when bleeding is persistent or the pattern is not typical. Management options vary with symptom severity and haemorrhoid type, and procedures are considered only in context.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Haemorrhoid rubber-band ligation

Related conditions

Anal fissure  Diverticular disease / diverticulosis and diverticulitis

Professional reference: ASCRS · Management of hemorrhoids

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https://paulng.clinic/en/conditions/bowel/#hemorrhoids

# Anal fissure

An anal fissure is a small tear in the lining of the anal canal. It can cause sharp pain during a bowel movement that continues afterwards, sometimes with a small amount of bright red blood on the paper or stool. Both hard stools and frequent diarrhoea can contribute.

A fissure is different from haemorrhoids, and neither should be assumed to explain all anal pain or rectal bleeding. Assessment usually considers the symptom pattern and a gentle examination; persistent, multiple or unusually located fissures may need investigation for other causes, including Crohn disease. Initial care often aims for soft, formed stools, avoiding straining and warm baths. Persistent fissures may need prescription ointment or specialist treatment. Surgery is not

automatic: expected benefit and risks, including effects on continence, require individual discussion. Haemorrhoid rubber-band ligation is not a treatment for an anal fissure.

> **For discussion in consultation**
> Seek review for recurring pain, a tear that does not heal or persistent bleeding. Fever with anal swelling or constant worsening pain may indicate another problem, such as an abscess, and needs urgent assessment. Heavy bleeding, fainting or marked weakness warrants emergency care.

Related conditions

Haemorrhoids (hemorrhoids) Functional constipation Crohn disease

Professional reference: ASCRS · Management of anal fissures

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https://paulng.clinic/en/conditions/bowel/#anal-fissure

# Radiation proctitis

Radiation proctitis describes irritation or injury of the rectum after radiation treatment to the pelvis. It may occur during or soon after treatment, or appear months to years later. Symptoms can include urgency, diarrhoea, rectal discomfort or bleeding. These symptoms may have other causes, and bleeding should not automatically be attributed to prior radiation.

Rectal bleeding after pelvic radiotherapy can have several explanations, so a previous radiation history does not by itself establish radiation proctitis. Assessment may need to account for the original cancer, radiation field and timing, other treatments and medicines, and possible alternative causes. Endoscopy or other tests are selected to answer a clinical question and should be coordinated

with the oncology history. Heavy bleeding, fainting, severe pain, fever or black stools warrants urgent assessment.

> **For discussion in consultation**
> A clinician reviews the type and timing of radiation, symptoms, medicines and other health history. Examination, blood tests or endoscopy may be considered to assess the rectum and exclude other explanations; the best evaluation depends on the person's cancer and treatment history. Heavy bleeding, black stools, fainting, severe pain or fever needs urgent medical care.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonoscopy

Related conditions

Ulcerative colitis (UC)

Professional reference: ASGE · Radiation proctopathy

https://paulng.clinic/en/conditions/bowel/#radiation-proctitis

# Disorders of gut–brain interaction (DGBI)

DGBI is a group of conditions in which communication between the digestive tract and nervous system is altered. Gut movement, sensitivity to stretching, and the way signals are processed can interact, producing pain, bloating or bowel changes even when routine tests do not show structural disease. These are genuine disorders, not imagined symptoms; IBS and functional dyspepsia are examples.

Gut–brain signalling is bidirectional: digestion sends signals to the nervous system, and nervous-system activity can influence gut movement and sensitivity. Sleep, stress and prior illness may affect symptoms without making them unreal or implying that a person is at fault. Normal routine investigations can

be reassuring when they fit the clinical picture, but they do not mean that symptoms should be dismissed. Because this umbrella includes different conditions, a useful plan starts by identifying the dominant problem and checking for changes or warning signs that would call for reassessment. Some people benefit from learning how symptom patterns relate to meals, sleep or daily routines, while others need a different focus; there is no one approach for every DGBI. Review over time can help determine whether the working explanation remains appropriate. A symptom timeline can help show whether pain, bowel changes or fullness fluctuate, and whether daily function is affected. New bleeding, progressive difficulty swallowing, fever or unintended weight loss should prompt assessment for causes outside a gut–brain disorder.

> For discussion in consultation

> Assessment starts with the particular symptom pattern and its effect on life, while checking for features or history that could point to another illness. There is no single test for the whole DGBI group. Explanations and care are matched to the specific condition and may involve more than one approach, with review if symptoms change.

Related conditions

Irritable bowel syndrome (IBS) Functional constipation Globus pharyngeus (lump-in-the-throat sensation) Functional dyspepsia
Professional reference: Rome Foundation · Disorders of gut-brain interaction

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https://paulng.clinic/en/conditions/gut-brain/#dgbi

# Irritable bowel syndrome (IBS)

IBS is a recurring pattern of abdominal pain associated with bowel movements or a change in stool frequency or form. Some people mainly have diarrhoea, others constipation, and some alternate between the two; urgency, bloating and a sense of incomplete emptying can also occur. IBS is a gut–brain interaction disorder and is distinct from inflammatory bowel disease, although symptoms may overlap.

People with IBS can have different symptom patterns over time, and stool form may be more informative than frequency alone. Meals, infections, stress and changes in routine can coincide with flares, but triggers vary and are not always identifiable. IBS does not cause the tissue damage or inflammation characteristic of inflammatory bowel disease

and does not itself mean cancer is present. Nonetheless, rectal bleeding, persistent fever, anaemia, night-time symptoms or unintentional weight loss merit assessment; a previous IBS diagnosis should not be used to explain away a new change. A symptom diary can help describe pain, stool pattern and possible associations without requiring a person to avoid foods unnecessarily. The clinical review can then focus on the most troublesome symptoms and whether testing is justified by the history. A careful history may help avoid unnecessary broad testing while still identifying a reason for targeted tests. New symptoms, a substantial change from the usual pattern, or a relevant family history should be reviewed rather than assumed to be part of IBS.

> **For discussion in consultation**
> A diagnosis is based on a characteristic history and appropriate clinical assessment, not simply on a normal scan. The duration and pattern of

> symptoms, family history, age and warning features such as bleeding, anaemia, fever or unintentional weight loss help determine whether targeted tests are appropriate. New, persistent or substantially changing symptoms still deserve review.

Related conditions

Disorders of gut–brain interaction (DGBI) Microscopic colitis Diverticular disease / diverticulosis and diverticulitis Lactose intolerance Small intestinal bacterial overgrowth (SIBO) Bile acid diarrhoea / bile acid malabsorption Professional reference: ACG · Irritable bowel syndrome

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https://paulng.clinic/en/conditions/gut-brain/#ibs

# Functional constipation

Functional constipation is ongoing difficulty with bowel movements without an identified structural explanation. Stools may be hard or lumpy, occur less often, require straining, or leave a feeling that the bowel has not emptied. Bloating and abdominal discomfort may accompany it. Frequency alone does not define constipation, and symptoms can overlap with other bowel disorders.

A bowel diary can help describe stool form, frequency, straining and the feeling after a bowel movement. Causes may include a change in routine, low fibre intake, medicines or other health conditions; increasing fibre is not suitable for every person or every cause and should be discussed if symptoms are significant. When pelvic-floor coordination is a problem, simply trying to pass stool more

often may not address it. New severe pain, vomiting, inability to pass gas, blood in stool or a sudden persistent change should be medically assessed. The review may also ask about the time spent on the toilet, posture and whether pressure or manual assistance is needed, since these details can point to an evacuation problem. Persistent symptoms despite initial measures warrant reassessment rather than repeated unsupervised changes. A clinician may review medicines such as some pain medicines or iron, which can contribute, and ask whether stool feels difficult to pass despite being soft. These details help distinguish slow transit from an evacuation or pelvic-floor coordination problem.

> **For discussion in consultation**
> Assessment reviews the timeline, stool pattern, diet and fluid intake, activity, illnesses and medicines that may contribute. Persistent straining or incomplete emptying can sometimes

> reflect difficulty coordinating pelvic-floor muscles rather than stool consistency alone. The likely cause, associated symptoms and prior measures guide discussion of suitable options and whether further evaluation is needed.

Related conditions

Disorders of gut–brain interaction (DGBI) Anal fissure

Professional reference: AGA / ACG · Chronic idiopathic constipation

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https://paulng.clinic/en/conditions/gut-brain/#functional-constipation

# Functional dyspepsia

Functional dyspepsia is a disorder of gut–brain interaction that can cause upper abdominal pain or burning, feeling full unusually early, or uncomfortable fullness after meals, without another disease adequately explaining the symptoms after appropriate assessment.

Symptoms are real and do not mean that an ulcer, cancer or delayed stomach emptying is present. Functional dyspepsia is not simply another name for gastritis or gastroparesis, although conditions may overlap. Assessment considers the symptom pattern, medicines, H. pylori and other possible causes. Endoscopy is not automatic for every patient; age, family history, alarm features and local risk influence the decision. Care

may include dietary adjustments, H. pylori treatment when indicated, acid suppression or other individually selected treatments.

> **For discussion in consultation**
> Discuss persistent or recurrent symptoms rather than repeatedly self-treating. Progressive swallowing difficulty, unexplained weight loss or persistent vomiting need prompt review. Vomiting blood or black, tarry stools may require emergency assessment.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Gastroscopy (OGD)

Related conditions

Disorders of gut–brain interaction (DGBI) Helicobacter pylori infection Gastritis Gastroparesis Gastro-oesophageal reflux disease (GERD)

Professional reference: BSG · Functional dyspepsia guideline

https://paulng.clinic/en/conditions/gut-brain/#functional-dyspepsia

# Hepatitis B

Hepatitis B is a virus that infects the liver. Infection may resolve or persist; chronic hepatitis B can cause ongoing inflammation, scarring, cirrhosis and liver cancer, often without symptoms for years. A set of blood tests distinguishes current infection from past exposure or vaccination and can help assess viral activity and liver injury.

Hepatitis B surface antigen, antibodies and viral DNA answer different questions; interpretation usually requires the full panel and sometimes repeat testing. Chronic infection can fluctuate, so monitoring can remain important even when a person feels well or a single set of liver tests is normal. Treatment suppresses viral activity for many people but does not always remove the virus, so follow-up may continue. Vaccination

protects people who are not immune. Avoid sharing needles, razors or toothbrushes that may carry blood; casual contact, sharing meals and hugging do not transmit hepatitis B. People with chronic infection can discuss testing for household and sexual contacts, vaccination if they are not immune, and practical ways to prevent blood exposure. Do not stop prescribed antiviral therapy without medical advice, since viral activity can rise after treatment is interrupted. People with hepatitis B can feel entirely well while infection remains active, so follow-up should not depend on symptoms alone. Discuss pregnancy planning, other liver conditions and medicines with the clinician, as these may change the timing or type of monitoring.

> **For discussion in consultation**
> The pattern over time matters, so a single result may not define the phase or need for treatment. Clinicians consider viral measurements, liver tests, fibrosis, age, family history and other health

> factors when discussing monitoring or antiviral therapy. Some people need regular liver-cancer surveillance. The virus spreads through blood, sex or around birth, not ordinary social contact; household and sexual contacts can ask about testing and vaccination.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Liver elastography

Related conditions

Hepatitis C  Liver fibrosis  Liver cirrhosis
Professional reference: AASLD · Hepatitis B

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https://paulng.clinic/en/conditions/liver/#hepatitis-b

# Hepatitis C

Hepatitis C is a blood-borne virus that can persist for years and gradually scar the liver, usually without obvious early symptoms. An antibody test shows that a person has encountered the virus, but does not by itself show whether infection remains; an HCV RNA test checks for virus currently in the blood. Modern direct-acting antiviral medicines cure most infections.

A reactive hepatitis C antibody indicates exposure at some point, while an RNA test determines whether virus is currently detectable. Modern oral antiviral courses are generally finite and highly effective, but the appropriate medicines depend on liver status, prior treatment, other conditions and possible drug interactions. A follow-up RNA test confirms cure; antibody results often

remain positive after cure and do not mean infection is still present. Those with cirrhosis need ongoing liver care, including cancer surveillance where indicated, because eliminating the virus does not erase established scarring. Reinfection is possible after cure if there is a new blood exposure, so prevention advice remains relevant. A clinician can also review other blood-borne infection testing and whether close contacts may need assessment based on their own exposures. A past positive antibody remains a marker of exposure and cannot be used to check for reinfection; RNA testing is needed when current infection is in question. Review all medicines and supplements before antiviral treatment because interactions can affect safe selection.

> **For discussion in consultation**
> If RNA is detected, assessment includes liver health, possible fibrosis, other conditions and medicines that could interact with treatment. The treatment

> course and follow-up are selected for the individual, and cure is confirmed with a later RNA test. People with advanced fibrosis or cirrhosis may still need liver-related follow-up after cure. Avoid sharing items that may have blood on them and discuss exposure concerns with a clinician.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Liver elastography

Related conditions

Liver fibrosis  Liver cirrhosis  Hepatitis B
Professional reference: AASLD · Hepatitis C

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https://paulng.clinic/en/conditions/liver/#hepatitis-c

# Fatty liver (steatotic liver disease)

Steatotic liver disease means excess fat is present in liver cells. It is commonly associated with metabolic factors such as diabetes, cholesterol abnormalities or excess body weight, though alcohol, medicines and other causes also need consideration. Some people have fat without progressive injury; in others, inflammation can lead to fibrosis over time. The condition often causes no specific symptoms.

The term MASLD is used when steatotic liver disease occurs with at least one cardiometabolic risk factor; other causes, including alcohol exposure and medicines, should also be reviewed. Imaging can detect fat but cannot reliably determine inflammation or stage fibrosis. Blood tests

may be normal despite significant scarring, which is why clinicians may use a sequence of risk scores and stiffness imaging. Cardiovascular health is also important because metabolic risks affect the heart and blood vessels. Any change in weight, diet, activity or medicines should be discussed in a way that is safe and sustainable for the individual. Improving blood pressure, glucose and cholesterol may form part of overall care, even when liver symptoms are absent. The goal is not to blame a person or recommend a one-size-fits-all diet, but to identify modifiable risks and agree on realistic follow-up. Fat on imaging does not establish the cause or show whether scarring is present. Reviewing metabolic health, alcohol intake and medicines together helps avoid overlooking other contributors and makes any follow-up assessment more meaningful.

> For discussion in consultation

> Evaluation may include reviewing alcohol and medication history, metabolic health, blood tests and imaging, then estimating fibrosis risk rather than relying on liver enzymes alone. Management is individualized and may address contributing metabolic conditions and sustainable health habits. A normal blood test or an ultrasound showing fat cannot by itself establish how much scarring is present; follow-up depends on the full risk profile.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging  Liver elastography

Related conditions

Metabolic dysfunction-associated fatty liver disease (MAFLD)  Liver fibrosis

Professional reference: AASLD · Steatotic liver disease

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https://paulng.clinic/en/conditions/liver/#fatty-liver

# Metabolic dysfunction-associated fatty liver disease (MAFLD)

MAFLD is an older name and diagnostic framework for fatty liver associated with metabolic health changes, such as excess weight, type 2 diabetes or metabolic risk. It is not exactly interchangeable with the newer term MASLD, which uses a different definition and criteria. Both describe fatty liver in a metabolic context; “fatty liver” on imaging alone does not establish the cause or show whether inflammation or scarring is present. Alcohol, medicines and other liver conditions may also contribute.

MAFLD was an earlier proposed diagnostic framework that used evidence of fatty liver plus metabolic dysfunction; it is not simply another spelling of MASLD, which has

updated consensus criteria. Older records may use MAFLD, while current assessment may apply newer terminology. Neither label alone reveals the amount of inflammation or fibrosis, and fatty liver can have more than one contributing cause. Ask the clinician what the original diagnosis was based on and whether current evaluation changes the risk assessment.

> **For discussion in consultation**
> A clinician reviews the basis for the original MAFLD label, metabolic health, alcohol and medicine history, and tests for other causes where appropriate. Blood tests and imaging can identify fat and help estimate scarring risk, but normal liver enzymes do not rule out fibrosis. Follow-up and care are tailored to the overall health picture rather than the label alone; the clinician can clarify whether current terminology or further assessment is relevant.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging  Liver elastography

Related conditions

Liver cirrhosis  Fatty liver (steatotic liver disease)
Professional reference: AASLD · Steatotic liver disease

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https://paulng.clinic/en/conditions/liver/#mafld

# Liver fibrosis

Fibrosis is scar tissue that develops when the liver is repeatedly injured, for example by viral hepatitis, alcohol-related injury or metabolic liver disease. The amount ranges from mild scarring to advanced fibrosis; cirrhosis is the more advanced stage with changes in liver structure and blood flow. Early fibrosis may cause no symptoms.

Noninvasive risk scores use routine blood results and clinical information, while elastography estimates tissue stiffness; neither provides a perfect map of liver scarring. Stiffness can rise temporarily with inflammation, bile-flow problems or congestion, and blood-based scores can be affected by conditions unrelated to the liver. If results are inconsistent or uncertain, repeat measurement, another imaging method or

occasionally biopsy may be discussed. Understanding and addressing the cause of liver injury is central, since fibrosis risk and the need for follow-up depend on both its stage and whether the cause continues. A low-risk estimate can support less intensive follow-up in some circumstances, but it does not remove the need to manage the underlying condition. A clinician can explain what a specific score means and whether it should be repeated after other health issues are addressed. A stiffness measurement is one part of a risk assessment, not a stand-alone verdict about liver function or future outcome. Ask how the result compares with blood tests and prior measurements, and whether addressing a temporary cause before repeat testing would improve interpretation.

> **For discussion in consultation**
> Blood-based scores and imaging tests that measure liver stiffness can estimate the likelihood of significant scarring

> without taking a biopsy. They are not direct photographs of every part of the liver, and inflammation, congestion or other factors may influence results. Clinicians interpret them alongside blood tests, medical history and possible causes, then decide whether repeat assessment or specialist review is useful.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Liver elastography

Related conditions

Liver cirrhosis  Autoimmune hepatitis (AIH)  Primary biliary cholangitis (PBC)  Hepatitis B  Hepatitis C  Fatty liver (steatotic liver disease)
Professional reference: AASLD · Noninvasive liver assessment

https://paulng.clinic/en/conditions/liver/#liver-fibrosis

# Liver cirrhosis

Cirrhosis is advanced liver scarring that distorts the liver and can restrict blood flow through it. Some people feel well for a long time, while others develop complications such as abdominal fluid, enlarged veins that can bleed, confusion or jaundice. Causes include chronic viral hepatitis, alcohol-related injury and metabolic or autoimmune liver disease.

“Compensated” cirrhosis means major complications have not developed, whereas “decompensated” cirrhosis describes events such as fluid build-up, bleeding or confusion. This distinction helps clinicians estimate risk and plan care but can change over time. Follow-up may include assessment of liver function, portal hypertension, nutrition and medicines, as well as regular liver-cancer

surveillance when appropriate. Vaccination and avoiding alcohol or medicines that could worsen liver injury may be discussed for an individual. Vomiting blood, black stools, sudden confusion, fever with abdominal swelling or rapidly worsening jaundice are emergencies. A written record of medicines and the care team's monitoring plan can help coordinate follow-up across clinicians. New swelling, worsening sleepiness or reduced appetite should be reported, since early review may help identify a developing complication. The care team can explain which changes should trigger same-day advice and which appointments or scans are planned routinely. Keep an up-to-date medicine list and tell clinicians about new medicines, as liver function can affect how some drugs are handled.

> **For discussion in consultation**
> Care considers the cause, liver function and whether complications or portal hypertension are present. Evaluation

> may include blood tests, imaging and endoscopy, with monitoring for liver cancer and prevention or management of complications where indicated. Treating the underlying cause can still be important. Vomiting blood, black stools, new confusion, fever with abdominal swelling or rapidly worsening jaundice requires urgent medical attention.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging  Liver elastography

Related conditions

Hepatitis B  Hepatitis C  Metabolic dysfunction-associated fatty liver disease (MAFLD)  Liver fibrosis
Professional reference: AASLD · Cirrhosis care

# Autoimmune hepatitis (AIH)

AIH is an immune-mediated inflammation of the liver. It can present with few symptoms, fatigue or jaundice, and may be discovered through abnormal liver blood tests; untreated ongoing inflammation can lead to fibrosis and cirrhosis. No single antibody or test proves AIH, and similar findings can occur in other liver conditions.

AIH is diagnosed from a combination of biochemical, immunological and sometimes tissue findings after other causes of liver inflammation are assessed. Autoantibody results are not diagnostic in isolation, and disease activity may change over time; follow-up commonly considers liver blood tests and fibrosis as part of ongoing review.

> **For discussion in consultation**

> Diagnosis draws on liver enzyme patterns, immunoglobulin levels, autoantibodies, exclusion of competing causes and often liver biopsy. Results are interpreted as a whole, since antibodies may occur in other conditions and some people with AIH have negative tests. Assessment also considers the degree of inflammation and scarring, associated autoimmune conditions and the need for ongoing monitoring.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Liver elastography

Related conditions

Liver fibrosis
Professional reference: AASLD · Autoimmune hepatitis

https://paulng.clinic/en/conditions/liver/#autoimmune-hepatitis

# Primary biliary cholangitis (PBC)

PBC is a chronic autoimmune disease that gradually damages the small bile ducts within the liver. Bile-flow impairment can cause abnormal liver tests, itching or fatigue, although some people have no symptoms when it is first detected. Persistent bile-duct injury may lead to liver scarring over time; PBC is not the same condition as blockage of a large bile duct.

PBC is often suspected from a cholestatic liver-test pattern together with antimitochondrial antibodies, after obstruction and other explanations are considered. Some antibody-negative cases require additional assessment, and biopsy is

not needed in every typical presentation; long-term review may track liver tests, fibrosis and associated health issues.

> **For discussion in consultation**
> Evaluation typically considers cholestatic liver blood tests, antimitochondrial antibodies or other PBC-associated antibodies, and exclusion of alternative causes. Imaging may help assess bile ducts or other liver disease, while biopsy is reserved for selected situations when the diagnosis remains uncertain or overlap is considered. Follow-up takes account of liver test trends, fibrosis and possible complications.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Liver elastography

Related conditions

Liver fibrosis

Professional reference: AASLD · Primary biliary cholangitis

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https://paulng.clinic/en/conditions/liver/#primary-biliary-cholangitis

# Liver cysts

Liver cysts are fluid-containing findings within the liver, often noticed by chance on imaging done for another reason. A typical simple cyst has a smooth, thin wall and clear fluid appearance and is usually benign; it often causes no symptoms and needs no treatment. Less typical appearances can represent a different type of lesion and should not automatically be treated as a simple cyst.

A simple hepatic cyst is usually diagnosed by its characteristic appearance on ultrasound, CT or MRI; further tests are generally unnecessary when the features are clear and there are no relevant symptoms. Complex features such as septations, irregular thick walls, nodules or enhancement need a different assessment and may lead to

dedicated imaging. Cysts are not all caused by the same process, and a report's wording and images matter. Seek clinical review for persistent pain, fever or a change in symptoms, while remembering that these symptoms may have causes unrelated to the cyst. A typical simple cyst does not usually become cancer, and repeatedly scanning a clearly benign finding may not add useful information. If the report describes an indeterminate or complex lesion, the next step is to clarify its imaging features rather than assume the worst. If a lesion is described as complex or indeterminate, the recommended next step usually aims to characterize it with appropriate imaging rather than treating the word "cyst" as a diagnosis. Earlier scans can help establish whether its appearance has remained stable.

> **For discussion in consultation**
> The original images and report are reviewed for features such as internal divisions, thick walls, solid areas or

> enhancement, alongside symptoms and relevant medical history. Further imaging may be used when the diagnosis is uncertain. Pain or fullness can occur with a very large cyst, but other causes should also be considered; follow-up depends on the actual imaging diagnosis.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging
Professional reference: ACG · Focal liver lesions

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https://paulng.clinic/en/conditions/liver/#liver-cysts

# Gallstones

Gallstones are solid particles that form in the gallbladder from components of bile. Many are found incidentally and never cause trouble. If a stone blocks the gallbladder outlet, it may cause a steady pain in the upper abdomen, often after eating; blockage of a bile duct can lead to jaundice, infection or pancreatitis.

Typical gallstone pain often builds in the upper abdomen and lasts for a period before easing; recurring pain may follow meals, but meal timing alone cannot confirm the cause. Ultrasound can show gallbladder stones, while blood tests or additional imaging may be needed if a stone in the bile duct is suspected. Many people with incidentally found stones never develop symptoms and may not need an operation. Persistent pain

with fever, yellow skin or eyes, pale stools, dark urine or repeated vomiting can signal a complication and should be assessed urgently. Pain from the gallbladder may be felt in the back or right shoulder, but location can vary and other conditions can mimic it. A clinician will weigh the likelihood that stones explain symptoms against the potential benefit and risk of intervention. A stone seen on a scan may be incidental, so matching the location and timing of pain to the imaging is important before attributing symptoms to it. Sudden severe pain, jaundice or fever can indicate obstruction or infection and should not wait for routine follow-up.

> **For discussion in consultation**
> Ultrasound and the pattern of symptoms help distinguish an incidental stone from one causing a problem; blood tests or other imaging may be considered if a duct complication is suspected. The balance between observation and treatment depends on symptoms,

> complications and overall health. Fever with upper-abdominal pain, jaundice, dark urine or persistent severe pain warrants prompt medical attention.

Related procedure information

ERCP is generally considered for selected bile-duct or pancreatic-duct problems, not uncomplicated gallbladder stones. These links are educational, not a recommendation.

Endoscopic retrograde cholangiopancreatography (ERCP) Abdominal imaging

Related conditions

Gallbladder polyps Post-cholecystectomy symptoms
Professional reference: ACG · Gallbladder and gallstone disorders

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https://paulng.clinic/en/conditions/gallbladder/#gallstones

# Gallbladder polyps

A gallbladder polyp is a small projection seen along the gallbladder wall, most often on ultrasound. Many are cholesterol deposits or other non-cancerous changes rather than true tumours. A smaller number represent growths with potential for malignancy, and an ultrasound label alone cannot reliably tell the tissue type.

Ultrasound may mistake folds, adherent sludge or cholesterol deposits for a polyp, and small measurements can vary between examinations. Reviewing the images and comparing reports helps distinguish a stable finding from a convincing change. Size is important but is not the only consideration: growth pattern, gallbladder-wall appearance and individual risk factors may affect management. Some findings call for no

further action, while others merit repeat ultrasound or specialist discussion. Surgery is considered by weighing the estimated risk against the risks and benefits of an operation. The interval for follow-up, if any, is selected according to the finding and patient factors rather than an assumption that every polyp grows. Bring previous imaging reports to review so that apparent growth can be compared consistently. Ask whether the report describes a true fixed wall lesion, its maximum measurement and the scan date; these details are useful when comparing studies. A difference of only a few millimetres may reflect measurement variation rather than definite growth.

> **For discussion in consultation**
> Clinicians consider the measured size, shape, whether the wall is thickened, change compared with earlier scans and relevant personal risk factors. Ultrasound measurements have some variability, so a small apparent change may need

> careful interpretation. Depending on the full picture, follow-up imaging, specialist review or discussion of surgery may be appropriate; decisions are not based on the word “polyp” alone.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging

Related conditions

Gallstones
Professional reference: ESGAR / ESGE et al. · Gallbladder polyps

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https://paulng.clinic/en/conditions/gallbladder/#gallbladder-polyps

# Post-cholecystectomy symptoms

Persistent or new digestive symptoms after gallbladder removal are sometimes grouped under the term post-cholecystectomy syndrome. The term describes a symptom setting rather than one specific disease: possible causes include retained or recurrent bile-duct stones, bile-duct problems, reflux, functional gut disorders or conditions unrelated to the biliary system. Symptoms may include abdominal pain, indigestion, diarrhoea or jaundice, depending on the cause.

Symptoms after gallbladder removal have a range of possible explanations and the umbrella term does not indicate that the operation caused a single ongoing disorder. Depending on findings, evaluation may

include liver tests and non-invasive bile-duct imaging, alongside assessment for common non-biliary causes; procedures such as ERCP are generally reserved for a defined reason because they carry risks.

> **For discussion in consultation**
> Review considers the original reason for surgery, timing and character of symptoms, operative records, examination and relevant blood tests or imaging. Tests may evaluate the bile ducts or investigate non-biliary causes; an abnormal symptom pattern alone does not establish a sphincter disorder. The choice of further evaluation depends on the clinical findings because invasive procedures have potential risks.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging

Related conditions

Bile reflux (duodenogastric reflux) Bile acid diarrhoea / bile acid malabsorption Gallstones

Professional reference: ASGE · Biliary tract disorders and choledocholithiasis

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https://paulng.clinic/en/conditions/gallbladder/#post-cholecystectomy-syndrome

# Chronic pancreatitis

Chronic pancreatitis involves persistent inflammation and scarring of the pancreas. Some people have recurrent upper abdominal pain, sometimes extending to the back. Over time, digestion or blood-sugar control may be affected, but symptoms and progression vary.

Causes and risk factors include alcohol, smoking, recurrent acute pancreatitis, genetic factors and other pancreatic disorders; it should not automatically be attributed to alcohol. Diagnosis considers the history and imaging, often CT or MRI, with specialist tests when needed. Abdominal pain alone or a single blood enzyme result cannot establish the diagnosis. Care may address the cause, stopping smoking, alcohol avoidance, nutrition, pain and diabetes.

Pancreatic enzyme replacement is used when digestive enzyme insufficiency is present, not automatically for every patient. Endoscopic or surgical treatment is reserved for selected problems after specialist assessment. Chronic pancreatitis is not pancreatic cancer, although it can increase future risk; surveillance is not the same for everyone.

> **For discussion in consultation**
> Discuss persistent pain, oily stools, weight loss or changes in blood sugar. Sudden severe pain, persistent vomiting, fever or new jaundice requires urgent assessment rather than being assumed to be a usual flare.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging  Nutritional assessment and malnutrition

Related conditions

Pancreatic exocrine insufficiency (PEI) Pancreatic cysts

Professional reference: ACG · Chronic pancreatitis guideline

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https://paulng.clinic/en/conditions/pancreatic-conditions/#chronic-pancreatitis

# Pancreatic exocrine insufficiency (PEI)

PEI occurs when pancreatic digestive enzyme activity in the intestine is insufficient for normal digestion. It can result in poor absorption of fat and other nutrients, sometimes causing bulky, oily or difficult-to-flush stools, diarrhoea, weight loss or nutritional deficiencies. Symptoms are not specific to PEI and can have other pancreatic, intestinal or dietary causes.

Faecal elastase is a commonly used indirect measure of pancreatic enzyme output, but very watery samples can give misleadingly low values and test results need to fit the clinical picture. Imaging can investigate structural pancreatic disease but cannot

establish whether digestion is adequate; nutritional markers and alternative causes of malabsorption may also be reviewed.

> **For discussion in consultation**
> Assessment considers pancreatic disease or surgery history, symptoms, weight and nutritional status. A stool elastase test is often used, but watery stool can affect the result and a normal result does not answer every clinical question. Imaging can help identify pancreatic disease but does not itself measure digestion; clinicians interpret tests alongside the history and other findings.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging  Nutritional management  Nutritional assessment and

malnutrition  Dietary support and oral nutritional supplements

Related conditions

Chronic pancreatitis

Professional reference: UEG et al. · Pancreatic exocrine insufficiency guideline

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https://paulng.clinic/en/conditions/pancreatic-conditions/#pancreatic-exocrine-insufficiency

# Pancreatic cysts

Pancreatic cysts are fluid-filled spaces in or beside the pancreas and are often discovered incidentally on a scan. Some follow inflammation, while others arise from pancreatic ducts or cyst-forming growths; their future behaviour varies. Many remain stable, but certain types can develop concerning changes, so “cyst” is not one single diagnosis or risk category.

The type of cyst is often inferred from its location and connection to pancreatic ducts, but imaging may not settle the diagnosis completely. MRI/MRCP can show the ducts and cyst over time; endoscopic ultrasound can provide closer images and sometimes a fluid sample, but is not needed for every incidental finding. Concerning features, growth, symptoms such as pancreatitis, age,

general health and the ability to benefit from intervention all affect decisions. Surveillance can involve repeat imaging over time, and a specialist can explain why a particular interval or test is proposed. The purpose of monitoring is to notice meaningful changes while avoiding tests that are unlikely to alter care. Keep earlier scan reports available, because a comparison can be more informative than a single measurement and may help avoid unnecessary repeat assessment. The wording of a scan report can identify duct communication or other features that narrow the likely cyst type, but it may not be definitive. A specialist can explain the balance between surveillance and additional procedures in light of age, health and the cyst findings.

> **For discussion in consultation**
> Assessment may compare prior scans and consider cyst size, growth, connection to the pancreatic duct, duct widening, nodules or solid components,

> symptoms and overall health. MRI/MRCP is often useful; endoscopic ultrasound with fluid sampling is reserved for selected cases when results could affect decisions. Surveillance, further testing or intervention depends on the specific features, and finding a cyst alone does not mean surgery is needed.

Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Abdominal imaging

Related conditions

Chronic pancreatitis
Professional reference: ACG · Pancreatic cysts

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https://paulng.clinic/en/conditions/pancreatic-conditions/#pancreatic-cysts

# Gastroscopy (OGD)

Booking and preparation information for gastroscopy (OGD). Confirm your individual arrangements with the nurses.

Dr Paul Ng personally performs OGD and colonoscopy; these procedures are not delegated to another doctor. He is also responsible for your follow-up care.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## What does this test examine?

Gastroscopy (OGD) uses a flexible endoscope passed through the mouth to view the oesophagus, stomach and

duodenum. Your doctor may assess whether tissue samples are needed.

On this page

Appointments Before the examination Confirm your location What happens, benefits and follow-up What happens after the test? Consultation and procedure fees

## Appointments

Endoscopy is by appointment. Confirm the examination location and individual preparation instructions with the nurses.

### Booking

Consultations and endoscopy require an appointment.

### Availability

Monday–Saturday. Confirm available times with the nurses.

## Before the examination

If arranging an OGD, confirm your appointment, location and preparation arrangements with the nurses.

Same-day OGD examination is available. Six hours of fasting is required beforehand.

### Your pre-test checklist

1. Confirm when and where to arrive

   Check the date, arrival time and exact clinic or hospital with the nurses. Allow time for registration and preparation; the arrival time may differ from the test time.

2. Follow your preparation instructions

   Six hours of fasting is required before OGD. Confirm when to stop eating and drinking with the nurses, and follow your individual instructions. Contact them before travelling if you have not followed the fasting instructions.

3. Check medicines and health information

   Please tell the nurses about medicines you take (especially blood thinners or diabetes medicines), medicine allergies, and relevant medical conditions. Do not stop or change prescribed medicines unless advised by your healthcare professional.

4. Pack what you need

   Bring identification, your appointment or referral information if available, a current medicine list and any relevant previous reports. If claiming insurance, bring your insurer card or policy details and claim forms if available; these insurance documents are optional.

5. Arrange your journey home if sedated

   Arrange for a responsible adult to accompany you home and help afterwards as instructed. Do not plan to

drive yourself home. Confirm the escort requirements and how long driving, alcohol, machinery and important decisions must be avoided; tell the nurses in advance if no escort is available.

## Confirm your location

Consultations and endoscopy can be arranged on Hong Kong Island or in Kowloon. Confirm the exact location with the nurses when arranging an appointment.

### Central

20/F Entertainment Building, 30 Queen's Road Central, Hong Kong

Map & directions

### Tsim Sha Tsui

7/F, 37 Cameron Road, Tsim Sha Tsui, Kowloon

Map & directions

### Private hospitals

If your examination is arranged at a private hospital, confirm the hospital and time with the nurses.

Gleneagles Hospital Hong KongSt Paul's HospitalHong Kong Baptist HospitalSt Teresa's Hospital

> Please do not travel to either address without first confirming your appointment location and time with the nurses.

## What happens, benefits and follow-up

During the examination, the doctor guides a thin, flexible endoscope through the mouth to inspect the oesophagus, stomach and duodenum. A small amount of air or gas may be used to open the stomach, and fluid may be suctioned away. Gagging, belching or

temporary bloating can occur. Throat spray or sedation depends on the plan for you; the nurses can explain your arrangements.

An OGD can help investigate upper digestive symptoms and identify visible changes such as inflammation or ulcers. It shows the lining that can be seen during the examination and cannot diagnose every condition. If appropriate, the doctor may take small tissue samples (biopsies) for laboratory examination. Sampling is not usually felt as sharp pain; the team will explain how and when results and follow-up will be discussed.

Serious complications are uncommon, but can include bleeding, perforation, and reactions related to sedation if it is used. A temporarily sore throat or bloating may follow. Follow the care and discharge instructions given by your team. If sedated, follow their advice about driving and having someone assist you. Seek urgent medical

care for severe or worsening chest or abdominal pain, fever, breathing difficulty or significant bleeding.

## What happens after the test?

### Recovery and going home

A temporarily sore throat or bloating may occur after OGD. If throat spray was used, wait until the team says swallowing is safe before eating or drinking.

Rest in the recovery area until the team considers you ready to leave. Follow the written discharge advice on food, drink, medicines and activity. After sedation, leave with your arranged escort and follow the restrictions given by the team.

### Results and follow-up

Dr Paul Ng is responsible for your follow-up. The team will explain the findings when you are ready; biopsy or polyp laboratory results

may still be pending. Before leaving, confirm how and when to obtain your results, whether a follow-up appointment is needed and whom to contact if you have not heard back as arranged.

### When to seek help

Seek urgent medical care for severe or worsening chest or abdominal pain, fever, breathing difficulty, vomiting blood or significant bleeding.

For severe symptoms, go to an emergency department or call 999 in Hong Kong. Do not wait for a WhatsApp or WeChat reply. For non-urgent recovery or results questions, contact the nurses using your discharge contact details or the clinic contacts below.

## Consultation and procedure fees

See the fee section under Visiting the clinic for consultation and endoscopy fees. For an individual quotation, please contact us and specify whether you are considering our centre or a hospital.

View consultation and procedure feesConfirm fees on WhatsApp

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Gastro-oesophageal reflux disease (GERD) Reflux oesophagitis Barrett's oesophagus Gastritis Gastric ulcer Helicobacter pylori infection Gastric intestinal metaplasia Celiac (coeliac) disease Eosinophilic oesophagitis (EoE) Oesophageal dysmotility Achalasia Functional dyspepsia Autoimmune gastritis

## Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Endoscopic mucosal resection (EMR) Chromoendoscopy Narrow band imaging (NBI) Magnifying endoscopy Endoscopic biopsies

## Continue reading

Bravo wireless pH monitoring Oesophageal manometry

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https://paulng.clinic/en/gastroscopy/

# Colonoscopy

Booking and bowel-preparation information for colonoscopy. Follow the individual instructions provided by the nurses.

Dr Paul Ng personally performs OGD and colonoscopy; these procedures are not delegated to another doctor. He is also responsible for your follow-up care.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## What does this test examine?

Colonoscopy uses a flexible endoscope to view the lining of the large bowel. Your doctor may consider taking tissue samples or

removing polyps when appropriate. Follow your individual bowel-preparation and fasting instructions before the examination.

On this page

Appointments Before the examination Confirm your location What happens, benefits and follow-up What happens after the test? Consultation and procedure fees

## Appointments

Endoscopy is by appointment. Confirm the examination location and individual preparation instructions with the nurses.

### Booking

Consultations and endoscopy require an appointment.

### Availability

Monday–Saturday. Confirm available times with the nurses.

## Before the examination

The bowel-preparation regimen and diet instructions are individual. Follow the nurses' directions on when to start, what to eat and any medicine arrangements; do not change the plan yourself.

We offer GI Clean, Pico-Prep, and Linzess Modified preparation regimens. Patient safety is our utmost concern, and the regimen is selected based on the individual patient profile.

### Your pre-test checklist

1. Confirm when and where to arrive

   Check the date, arrival time and exact clinic or hospital with the nurses. Allow time for registration and preparation; the arrival time may differ from the test time.

2. Follow your preparation instructions

   Follow your individual low-residue diet, clear-liquid, bowel-cleansing medicine and fasting schedule. Diet alone does not replace the prescribed preparation. If you cannot finish it, vomit it or are unsure whether it has worked, contact the nurses before travelling.

3. Check medicines and health information

   Please tell the nurses about medicines you take (especially blood thinners or diabetes medicines), medicine allergies, and relevant medical conditions. Do not stop or change prescribed medicines unless advised by your healthcare professional.

4. Pack what you need

   Bring identification, your appointment or referral information if available, a current medicine list and any relevant

previous reports. If claiming insurance, bring your insurer card or policy details and claim forms if available; these insurance documents are optional.

5. Arrange your journey home if sedated

   Arrange for a responsible adult to accompany you home and help afterwards as instructed. Do not plan to drive yourself home. Confirm the escort requirements and how long driving, alcohol, machinery and important decisions must be avoided; tell the nurses in advance if no escort is available.

Bowel preparation reference (ASGE)

## Confirm your location

Consultations and endoscopy can be arranged on Hong Kong Island or in Kowloon. Confirm the exact location with the nurses when arranging an appointment.

## Central

20/F Entertainment Building, 30 Queen's Road Central, Hong Kong

Map & directions

## Tsim Sha Tsui

7/F, 37 Cameron Road, Tsim Sha Tsui, Kowloon

Map & directions

## Private hospitals

If your examination is arranged at a private hospital, confirm the hospital and time with the nurses.

Gleneagles Hospital Hong KongSt Paul's HospitalHong Kong Baptist HospitalSt Teresa's Hospital

> Please do not travel to either address without first confirming your

> appointment location and time with the nurses.

## What happens, benefits and follow-up

During colonoscopy, the doctor passes a flexible endoscope through the anus and examines the bowel lining. Air or gas is used to help view the bowel; you may feel bloated or an urge to pass stool, and the team may ask you to change position. The examination and any sedation arrangements vary between patients, so use the individual information provided by the nurses.

Colonoscopy can investigate bowel symptoms and visible changes in the lining. If appropriate, the doctor may take a biopsy for laboratory examination or remove a polyp; whether this is done and what happens next depend on the findings. Inadequate bowel cleansing, the shape of the bowel or other factors can limit the view, so no examination detects every abnormality and further assessment may sometimes be needed.

Possible risks include bleeding (particularly after biopsy or polyp removal), bowel perforation, and reactions related to sedation if it is used; serious complications are uncommon. Temporary bloating or extra wind is common after the test. Follow your team's recovery and discharge instructions. If sedated, follow their advice about driving and having someone assist you. Seek urgent medical care for heavy or persistent bleeding, severe or worsening abdominal pain, fever or fainting.

## What happens after the test?

### Recovery and going home

Temporary bloating or extra wind is common after colonoscopy. If a biopsy or polyp removal was performed, follow any additional instructions on diet, medicines and activity.

Rest in the recovery area until the team considers you ready to leave. Follow the written discharge advice on food, drink,

medicines and activity. After sedation, leave with your arranged escort and follow the restrictions given by the team.

## Results and follow-up

Dr Paul Ng is responsible for your follow-up. The team will explain the findings when you are ready; biopsy or polyp laboratory results may still be pending. Before leaving, confirm how and when to obtain your results, whether a follow-up appointment is needed and whom to contact if you have not heard back as arranged.

### When to seek help

Seek urgent medical care for heavy or persistent bleeding, severe or worsening abdominal pain, fever, breathing difficulty or fainting. Bleeding after polyp removal can also occur after you have gone home.

> For severe symptoms, go to an emergency department or call 999 in Hong Kong. Do not wait for a WhatsApp or WeChat reply. For non-urgent recovery or results questions, contact the nurses using your discharge contact details or the clinic contacts below.

## Consultation and procedure fees

See the fee section under Visiting the clinic for consultation and endoscopy fees. For an individual quotation, please contact us and specify whether you are considering our centre or a hospital.

View consultation and procedure feesConfirm fees on WhatsApp

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Colonic polyps Ulcerative colitis (UC) Crohn disease Radiation proctitis Diverticular disease / diverticulosis and diverticulitis Microscopic colitis

## Related procedure information

These links are general information, not a recommendation for an examination or treatment.

Colonic polypectomy Endoscopic mucosal resection (EMR) Chromoendoscopy Narrow band imaging (NBI) Magnifying endoscopy Endoscopic biopsies

## Continue reading

Video capsule endoscopy Haemorrhoid Rubber-Band Ligation

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https://paulng.clinic/en/colonoscopy/

# Video capsule endoscopy

A patient guide to what this examination may show, its limitations and how to prepare.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

A video capsule is a small, swallowable camera that travels through the digestive tract and sends pictures to a recorder worn on your body.

On this page
What the capsule can examine  Benefits, risks and limitations  Preparation and follow-up  Understanding your results

## What the capsule can examine

It is mainly used to examine the small bowel, much of which cannot be seen with a standard gastroscopy or colonoscopy. Your doctor may consider it when investigating unexplained bleeding or anaemia, or selected suspected small-bowel disorders, particularly when earlier tests have not answered the question. The capsule takes a series of images as it moves along; it is not steered or watched as a live examination. A clinician reviews the recording afterwards and discusses whether the pictures explain your symptoms or suggest another test.

## Benefits, risks and limitations

The capsule only takes pictures: it cannot collect a tissue sample, remove a polyp or treat bleeding. A finding that needs closer inspection or treatment may therefore lead to a separate endoscopy or other procedure. One important limitation is that a narrowed area can delay or trap the capsule. Although

this is uncommon, it can occasionally require further treatment to retrieve it. Tell your doctor about previous bowel obstruction or surgery, known Crohn's disease or narrowing, swallowing problems, and any implanted medical device; this information helps assess suitability and whether another examination, including a dissolvable patency capsule, should be considered first. The test may also fail to show every part clearly, so a normal recording does not rule out every possible cause of symptoms.

## Preparation and follow-up

Preparation is individual: the team may give instructions about diet, bowel preparation, medicines, when to swallow the capsule and use of the sensor belt or recorder. Follow the instructions provided for your appointment rather than a guide intended for another patient. Ask how to keep the recorder in place, what activities are suitable, how to record symptoms or meals if requested, and when and how to return the equipment. The

capsule normally leaves the body naturally, but ask the team what to do if you have concerns that it has not passed or develop new symptoms. The team will also explain when results are expected and how they will be reviewed. If swallowing tablets is difficult, raise this before the appointment rather than trying to force the capsule. The capsule test itself often does not require sedation, but the plan can differ if another procedure or individual circumstance is involved. Images may be incomplete if the capsule moves quickly or the view is obscured, so the clinician may discuss another investigation even when no clear abnormality is seen. Ask whether you should keep your usual routine during recording, and follow the unit's advice about activities and equipment; the recorder does not provide live medical supervision. Confirm how to return it and whom to contact if the capsule has not passed as expected. Depending on the unit's approach and your swallowing history, the capsule may be swallowed at the appointment or a

different placement method may be discussed; ask rather than assume. A patency capsule is a separate preliminary assessment for selected people, not a routine requirement for everyone. If the recording is incomplete or symptoms continue despite a reassuring report, your doctor can explain whether repeat imaging or a different test would answer the remaining question. Discuss what follow-up you should expect and how the result fits with the earlier investigations that led to this test.

## Understanding your results

A report may describe a possible bleeding site, inflammation or another finding, but pictures alone cannot establish a tissue diagnosis. If the study is incomplete or shows something that needs closer assessment, imaging or device-assisted enteroscopy may be discussed. A normal recording must be considered alongside your symptoms and earlier investigations.

> This page provides general information, not a recommendation for a particular test. The clinical team will explain whether it is suitable and give you individual preparation and follow-up instructions.

## Professional references

- ASGE · Capsule endoscopy

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Crohn disease

## Continue reading

Colonoscopy  Gastroscopy (OGD)

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https://paulng.clinic/en/video-capsule-endoscopy/

# Endoscopic biopsies

An endoscopic biopsy takes a small sample of the digestive lining for laboratory examination. Biopsies help investigate many conditions, including inflammation and infection; taking a sample does not mean cancer is suspected.

## Why take samples?

Biopsies may investigate H. pylori, gastritis, coeliac disease, eosinophilic oesophagitis, microscopic colitis or a visible abnormality. Some conditions need samples even when the lining looks normal.

The number and sites depend on the clinical question. Targeted samples and systematic samples serve different purposes; not every

person needs every type. A small biopsy is not the same as removing an entire polyp or lesion.

## What happens to the tissue?

Small forceps passed through the endoscope collect samples, which are labelled and examined by a laboratory. Sampling of the lining is usually not felt separately, although the examination itself can cause discomfort.

Visual findings may be discussed on the day, but pathology takes additional time and special tests can take longer. Confirm how and when results will be reviewed. A sample represents only the tissue taken; an inadequate or unrepresentative sample may require further assessment.

## Safety and result interpretation

Minor bleeding can occur; significant bleeding is uncommon, but risk depends on the site, medicines and health. Other risks,

including perforation and sedation problems, relate to the examination and any additional treatment.

Tell the team about blood thinners or bleeding disorders and do not change medicines yourself. Follow aftercare instructions. Significant bleeding, black tarry stools, fainting, fever or severe or worsening chest or abdominal pain needs urgent assessment. A normal biopsy does not exclude every possible cause of symptoms.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek

> urgent care for heavy bleeding, fainting, fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Helicobacter pylori infection

Gastritis

Autoimmune gastritis

Gastric intestinal metaplasia

Celiac (coeliac) disease

Microscopic colitis

Eosinophilic oesophagitis (EoE)

Ulcerative colitis (UC)

Crohn disease

Barrett's oesophagus

Gastric ulcer

Colonic polypectomy

Endoscopic mucosal resection (EMR)

Gastroscopy (OGD)

Colonoscopy

# Professional references

ASGE · Upper endoscopy and biopsiesBSG · Colorectal surveillance in inflammatory bowel disease (2025)

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https://paulng.clinic/en/endoscopic-biopsies/

# H. pylori culture and antibiotic sensitivity testing

Gastric biopsies obtained during gastroscopy can be cultured in a laboratory to grow Helicobacter pylori and test its antibiotic susceptibility. This may help select eradication treatment; it answers a different question from an H. pylori breath test.

## When may it be useful?

Susceptibility testing may be considered when infection persists after eradication treatment, particularly after repeated treatment failures. Decisions take account of previous regimens, adherence, allergies and local resistance information.

Culture or gastroscopy is not needed for every newly diagnosed infection. Bring previous prescriptions, antibiotic exposure

details and test-of-cure results.

## Sampling and preparation

Samples are usually taken from the stomach lining during gastroscopy. Culture needs dedicated collection and transport arrangements agreed with the laboratory in advance; a routine pathology sample is not automatically suitable.

Acid suppressants, antibiotics and bismuth can reduce sensitivity. A clinician plans any interruption; commonly PPIs need a break of about two weeks and antibiotics and bismuth about four weeks, but do not stop prescribed medicines yourself. Confirm fasting, sedation and gastroscopy risks separately.

## Understanding limitations

If the organism grows, the laboratory can assess susceptibility or resistance to selected antibiotics. The panel and

turnaround vary by laboratory. Results can guide treatment but do not guarantee eradication.

H. pylori is difficult to culture. Medicines, sampling, transport and handling can affect growth, so a negative culture does not rule out infection. Molecular resistance testing may be an alternative in selected settings but detects a different range of resistance markers.

## Treatment and confirmation of cure

Treatment is chosen using the results alongside previous regimens and tolerability. Do not change antibiotics yourself. Culture and susceptibility testing do not replace confirmation that treatment has cleared the infection.

A urea breath test or appropriate stool antigen test is generally used at least four weeks after completing antibiotics, with acid

suppression and other interfering medicines managed as instructed. Antibody blood tests are not suitable to confirm cure.

## Arrange testing in advance

Suitability, sampling, availability, fees and result timing require individual confirmation with the clinician and laboratory. This page is general information, not individual diagnostic or prescribing advice.

## Continue reading

Helicobacter pylori infection

Gastritis

Gastric ulcer

Endoscopic biopsies

Urea breath test for Helicobacter pylori

Gastroscopy (OGD)

# Professional references

ACG · H. pylori guideline highlights (2024)AGA · Management of refractory H. pylori infection

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https://paulng.clinic/en/h-pylori-culture-sensitivity/

# Colonic polypectomy

Colonic polypectomy removes a polyp from the lining of the large bowel during colonoscopy. Removing certain precancerous polyps can reduce future colorectal cancer risk, but not every polyp has the same significance or can be removed in the same way.

## Why remove a polyp?

Some adenomas and serrated lesions can develop into cancer over time. Many polyps cause no symptoms, and their appearance alone does not establish the final tissue diagnosis.

The decision considers size, shape, location, likely type, medicines and overall health. A large or complex lesion may need planned

specialist removal rather than immediate treatment at the first colonoscopy.

## How is it removed?

A wire loop called a snare can capture and cut a polyp. Cold-snare removal does not use an electrical cutting current; hot-snare removal does. The choice depends on the lesion, not simply a preference for one method.

Retrieved tissue is usually sent for pathology. Selected lesions may need endoscopic mucosal resection (EMR), another advanced technique or surgery. Clips may be used to control or reduce bleeding in selected situations, but are not necessary for every polyp.

## Risks, recovery and follow-up

Bleeding can occur during removal or several days afterwards. Perforation, incomplete removal and sedation-related problems are

other possible risks; personal risk varies with the lesion and technique.

Follow bowel-preparation, medicine, diet and activity instructions from your team; do not stop blood thinners yourself. Follow-up depends on pathology, complete removal and examination quality, not one fixed interval. Heavy bleeding, fainting, fever or severe or worsening abdominal pain requires urgent assessment.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek urgent care for heavy bleeding, fainting,

> fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Colonic polyps

Endoscopic mucosal resection (EMR)

Endoscopic biopsies

Colonoscopy

## Professional references

ESGE · Colorectal polypectomy and EMR (2024)ASGE · Upper endoscopy and biopsies

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https://paulng.clinic/en/colonic-polypectomy/

# Endoscopic mucosal resection (EMR)

EMR removes selected superficial lesions from the digestive-tract lining through an endoscope. It is often considered for larger or flatter lesions that need more than simple polyp removal, but is not suitable for every lesion or every cancer.

## When is EMR considered?

Assessment considers the lesion's size, shape, location, surface pattern and possible depth of invasion. EMR can sometimes avoid surgery for suitable lesions, but deeper invasive disease may need a different approach.

EMR and endoscopic submucosal dissection (ESD) are distinct techniques. Selection depends on the clinical question, need for an

intact specimen, expertise and individual risk. A diagnostic assessment does not guarantee same-session removal.

## What happens during EMR?

In conventional EMR, fluid is often injected beneath a lesion to lift it before snare removal. Other approaches, including underwater EMR, may be suitable in selected cases. Removal can be in one piece or several pieces.

The specimen is examined by pathology. Piece-by-piece removal can make assessment of the margins less straightforward. The setting, sedation and possible overnight observation depend on the site, complexity and health of the patient.

## Risks and checking the treatment site

EMR can cause immediate or delayed bleeding, perforation and, with heat-based treatment, injury to the bowel wall. Residual

or recurrent tissue may need further treatment; a successful-looking removal is not the end of follow-up.

Scar checks are tailored to the lesion, pathology and completeness of resection, especially after piecemeal removal. Do not change prescribed medicines yourself. Follow discharge instructions and seek urgent care for substantial bleeding, fainting, fever or severe or worsening chest or abdominal pain.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek urgent care for heavy bleeding, fainting,

> fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Colonic polyps

Colonic polypectomy

Endoscopic biopsies

Gastroscopy (OGD)

Colonoscopy

## Professional references

ESGE · Colorectal polypectomy and EMR (2024)ASGE · Upper endoscopy and biopsies

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https://paulng.clinic/en/endoscopic-mucosal-resection/

# Chromoendoscopy

Dye-based chromoendoscopy applies a dye or contrast stain to the digestive lining during endoscopy to make surface detail easier to assess. It is an inspection technique, not a treatment that removes tissue.

## Why use a dye?

Contrast can help define a subtle lesion or its edges and guide targeted sampling or treatment planning. Dye-based chromoendoscopy may be considered in selected surveillance examinations, including longstanding colonic inflammatory bowel disease.

Whether it is appropriate depends on the condition, examination quality and clinician's assessment. It is not needed for every

routine colonoscopy, and surveillance intervals remain individual.

## Dye-based versus virtual imaging

Dye is applied through the endoscope after cleaning the area. Different agents highlight surface contour or tissue features in different ways. High-quality preparation and careful inspection remain essential.

Virtual chromoendoscopy changes the image using optical or electronic technology rather than sprayed dye. Narrow band imaging is one such approach; it is not identical to dye-based staining, and neither automatically includes optical magnification. Tell the team about allergies and previous reactions.

## What it cannot establish

An enhanced appearance may help select an area for biopsy or removal but does not guarantee detection of every lesion or establish every tissue diagnosis. Pathology may still be needed.

The risks and recovery mainly follow the underlying gastroscopy or colonoscopy and any biopsy or treatment performed. The team will explain agent-specific considerations, medicine instructions and warning signs. No imaging technique makes cancer detection certain.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek urgent care for heavy bleeding, fainting,

> fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Colonic polyps

Ulcerative colitis (UC)

Crohn disease

Narrow band imaging (NBI)

Magnifying endoscopy

Endoscopic biopsies

Gastroscopy (OGD)

Colonoscopy

## Professional references

ESGE · Advanced imaging in colorectal endoscopyBSG · Colorectal surveillance in inflammatory bowel disease (2025)

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https://paulng.clinic/en/chromoendoscopy/

# Narrow band imaging (NBI)

NBI uses selected wavelengths of light to make superficial blood vessels and mucosal patterns more visible during endoscopy. It helps assess an area of interest but does not itself take a biopsy or remove a lesion.

## What can NBI help assess?

NBI can assist the inspection of a lesion's surface, vascular pattern and boundaries, including selected areas in the oesophagus, stomach or colon. Findings may guide targeted biopsies or decisions about removal.

The usefulness depends on the site, clinical question, equipment, image quality and experience. It is an adjunct to careful white-light examination, not a promise that all early disease will be detected.

## How it differs from other techniques

NBI changes the light used for imaging without spraying dye. It can be switched on during an appropriate endoscopic examination, with or without a separate magnification function.

NBI is not the same as dye-based chromoendoscopy, ordinary high-definition imaging or optical magnification. Different systems have different capabilities. Its use is chosen according to the examination and available equipment rather than being required for every patient.

## Limits, sampling and recovery

Visual patterns can suggest a tissue type but may not establish a definitive diagnosis or how deeply a lesion extends. Biopsy or analysis of removed tissue may still be necessary.

NBI itself does not cut tissue. Preparation, sedation risks and recovery depend on the underlying endoscopy and any sampling or treatment. Follow your appointment and discharge instructions rather than assuming enhanced imaging changes those requirements.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek urgent care for heavy bleeding, fainting,

> fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Colonic polyps

Barrett's oesophagus

Gastric intestinal metaplasia

Chromoendoscopy

Magnifying endoscopy

Endoscopic biopsies

Gastroscopy (OGD)

Colonoscopy

## Professional references

ESGE · Advanced imaging in colorectal endoscopyASGE · Upper endoscopy and biopsies

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https://paulng.clinic/en/narrow-band-imaging/

# Magnifying endoscopy

Magnifying endoscopy uses a compatible endoscope to enlarge fine details of the digestive lining. Optical magnification can help examine surface and vessel patterns, sometimes alongside dye-based imaging or NBI.

## Why look more closely?

Detailed inspection may help characterise a selected lesion, assess its borders and guide biopsy or removal planning. Its role depends on the location, suspected condition and quality of the examination.

It does not mean a lesion is cancerous, and it is not necessary for every routine examination. Visual assessment alone cannot always establish histology or invasion depth.

## Optical magnification is not just digital zoom

Optical magnification uses the endoscope's optics to reveal detail at close range. Digital zoom enlarges an existing image and is not equivalent to acquiring additional optical detail.

Magnification and image enhancement are different functions. They may be combined, for example magnification with NBI, but an NBI image is not automatically a magnified image. Stable positioning, a clean surface and suitable equipment are important.

## Limitations and next steps

Mucus, inflammation, bleeding or movement can obscure fine detail. Interpretation requires experience and may still need confirmation from biopsies or a resection specimen.

This is an inspection technique, not tissue removal. Preparation and recovery follow the underlying gastroscopy or colonoscopy and any additional treatment. Discuss how the findings affect care rather than assuming a magnified image replaces pathology.

## An individual plan, not a routine requirement

These techniques may be used during an appropriate gastroscopy or colonoscopy; not everyone needs them. Confirm the planned method, equipment, setting, consent, preparation and aftercare with your team. Follow individual medicine instructions and do not stop blood thinners yourself. Seek urgent care for heavy bleeding, fainting, fever or severe or worsening chest or abdominal pain after endoscopy. This guide does not replace a consultation.

## Continue reading

Colonic polyps

Gastric intestinal metaplasia

Narrow band imaging (NBI)

Chromoendoscopy

Endoscopic biopsies

Gastroscopy (OGD)

Colonoscopy

## Professional references

ESGE · Advanced imaging in colorectal endoscopyASGE · Upper endoscopy and biopsies

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https://paulng.clinic/en/magnifying-endoscopy/

# Wireless oesophageal pH monitoring

A patient guide to what this examination may show, its limitations and how to prepare.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

Bravo is a test that records acid exposure in the oesophagus (food pipe).

On this page
How Bravo measures reflux  Benefits, risks and limitations  Preparation and follow-up  Understanding your results

## How Bravo measures reflux

A small wireless sensor is attached to the oesophageal lining, usually during an endoscopy, and transmits readings to a portable receiver for a period set by the clinical team. You may be asked to note symptoms, meals and relevant activities so the doctor can compare them with the recorded acid levels. This can help assess whether acid reflux is associated with symptoms, or provide information when reflux remains a concern despite treatment. It answers a different question from gastroscopy: the camera assesses the appearance of the lining, while Bravo records acid exposure over time.

## Benefits, risks and limitations

The sensor usually detaches by itself and passes through the digestive tract; you generally do not need to retrieve it. Some people feel temporary chest discomfort, a sensation when swallowing, or discomfort

while the sensor is attached. Rarely, the capsule may detach earlier than expected or readings may be incomplete. Bravo measures acid, not every type of non-acid reflux, and it cannot show structural problems or take a biopsy; it does not replace endoscopy when the lining needs assessment. Results are interpreted alongside your symptoms and prior investigations, and a recording alone may not explain every cause of discomfort.

## Preparation and follow-up

The planned monitoring period, diary instructions and whether the test is performed on or off acid-suppressing medicine depend on the clinical question and your history. Do not stop or change a prescribed medicine unless your doctor specifically instructs you to do so. Tell the team about swallowing difficulties, allergies, implanted devices and any planned MRI, so they can check the capsule and device instructions and advise you about any restrictions. Ask what to do if the receiver

signals a problem, how to return it, how results will be discussed, and what recovery advice applies after the endoscopy and sedation, if used. The team may explain how to mark symptoms on the receiver and keep a diary; record symptoms when they happen rather than relying on memory at the end of the test. Ask whether the aim is to assess reflux while taking your usual treatment or without it, since these approaches answer different questions. Unless your team advises otherwise, ordinary meals and activities may make the recording more representative, but follow the specific protocol you are given. The sensor is temporary and does not need to be removed by you. Before any MRI, check with the team whether the capsule has passed and what restriction applies to the particular device. If placement was combined with gastroscopy, recovery precautions relate to that procedure and any sedative, not to the receiver alone; arrange transport and supervision only as directed by your care team. The tracing reflects only

the monitoring window: symptoms may not occur during that period, and an episode of discomfort does not necessarily coincide with an acid event. A quiet or inconclusive study therefore has to be considered with your usual symptom pattern and other tests. Ask whether the receiver needs to be kept within a particular range or returned in person, and what to do if you miss a diary entry; the unit's instructions take priority over generic advice. The sensor measures acidity rather than the amount of fluid moving upward, so a separate impedance-based test may be discussed when non-acid reflux is the concern.

## Understanding your results

Results consider how much time the oesophagus was exposed to acid and whether recorded symptoms coincided with acid episodes. Acid exposure and symptom association answer related but different questions; neither alone explains every

symptom. Ask how testing while taking, or temporarily withholding, acid-reducing medicine affects interpretation.

> This page provides general information, not a recommendation for a particular test. The clinical team will explain whether it is suitable and give you individual preparation and follow-up instructions.

## Professional references

- BSG · Oesophageal reflux monitoring

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Gastro-oesophageal reflux disease (GERD) Reflux oesophagitis

## Continue reading

Gastroscopy (OGD) Oesophageal manometry

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https://paulng.clinic/en/bravo-ph-test/

# Oesophageal manometry

A patient guide to what this examination may show, its limitations and how to prepare.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

Oesophageal manometry measures how the food pipe muscles and the upper and lower sphincters work during swallowing.

On this page
What manometry measures  Benefits, risks and limitations  Preparation and follow-up  Understanding your results

## What manometry measures

A thin, flexible pressure-sensing catheter is usually passed gently through a nostril into the oesophagus and stomach. The team then asks you to swallow small amounts of water, sometimes in a series of different positions or patterns, while sensors record pressure and coordination. The test can help investigate difficulty swallowing, food sticking, regurgitation or a suspected movement disorder. It may also be used to assess oesophageal function as part of reflux investigations or before selected treatments. Your doctor interprets the measurements with your symptoms and other test results, rather than using one pressure reading alone.

## Benefits, risks and limitations

Manometry measures function; it does not take pictures of the lining, diagnose every cause of swallowing difficulty or obtain a biopsy. Gastroscopy and manometry therefore provide complementary, not

interchangeable, information. Passing the catheter can cause temporary watering eyes, gagging, a stuffy feeling, or mild nose or throat discomfort; minor irritation or a small nosebleed can occur. The test is generally performed while you are awake so that you can swallow as requested, and staff can pause to help if you are uncomfortable. The exact method and length vary with the protocol and your needs.

## Preparation and follow-up

When arranging the test, tell the team about medicines, allergies, nasal blockage or surgery, bleeding problems, and any difficulty swallowing liquids. Some medicines or food may affect measurements, but whether to adjust them and any fasting period must be specified for your individual appointment; do not make changes on your own. Ask what clothing or support is useful and whether you need someone to accompany you. Most people can leave after the procedure, but follow the team's advice about resuming

food, drink and medicines, and ask when and how your results will be explained. Manometry is not a swallowing X-ray: it records pressure and timing, while a contrast swallow study shows movement and shape on imaging. Your doctor may use one or both depending on what needs clarifying. During the test, slow breathing and following the swallowing prompts can help the measurements; tell staff if you need a pause, and do not force a swallow that feels unsafe. The catheter is removed at the end and is not left in place. Mild nose or throat irritation generally settles, but the team should know if you have persistent bleeding or worsening discomfort. Ask whether the results will be discussed at a separate visit and how they may affect next steps, since a manometry pattern is interpreted alongside symptoms and other findings rather than as a stand-alone diagnosis.

## Understanding your results

Pressure patterns during repeated swallows can suggest impaired relaxation, weak contractions or spasm. The findings are interpreted with symptoms, endoscopy and other tests: manometry does not show the oesophageal lining or explain every cause of swallowing difficulty.

> This page provides general information, not a recommendation for a particular test. The clinical team will explain whether it is suitable and give you individual preparation and follow-up instructions.

## Professional references

- ACG · Esophageal physiologic testing
- ASGE · Oesophageal manometry

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Achalasia  Oesophageal dysmotility

## Continue reading

Gastroscopy (OGD)  Bravo wireless pH monitoring

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https://paulng.clinic/en/oesophageal-manometry/

# Endoscopic retrograde cholangiopancreatography (ERCP)

A patient guide to what this examination may show, its limitations and how to prepare.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

Endoscopic retrograde cholangiopancreatography (ERCP) combines a flexible endoscope with X-ray imaging to reach and treat the bile and pancreatic ducts.

On this page

When ERCP may be used Benefits, risks and limitations Preparation and follow-up Understanding your results

## When ERCP may be used

The endoscope passes through the mouth into the duodenum, where the doctor can identify the small duct openings and pass fine instruments into them. ERCP is generally considered when there is a likely problem that may need treatment, such as a bile-duct stone, a blockage or narrowing, or a need to place or exchange a drainage stent. It may allow the doctor to remove a stone, take a sample, widen an opening or place a stent in the same session. If the main need is to look for a problem without treating it, ultrasound, CT or MRI/MRCP may provide useful information with less procedural risk; your doctor will weigh the options for your case.

## Benefits, risks and limitations

ERCP is a therapeutic procedure, not a routine diagnostic gastroscopy, and the intended steps can change according to what is found. It usually involves sedation or anaesthesia and X-rays. Risks include pancreatitis, bleeding, infection of the bile ducts and, rarely, a tear or perforation; complications can require additional treatment or a longer hospital stay, and very rarely can be serious. Risk varies with the reason for ERCP, the intervention performed and personal health factors. A stent may need later review or removal, and a single procedure does not always resolve the underlying problem. Before proceeding, the doctor should explain the expected benefit, alternatives, possible complications and what is planned if the duct cannot be treated as intended.

## Preparation and follow-up

In Dr Ng's practice, ERCP is arranged only in hospital, as a day admission or an overnight stay, not at an outpatient centre. The hospital setting allows assessment and observation appropriate to the planned procedure, but does not remove all risks. Before the procedure, tell the team about all medicines (especially anticoagulants or antiplatelet drugs), allergies, diabetes, heart or lung conditions, pregnancy possibility, previous ERCP or anaesthetic problems, and any relevant test results. Do not stop medicines or follow a general fasting schedule without your own instructions: the timing, sedation plan, need for an escort and whether you stay overnight are decided after assessment. The team will explain recovery, diet and medicine advice, follow-up for any stent, and whom to contact if concerns arise after discharge. During ERCP, contrast is introduced into the duct openings so they can be seen on X-ray; the doctor may need

to make a small cut in the duct opening to remove a stone or improve drainage. Sometimes the anatomy, narrowing or inflammation makes access difficult, and the intended treatment may be incomplete or need another procedure. Ask beforehand which outcomes are most likely in your case and whether a stent would be temporary or require planned follow-up. The hospital team monitors you as sedation wears off and decides when discharge is appropriate; an overnight stay is not automatic and depends on findings and recovery. Follow the written discharge plan, including advice about eating, medicines and the stent. Contact the hospital team promptly if you develop concerning symptoms such as increasing abdominal pain, fever, repeated vomiting, black stools or bleeding after discharge; they will tell you whether urgent assessment is needed. The procedure uses X-rays, so tell the team if pregnancy is possible.

## Understanding your results

If a duct is treated or a stent is placed, confirm what was done and who is responsible for checking, exchanging or removing the stent. Symptoms and blood tests may still need follow-up after the procedure. Ask whom to contact promptly if abdominal pain, fever or jaundice develops.

> This page provides general information, not a recommendation for a particular test. The clinical team will explain whether it is suitable and give you individual preparation and follow-up instructions.

## Professional references

- ASGE · ERCP

## Related conditions

ERCP is generally considered for selected bile-duct or pancreatic-duct problems, not uncomplicated gallbladder stones. These links are educational, not a recommendation.

Gallstones

## Continue reading

Abdominal imaging

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https://paulng.clinic/en/ercp/

# Haemorrhoid rubber-band ligation

A general guide to rubber-band ligation for selected internal haemorrhoids. This information does not confirm that a particular clinician or clinic provides the procedure.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

Rubber-band ligation places a small elastic band around the base of an internal haemorrhoid, above the sensitive area at the

anal opening. Reduced blood flow allows the banded tissue to wither and detach; a small scar may help hold the lining in place.

On this page

When banding may be considered What to expect Risks and other options

## When banding may be considered

A clinician may discuss banding for bleeding or prolapsing internal haemorrhoids that remain troublesome despite measures such as fibre, fluids and avoiding straining. It is an office-based option for selected internal haemorrhoids, not a treatment for every anal symptom or for external haemorrhoids.

Rectal bleeding should not automatically be attributed to haemorrhoids. Examination and, depending on age, symptoms and history, further investigation may be needed to check for another cause before treatment is chosen.

## What to expect

After assessment, a small instrument is used to place one or more bands around the selected tissue. The band is placed above the sensitive anal canal; the procedure is usually brief. A pressure sensation, urge to pass stool or mild discomfort can occur. The banded tissue commonly separates over several days, sometimes with a small amount of bleeding.

The number of areas treated and whether repeat sessions are appropriate depend on the findings and symptoms. The treating team should explain preparation, medicines that affect bleeding, aftercare and who to contact before the procedure.

## Risks and other options

Possible effects include pressure, pain, bleeding when the banded tissue separates, and difficulty passing urine. Rare but serious complications include heavy bleeding or

infection. Seek urgent care for heavy bleeding, fever, severe or increasing pain, or difficulty urinating.

Options depend on the diagnosis and severity: bowel-habit changes, other office treatments, or surgery may be discussed. Banding does not guarantee that symptoms will not return. A clinician should review personal risks, including blood-thinning medicines, before deciding.

> This is general patient information, not an offer of treatment or a personal recommendation. Seek medical assessment for new or persistent rectal bleeding.

## Professional guidance

- American Society of Colon and Rectal Surgeons (ASCRS): Hemorrhoids

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Haemorrhoids (hemorrhoids)

## Continue reading

Colonoscopy  Sedation & care setting

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https://paulng.clinic/en/rubber-band-ligation/

# Oesophageal botulinum toxin injection

Botulinum toxin injection is one possible treatment discussed for selected oesophageal motility disorders, including achalasia. It is not suitable for everyone and its benefit may be temporary.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

During endoscopy, botulinum toxin can be injected into the lower oesophageal sphincter, the muscle that should relax as food enters the stomach. In achalasia that relaxation is impaired. The injection

temporarily reduces muscle contraction; it does not correct every cause of swallowing difficulty.

On this page
Assessment and treatment choices How injection is given Benefits, limits and choices

## Assessment and treatment choices

Achalasia is a defined motility disorder. Assessment generally uses the symptom history, endoscopy to exclude other causes, and tests such as oesophageal manometry; imaging may also be needed. Similar symptoms can arise from other conditions, so a diagnosis should be established before choosing a treatment.

Guidance describes botulinum toxin mainly as an option for people with achalasia who are not fit for more definitive therapies, or in selected circumstances after discussion. For people able to undergo definitive treatment, options such as pneumatic dilation, Heller

myotomy or POEM may offer more durable relief; the best choice depends on the clinical situation and patient preferences.

## How injection is given

The injection is delivered through an endoscope, often with sedation or anaesthesia. Several small injections are placed into the sphincter muscle. The exact plan, setting, fasting instructions and recovery advice come from the treating team; do not use another person's instructions.

Swallowing may improve, but response and duration vary. Relief is often short-lived and symptoms can return, so further injections or another treatment may later be considered. Botulinum toxin relaxes muscle rather than opening a persistent narrowing mechanically.

## Benefits, limits and choices

Endoscopy and injection can cause chest discomfort, reflux, bleeding, infection or, rarely, perforation; sedation or anaesthesia has its own risks. Discuss allergies, medicines, pregnancy, prior procedures and heart or lung conditions with the team.

Ask what diagnosis is being treated, what outcome is realistic, how long benefit may last, whether repeat treatment is likely, and how this option compares with dilation or myotomy. Seek urgent help for severe chest pain, fever, breathing difficulty or inability to swallow liquids after a procedure.

> This page describes a specialist treatment option and does not imply that it is offered at this clinic. Decisions require a confirmed diagnosis and discussion with a gastroenterology team.

## Professional guidance

- American College of Gastroenterology (ACG): Achalasia guideline

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Achalasia

## Continue reading

Oesophageal manometry  Gastroscopy (OGD)

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https://paulng.clinic/en/oesophageal-botulinum-injection/

# Pyloric botulinum toxin injection

Pyloric botulinum toxin injection has been studied in gastroparesis, but it should not be presented as routine or established treatment. Current AGA guidance suggests against routine use, including in medically refractory gastroparesis.

Dr Paul Ng is a Hong Kong gastroenterologist and hepatologist. Consultations in Central and Tsim Sha Tsui are by appointment; confirm the procedure location with the nurses.

## Introduction

Gastroparesis means delayed emptying of the stomach without a mechanical blockage. The pylorus is the outlet muscle between the stomach and small bowel. During endoscopy,

botulinum toxin may be injected into this muscle in an attempt to reduce resistance to emptying; whether this helps is uncertain.

On this page

Confirming gastroparesis What the procedure involves Evidence and treatment choices

## Confirming gastroparesis

Nausea, vomiting, early fullness and bloating have many possible causes. A gastroparesis diagnosis requires compatible symptoms, exclusion of obstruction and an appropriately performed test showing delayed emptying; a four-hour gastric-emptying study is commonly used. Medicines and other conditions can affect results.

A specialist may review nutrition, hydration, glucose control where relevant, medicines that slow emptying and treatments with evidence for symptom or emptying

improvement. Injection should not replace diagnostic assessment or established individualized care.

## What the procedure involves

If considered in a specialist setting, the toxin is delivered by endoscope into the pyloric muscle. This is an off-label intervention for gastroparesis in many settings. It requires endoscopy and sedation planning, and the procedural team should explain the specific risks, alternatives and follow-up.

An endoscopic injection does not guarantee faster emptying or symptom relief. Any benefit may be limited or absent, and the effect of the toxin wears off. Selection based on pyloric testing is an area of investigation, not proof that the treatment works for a given person.

## Evidence and treatment choices

Endoscopy-related risks include bleeding, infection and rare perforation; sedation also carries risks. Discuss medicines, allergies, relevant conditions and the reason this option is being raised before consenting.

The 2025 AGA guideline suggests against routine botulinum toxin injection for patients with gastroparesis refractory to medical management. Ask about the quality of evidence, the goal of treatment, alternatives and whether a clinical study is available. No procedure should be assumed to be beneficial because it is technically possible.

> This page is informational, not a recommendation. The AGA suggests against routine pyloric botulinum toxin injection for gastroparesis; any exceptional or investigational use requires specialist discussion.

## Professional guidance

- American Gastroenterological Association (AGA): Clinical guidance on gastroparesis

## Related conditions

A related condition does not mean this procedure is suitable; decisions require individual assessment.

Gastroparesis

## Continue reading

Gastroscopy (OGD) Sedation & care setting

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https://paulng.clinic/en/pyloric-botulinum-injection/

# Abdominal imaging

Ultrasound, CT and MRI each answer different questions and have different limitations. The best choice depends on what your doctor needs to find out—not on one test being universally “better”.

## Abdominal ultrasound

Sound waves produce real-time images of abdominal organs without ionising radiation. Ultrasound is usually the first test when gallbladder stones are suspected.

Bowel gas, body habitus and the area being examined can limit the view. For some deep structures it may show less anatomical detail or a narrower field of view than CT or MRI; it is not simply lower-resolution for every organ.

## CT scan

A CT scan uses X-rays to create cross-sectional views of the abdomen. It is relatively quick and surveys a wide area; some scans require an injected contrast agent.

CT involves radiation and can miss some gallbladder stones, particularly stones with a density similar to bile. A CT report showing no stones does not always exclude gallstones.

## MRI / MRCP

MRI uses a magnetic field and radio waves to show soft tissues without ionising radiation. MRCP is an MRI technique focused on the bile and pancreatic ducts.

It generally takes longer. Metal implants, cardiac devices or metal fragments require safety screening: some are incompatible, while others are safe only under specific “MR-conditional” conditions.

## Which test comes first?

For suspected gallbladder stones, ultrasound is usually considered first. CT or MRI/MRCP may be recommended for a broader abdominal question or the bile and pancreatic ducts. Tell your doctor about possible pregnancy, kidney problems, contrast allergies and implanted devices.

## Continue reading

Gallstones

Gallbladder polyps

Post-cholecystectomy symptoms

Liver cysts

Pancreatic cysts

Chronic pancreatitis

Pancreatic exocrine insufficiency (PEI)

Fatty liver (steatotic liver disease)

Metabolic dysfunction-associated fatty liver disease (MAFLD)

Liver cirrhosis

Liver elastography

## Professional references

ACR · Imaging for right upper quadrant painRadiologyInfo · Abdominal ultrasoundRadiologyInfo · MRI safety

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https://paulng.clinic/en/abdominal-imaging/

# Liver elastography

Liver elastography measures liver stiffness to help estimate the risk of fibrosis (scarring). It does not require a tissue sample, but stiffness is not a direct measurement of scar tissue, and one number alone cannot diagnose cirrhosis.

## When might it help?

A clinician may consider elastography when assessing fatty liver, chronic hepatitis B or C, or other chronic liver conditions. It can help estimate the likelihood of significant fibrosis and guide follow-up.

Results are interpreted alongside the history, liver blood tests, platelets, blood-based risk scores and other imaging. Normal liver enzymes do not exclude fibrosis, and an ultrasound showing fat cannot establish the

amount of scarring. Not everyone with fatty liver needs the same tests or monitoring schedule.

## How is stiffness measured?

Ultrasound-based methods estimate stiffness using mechanical waves passing through the liver. You usually lie on your back with your right arm raised while a probe touches the skin between the ribs on the right. You may feel gentle vibration or pressure and be asked to hold your breath briefly.

Transient elastography, shear-wave elastography and MR elastography are different techniques. FibroScan is a brand of equipment, not a name for every elastography method. Some devices also estimate liver fat, which is a separate measurement from stiffness. This guide does not imply that the clinic has a particular brand or offers every technique; confirm the method and location when arranging a test.

## Before and after the test

Eating can affect stiffness, so follow the booking team's fasting and drinking instructions rather than another person's preparation plan. Bring previous reports and a medicine list; mention diabetes, recent illness, possible pregnancy, abdominal fluid or implanted devices.

Do not stop medicines on your own. Arrange advice in advance if fasting is difficult or you have diabetes. Ultrasound-based testing generally needs no sedation, uses no ionising radiation and usually allows a prompt return to normal activities. MR elastography needs separate metal and implant safety screening, and preparation and timing differ. Suitability and arrangements depend on the individual.

## A stiffness value is not a fibrosis stage

Inflammation, bile-flow obstruction, liver congestion from heart problems and a recent meal can increase stiffness without a corresponding increase in scarring. Body

build, rib spacing, abdominal fluid and measurement quality may also affect some techniques.

Results are often reported in kPa, but interpretation varies by technique, underlying disease and clinical question. Avoid assigning yourself a stage from an online chart. An unreliable or conflicting result may need repeat testing, a different test or, occasionally, liver biopsy. Elastography does not replace indicated liver-cancer surveillance or exclude every liver condition.

## Consider the whole liver-health picture

Discuss measurement quality, factors affecting the result and the need for follow-up with your clinician. Confirm the method, location and preparation first. This page is general information, not

> a personal diagnosis or a recommendation that everyone needs testing.

## Continue reading

Hepatitis B

Hepatitis C

Fatty liver (steatotic liver disease)

Metabolic dysfunction-associated fatty liver disease (MAFLD)

Liver fibrosis

Liver cirrhosis

Autoimmune hepatitis (AIH)

Primary biliary cholangitis (PBC)

Abdominal imaging

## Professional references

ACR / RSNA · ElastographyACR / RSNA · Fatty liver disease and liver fibrosis

# Urea breath test for Helicobacter pylori

The urea breath test (UBT) is a non-invasive test for active Helicobacter pylori infection in the stomach. It is different from the hydrogen/methane breath test for SIBO.

## What the test measures

H. pylori produces an enzyme called urease. After you take a small amount of labelled urea, the laboratory measures labelled carbon dioxide in your breath. This can indicate active infection; it does not measure stomach acid, ulcers or gut bacterial diversity.

“Urease breath test” is sometimes used informally, but urea breath test is the usual name. The label and method vary; tell the

team about pregnancy, breastfeeding and other relevant circumstances so the appropriate test can be selected.

The label used matters: carbon-13 (13C) is non-radioactive; carbon-14 (14C) is a radioactive tracer. Ask the laboratory which test is planned. Tell the team about pregnancy or breastfeeding so that suitability can be assessed for the actual test; do not assume every urea breath test uses the same preparation.

## When it may be useful

The test may be used to investigate suspected H. pylori infection or to check that eradication treatment has worked. Improvement in symptoms alone does not confirm eradication, and a blood antibody test may stay positive after the infection has cleared.

Breath testing does not replace gastroscopy when there are reasons to examine the stomach or obtain biopsies. Vomiting blood, black stools, persistent vomiting, difficulty swallowing, anaemia or unexplained weight loss needs clinical assessment rather than relying on a breath test alone.

## Medicines and preparation

Acid-suppressing medicines, antibiotics and bismuth can suppress the organism and cause a falsely negative result. Common guidance is to avoid antibiotics and bismuth for at least four weeks, and proton pump inhibitors or potassium-competitive acid blockers for about two weeks before testing.

These are planning intervals, not instructions to stop prescribed treatment yourself. The clinician and testing centre must confirm the timing, fasting requirements and any temporary alternative for your situation. Tell them about recent H. pylori treatment and all relevant medicines.

## On the day and after treatment

The testing centre usually collects baseline breath samples, gives the test preparation and collects further samples at specified times. Follow its instructions about fasting, smoking and eating or drinking during the test; the exact preparation and sampling schedule depend on the method.

For an eradication check, testing is generally arranged at least four weeks after finishing antibiotics, with the appropriate interval off acid suppression. An early or poorly prepared test can be misleading. Ask when and how the result will be reviewed.

## Understanding the result

A positive result usually supports active infection, but treatment still requires an individual discussion about previous antibiotics, allergies, other medicines and local resistance patterns. Do not reuse an old prescription or choose antibiotics from the internet.

A negative result does not explain every upper-abdominal symptom and can be unreliable if preparation or timing was unsuitable. The clinician may advise a repeat test, another validated H. pylori test or a different investigation according to the clinical question.

### Preparation must be confirmed individually

Do not stop prescribed medicines or delay assessment of concerning symptoms to arrange a breath test. The test is information for an individual clinical review, not a stand-alone diagnosis of the cause of indigestion.

## Continue reading

Helicobacter pylori infection

Gastritis

Gastric ulcer

Gastric intestinal metaplasia

H. pylori culture and antibiotic sensitivity testing

SIBO and IMO breath testing (hydrogen and methane)

## Professional references

American College of Gastroenterology · H. pylori treatment and confirmation of eradication (2024)Cochrane · Non-invasive tests for Helicobacter pylori

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https://paulng.clinic/en/urea-breath-test/

# SIBO and IMO breath testing (hydrogen and methane)

Breath testing after glucose or lactulose may help assess selected patients for small intestinal bacterial overgrowth (SIBO) or intestinal methanogen overgrowth (IMO). It is not a stand-alone explanation for bloating.

## What does it measure?

Breath samples measure hydrogen and usually methane after a test sugar. Methane positivity is usually described as intestinal methanogen overgrowth (IMO), not bacterial overgrowth.

Symptoms, bowel transit and previous surgery affect interpretation. Tests can be falsely positive or negative; no result establishes every cause of digestive symptoms.

## Preparation and limitations

Follow the laboratory's instructions about diet, fasting, smoking, activity and relevant medicines. Recent antibiotics, bowel preparation and laxatives may affect results.

Do not stop prescribed treatment yourself. Stool microbiome sequencing does not diagnose SIBO. The test substrate and laboratory method matter.

## A broader health review

SIBO may be secondary to impaired gut movement, altered anatomy, other gastrointestinal conditions or medication use.

Review general health and underlying causes rather than treating a result in isolation. A positive test does not automatically justify antibiotics, supplements or a restrictive diet.

## Interpret results in context

Testing is not an automatic diagnosis or treatment recommendation. Discuss the clinical question, preparation, limitations and follow-up with your clinician. Availability and laboratory methods vary.

## Continue reading

Small intestinal bacterial overgrowth (SIBO)

Gut microbiome sequencing (faecal genomics)

## Professional references

ACG · Small intestinal bacterial overgrowth guideline

https://paulng.clinic/en/sibo-breath-test/

# Gut microbiome sequencing (faecal genomics)

Stool sequencing describes microbial genetic material in a stool sample. It is different from stool pathogen PCR and stool DNA screening for colorectal cancer.

## What can a report show?

A report may describe microbial groups and diversity. Results depend on sampling, storage, sequencing and the reference database.

Stool reflects mainly the large bowel, not the small bowel. Diet, medicines and recent illness can change the pattern; there is no single universally accepted healthy profile.

## Clinical usefulness remains limited

Commercial “dysbiosis” scores or lists of organisms do not by themselves diagnose SIBO, IBS, food intolerance or the cause of symptoms.

Evidence for routine use to select personalised diets, probiotics or supplements remains limited. Abundance does not necessarily indicate disease or a treatment target.

## Before ordering a test

Discuss the clinical question, validated alternatives, cost, privacy, data storage and whether the result is likely to change care.

Do not start antibiotics, supplements or major dietary restrictions solely from the report. New or concerning symptoms still require conventional clinical assessment.

## Interpret results in context

Testing is not an automatic diagnosis or treatment recommendation. Discuss the clinical question, preparation, limitations and follow-up with your clinician. Availability and laboratory methods vary.

## Continue reading

SIBO and IMO breath testing (hydrogen and methane)

Stool PCR for gastrointestinal pathogens

Faecal calprotectin

## Professional references

International consensus · Microbiome testing in clinical practice

https://paulng.clinic/en/gut-microbiome-sequencing/

# Stool PCR for gastrointestinal pathogens

Stool PCR detects genetic material from specified bacteria, viruses or parasites. The organisms included differ between laboratory panels.

## When it may help

Testing may be considered for selected diarrhoeal illnesses according to severity, duration, travel, immune status and exposure history.

It is not a universal check for every infection, and it does not replace assessment of dehydration, bleeding or other causes of diarrhoea.

## Understanding the result

A positive result can reflect infection, carriage or material remaining after an infection. More than one target may be detected.

Clinical context matters; a positive result does not always require antibiotics. A negative result does not exclude organisms absent from the panel or non-infectious illness.

## Sampling and further tests

Use the supplied container and follow collection and transport instructions. Tell the team about recent antibiotics and relevant exposures.

Culture or targeted tests may still be required for susceptibility testing or public-health reasons. Severe pain, significant bleeding, fever with serious illness or dehydration needs prompt medical care.

## Interpret results in context

Testing is not an automatic diagnosis or treatment recommendation. Discuss the clinical question, preparation, limitations and follow-up with your clinician. Availability and laboratory methods vary.

## Continue reading

Microscopic colitis

Ulcerative colitis (UC)

Crohn disease

Faecal calprotectin

Gut microbiome sequencing (faecal genomics)

## Professional references

IDSA · Infectious diarrhoea guideline

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https://paulng.clinic/en/stool-pcr/

# Faecal calprotectin

Faecal calprotectin is a stool marker of intestinal inflammation. It may help assess whether further investigation is appropriate and monitor established inflammatory bowel disease.

## What the marker can tell us

Calprotectin reflects inflammation but cannot identify its cause or distinguish Crohn disease from ulcerative colitis by itself.

Infection and some medicines, including NSAIDs, can raise the result. It is not a colorectal cancer screening test.

## Interpreting a result

Thresholds depend on the laboratory, age and clinical setting. Borderline results may need review or repeat testing.

A high value does not automatically establish inflammatory bowel disease; a low value does not exclude every bowel disorder. Persistent bleeding, anaemia or weight loss still needs assessment.

## Preparation and follow-up

Follow the laboratory's collection instructions and discuss relevant medicines or recent infection; do not stop medicines independently.

For established inflammatory bowel disease, interpret trends alongside symptoms, blood tests and sometimes endoscopy or imaging. Treatment should not be changed on a stool value alone.

### Interpret results in context

Testing is not an automatic diagnosis or treatment recommendation. Discuss the clinical question, preparation, limitations

> and follow-up with your clinician. Availability and laboratory methods vary.

## Continue reading

Ulcerative colitis (UC)

Crohn disease

Stool PCR for gastrointestinal pathogens

## Professional references

NICE DG11 · Faecal calprotectin diagnostic tests

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https://paulng.clinic/en/faecal-calprotectin/

# Nutritional management

Nutrition support is planned around the cause of poor intake, digestive function and the person's goals—not simply a choice of tube or infusion.

## Assessment before a treatment

Review weight change, intake, muscle function, swallowing, illness, medicines and social circumstances. Malnutrition can occur at any body weight.

When safe and sufficient, ordinary food, food fortification and oral supplements may be considered before tube feeding. Intravenous nutrition has different indications and risks.

The first question is why eating has become difficult: pain, nausea, early fullness, swallowing difficulty, malabsorption and an inability to obtain meals need different

responses. A clinician may investigate or treat the cause while a dietitian supports intake. The route is then chosen according to whether food can be swallowed safely and whether the digestive tract can absorb enough nutrition.

## Goals and shared decisions

Discuss the expected benefit, burdens, likely duration and alternatives, including not starting a procedure, with the patient and relevant carers.

Consider capacity, previously expressed wishes, prognosis and quality of life. A feeding tube does not eliminate aspiration or guarantee longer life. PEG is generally not recommended in advanced dementia.

A useful goal is something meaningful to the person, such as maintaining strength for treatment, improving hydration or making care manageable at home. Agree how progress and discomfort will be assessed

and when the plan will be reconsidered. A time-limited trial may be appropriate in some circumstances; agree what improvement or unacceptable burden would lead to continuing, changing or stopping support. Decisions should not be made solely from a weight reading or pressure to proceed with a procedure.

## A coordinated care plan

Doctors, dietitians, nurses, pharmacists and speech therapists may contribute. The plan includes monitoring, caregiver training and regular review of whether support remains appropriate.

Home treatment requires suitable equipment, a trained patient or caregiver and access to professional support. Listing a treatment here does not confirm that it is available at every clinic location.

Before discharge, clarify who supplies feed and equipment, who can help with the device, how medicines will be given and whom to contact out of hours. Review should include the person's comfort and daily function as well as laboratory results. If swallowing or gut function improves, the team can reassess whether a simpler route is possible; stopping support also needs a planned discussion.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without

> instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Gastroparesis

Celiac (coeliac) disease

Crohn disease

Pancreatic exocrine insufficiency (PEI)

Nutritional assessment and malnutrition

Dietary support and oral nutritional supplements

Swallowing difficulties and eating safely

Percutaneous endoscopic gastrostomy (PEG)

Feeding-tube insertion: nasogastric and nasojejunal tubes

PEG-J (gastrostomy with jejunal extension)

Parenteral nutrition (intravenous nutrition)

Feeding-tube and stoma care

Refeeding syndrome

# Professional references

NICE CG32 · Nutrition support for adultsESPEN · Home enteral nutrition

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https://paulng.clinic/en/nutritional-management/

# Nutritional assessment and malnutrition

Unintentional weight loss, reduced intake or loss of strength deserves assessment, even when someone is not underweight.

## What is reviewed?

Assessment considers recent weight and intake, muscle loss, hydration, mobility, swallowing and digestive symptoms.

Underlying disease, medicines, dental problems, mood and difficulty obtaining or preparing meals may contribute. Blood tests can help investigate causes but do not diagnose malnutrition on their own.

Bring a record of recent weights, an idea of a usual day's food and drink, and a medicine list if available. Changes in clothing fit,

walking or getting out of a chair can also be relevant. Fluid retention may hide weight loss, and an apparently normal blood albumin level cannot on its own rule out malnutrition; the assessment brings several findings together.

## An individual plan

A dietitian can help assess nutritional requirements and adapt food choices to symptoms, culture, preferences and other illnesses.

Treating the underlying problem matters as much as providing calories. Protein, fluid and electrolyte needs differ in kidney, liver or heart disease.

The plan should explain what needs improving and how to achieve it within the person's circumstances. Someone who feels full quickly may need a different approach from someone with swallowing difficulty or impaired absorption. Dietary restrictions should be reviewed rather than added

automatically. Where specialist supplements are considered, ask what they are expected to achieve and how they fit with ordinary meals.

## Follow-up and escalation

Review intake, weight, strength, tolerance and relevant tests. Supplements, tube feeding or intravenous nutrition are not automatically necessary.

Rapid deterioration, inability to drink, dehydration or new swallowing difficulty needs prompt medical review. Prolonged poor intake may require assessment for refeeding risk before support starts.

Agree a review interval and practical measures of progress, rather than continuing supplements indefinitely without reassessment. Report worsening intake, ongoing diarrhoea, vomiting or difficulty managing the plan. Marked weakness, reduced urine or dizziness may indicate a

need for earlier assessment. Severe breathlessness, collapse or altered consciousness requires emergency care, not a routine nutrition appointment.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Gastroparesis

Celiac (coeliac) disease

Crohn disease

Chronic pancreatitis

Pancreatic exocrine insufficiency (PEI)

Nutritional management

Dietary support and oral nutritional supplements

Refeeding syndrome

## Professional references

NICE CG32 · Nutrition support for adultsESPEN · Home enteral nutrition

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https://paulng.clinic/en/nutritional-assessment/

# Dietary support and oral nutritional supplements

When swallowing is safe and the gut can be used, dietary adjustments or oral supplements may help someone whose usual intake is insufficient.

## Food-based support

A plan may include smaller frequent meals, food fortification and practical help with shopping, cooking or eating.

Advice is tailored to the reason for poor intake and relevant illnesses. Unnecessary restrictive diets may worsen malnutrition.

Food fortification means adding nutrition to food a person already tolerates, rather than simply increasing portion size. Meal timing, fatigue, nausea, pain and access to

assistance can be as important as food choice. The dietitian can help identify realistic changes. Generic advice to increase protein, salt or fluid is not appropriate for everyone, particularly when another illness requires limits.

## Choosing a supplement

Oral nutritional supplements can provide additional energy, protein and other nutrients when food alone is inadequate.

They are not all equivalent and do not replace investigation. A dietitian can advise on formulation, timing, allergies, tolerance, diabetes and fluid restrictions.

A supplement is chosen for a purpose; products differ in energy, protein, fibre and volume and are not interchangeable with sports drinks or vitamin products. They may be used alongside meals, with timing adjusted if they reduce appetite. Taste, expense and storage affect whether a plan is

sustainable. Check the product and any food allergy with the clinical team rather than choosing from a marketing claim.

## Reviewing safety and benefit

Monitor intake, weight, function and symptoms, and adjust the plan if needs change. Do not assume more supplements are always better.

People with swallowing difficulty need assessment before changing drink consistency. Severe or prolonged poor intake can create refeeding risk even when nutrition is taken by mouth.

Keep track of how much is actually taken and whether there is nausea, bloating, altered stools or reduced normal food intake. This helps distinguish a poorly tolerated product from an underlying illness that still needs investigation. Seek advice if the planned intake cannot be achieved. A new cough or

wet voice with drinks warrants swallowing review rather than simply changing supplement brands.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Gastroparesis

Pancreatic exocrine insufficiency (PEI)

Nutritional assessment and malnutrition

Swallowing difficulties and eating safely

Refeeding syndrome

## Professional references

NICE CG32 · Nutrition support for adultsESPEN · Home enteral nutrition

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https://paulng.clinic/en/oral-nutritional-support/

# Swallowing difficulties and eating safely

Coughing during meals, a wet voice, food sticking or recurrent chest infections may warrant assessment of swallowing; aspiration can also be silent.

## Finding the cause

Clinical assessment distinguishes problems transferring food from the mouth from problems in the oesophagus. A speech therapist may assess swallowing safety.

Some people need instrumental swallowing tests; others need gastroenterology assessment. New or progressive difficulty swallowing should not be managed by dietary restriction alone.

Difficulty starting a swallow, coughing with drinks and food sticking after swallowing can suggest different problems, but symptoms do not reliably show the exact cause. Describe when it happens, whether solids or liquids are affected, and any weight loss, pain or chest infections. Sudden swallowing difficulty with facial weakness, limb weakness or speech change is a possible stroke emergency; call 999.

## An individual eating plan

Food texture, drink consistency, posture and assistance should follow the assessed plan rather than a generic internet recipe.

Thickened fluids are not suitable for everyone and can affect hydration and enjoyment. Do not independently trial feeding techniques if choking or aspiration is suspected.

An assessment may recommend specific food textures, supervised eating or changes to the environment. These measures should

be explained and reviewed; a thicker drink is not automatically safer for every person. Mouth care and the ability to stay alert during meals also matter. If eating becomes difficult despite the plan, seek review instead of gradually restricting more foods without nutritional support.

## What tubes can and cannot do

A feeding tube may deliver nutrition when oral intake is unsafe or inadequate, but aspiration of saliva or refluxed material can still occur.

Discuss expected benefit, alternatives and the person's wishes. For choking with inability to breathe, speak or cough effectively, seek emergency help and call 999.

A tube can supply nutrition when oral intake is unsafe or insufficient, but it cannot prevent every cause of aspiration pneumonia. Saliva can still enter the airway, and reflux can still

occur. Discussion should therefore include what the tube can realistically achieve and what daily care involves. Any decision about eating for comfort despite risk requires an individual, documented discussion, not a generic online instruction.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Achalasia

Oesophageal dysmotility

Eosinophilic oesophagitis (EoE)

Nutritional assessment and malnutrition

Dietary support and oral nutritional supplements

Percutaneous endoscopic gastrostomy (PEG)

Feeding-tube insertion: nasogastric and nasojejunal tubes

## Professional references

NICE CG32 · Nutrition support for adultsESPEN · Home enteral nutrition

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https://paulng.clinic/en/swallowing-safety/

# Percutaneous endoscopic gastrostomy (PEG)

PEG places a feeding tube through the abdominal wall into the stomach with endoscopic guidance, usually when longer-term tube feeding is being considered.

## When might PEG be considered?

It may be considered when oral intake is unsafe or insufficient but the digestive tract can be used. It is not automatically the right option for weight loss or swallowing difficulty.

Alternatives include supported oral feeding, temporary nasal tubes and other access methods. Prognosis, capacity, treatment goals and caregiver support matter; PEG is generally not recommended in advanced dementia.

PEG is a route for delivering nutrition, water and suitable medicines; it does not treat the underlying swallowing disorder or restore normal swallowing. Ask why it is being considered now, how long it might be needed and what would happen without it. If the patient cannot make the decision, the team must consider the relevant legal and ethical framework and the person's known wishes.

## Assessment, procedure and risks

The team reviews anatomy, breathing, bleeding risk, medicines and suitability for sedation. Fasting and medication instructions are individual; do not stop anticoagulants yourself.

Risks include infection, bleeding, aspiration, leakage, injury to nearby organs, peritonitis and sedation-related problems. Insertion may not be possible and serious complications can require hospital treatment.

During placement, an endoscope is passed through the mouth to assess the stomach and help select a safe entry site through the abdomen. Sedation or anaesthesia and the exact technique depend on the patient and setting. Previous surgery, infection, fluid in the abdomen or inability to find a safe route may change the plan. Ask about alternatives and the arrangements if placement cannot proceed.

## Aftercare and displacement

The team must authorise when feeding and medicines can begin and teach tube-specific skin, flushing and fixation care. PEG does not eliminate aspiration.

If a new tube falls out, or there is severe pain, fever or major leakage, stop using it and seek urgent assessment. Do not push it back or replace it yourself; an immature tract can leak into the abdomen, causing potentially life-threatening peritonitis.

Before going home, obtain the tube type, written care instructions and contact details for problems. Pain that is increasing rather than settling, bleeding or feed leaking around the site needs assessment. A tract that looks established externally may not be safe for replacement. If a tube falls out, contact the team urgently; if recently placed or accompanied by illness or pain, attend emergency care.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without

> instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Nutritional management

Feeding-tube insertion: nasogastric and nasojejunal tubes

PEG-J (gastrostomy with jejunal extension)

Feeding-tube and stoma care

## Professional references

ESGE · Enteral tubes: indications and accessESGE · Enteral tubes: placement and aftercareESPEN · Home enteral nutrition

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https://paulng.clinic/en/peg/

# Feeding-tube insertion: nasogastric and nasojejunal tubes

A nasogastric (NG) tube passes through the nose into the stomach; a nasojejunal (NJ) tube passes further into the small bowel. They are often used for temporary nutritional support.

## Selecting the route

The choice depends on swallowing, stomach emptying, aspiration risk, bowel function and expected duration of support.

NG tubes may be placed at the bedside. NJ placement may need imaging or endoscopy. Longer-term options include gastrostomy or jejunostomy, but no route suits everyone.

The NG route delivers into the stomach, while an NJ tube passes beyond the stomach into the small bowel. The choice depends on the clinical problem, not simply on which tube is thinner. Discuss likely duration and whether a temporary trial may help clarify tolerance. Tube feeding can still be associated with reflux, diarrhoea or aspiration, and the route needs reassessment if these occur.

## Insertion and position checks

Discomfort, nosebleed, misplacement into the airway, aspiration and displacement can occur. Correct position must be confirmed using the treating service's validated protocol before use.

Do not use the tube until staff authorise it. Listening for air sounds alone cannot establish safe placement. A changed external length or new respiratory symptoms requires reassessment.

A tube can enter the airway without obvious distress, which is why placement checks are essential. The team uses the appropriate approved method, such as testing gastric aspirate or imaging where indicated; these checks are not interchangeable in every circumstance. Do not put feed, water or medicines through an unconfirmed tube. Ask what to do if the securing tape loosens or the tube is pulled.

## Feeding and follow-up

Formula, rate, water and medicines need an individual plan. Patients and carers require training and an agreed contact route.

If displacement is suspected, stop feeds and medicines through the tube and contact the team. Breathing difficulty or severe distress requires emergency care. Do not attempt to reposition the tube yourself.

The care plan should specify the prescribed feed, delivery method, water and medicines, and the signs that require a pause and a call for help. It should also identify who will check ongoing position according to the local protocol. Do not copy a hospital feeding schedule for another person. If the tube comes out at home, use the agreed urgent contact route rather than trying to replace it.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Gastroparesis

Swallowing difficulties and eating safely

Percutaneous endoscopic gastrostomy (PEG)

PEG-J (gastrostomy with jejunal extension)

Feeding-tube and stoma care

## Professional references

ESGE · Enteral tubes: indications and accessESGE · Enteral tubes: placement and aftercareESPEN · Home enteral nutrition

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https://paulng.clinic/en/feeding-tube-insertion/

# PEG-J (gastrostomy with jejunal extension)

PEG-J uses a gastrostomy opening into the stomach, with an extension tube passing through the stomach into the jejunum, part of the small bowel. It is not a direct puncture into the jejunum.

## When PEG-J may be considered

Selected patients who cannot tolerate feeding into the stomach, for example because of poor gastric emptying, may be considered for feeding beyond it. The small bowel must still be able to absorb sufficient nutrition.

The choice depends on the cause, likely duration and the patient's goals. Oral support or temporary nasojejunal feeding may be

alternatives. PEG-J does not eliminate aspiration of saliva or refluxed stomach contents.

PEG delivers into the stomach; PEG-J adds an extension that carries feed beyond the stomach. This may address selected problems with gastric feeding but does not automatically overcome intestinal failure or severe malabsorption. Ask what improvement is expected, whether an NJ trial would help, and when tolerance, comfort and the ongoing need for this route will be reviewed.

## Placement and risks

An extension is passed through an existing or newly placed PEG and guided beyond the stomach into the jejunum, usually with endoscopic and sometimes imaging assistance. Anatomy, existing access and the clinical setting affect feasibility.

Risks include infection, bleeding, leakage, perforation, peritonitis, bowel injury or obstruction and sedation-related problems. The jejunal extension can block, kink or migrate back into the stomach; positioning may fail or require another procedure.

An existing PEG does not necessarily mean a jejunal extension can be added immediately or to the same device. The team must assess the gastrostomy, anatomy and equipment. Unlike direct jejunostomy, PEG-J reaches the small bowel through the stomach. Ask whether a new gastrostomy or device change is needed, how position will be checked, and who will manage a blockage or displacement.

## Feeding, device care and follow-up

Jejunal feeding commonly uses controlled pump delivery with an individual plan for formula, water and medicines. If the device has separate stomach and jejunal ports, the team must explain each port's prescribed use; they are not interchangeable.

Do not rotate, advance or replace the tube unless specifically taught for that device. Stop using it and seek urgent help for suspected displacement, severe pain, marked leakage, fever or vomiting. A recently placed tube falling out requires emergency assessment; do not reinsert it yourself.

Feed may be delivered gradually because it no longer enters the stomach reservoir; do not choose a pump rate yourself. Use only the port, medicine formulation and flushing plan specified by the team. New vomiting, reflux or feeding intolerance may indicate extension migration or another problem and needs assessment, not a home attempt to reposition the tube. Keep device details and urgent contact instructions available.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Gastroparesis

Feeding-tube insertion: nasogastric and nasojejunal tubes

Percutaneous endoscopic gastrostomy (PEG)

Feeding-tube and stoma care

# Professional references

ESGE · Enteral tubes: indications and accessESGE · Enteral tubes: placement and aftercareESPEN · Home enteral nutrition

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https://paulng.clinic/en/peg-j/

# Parenteral nutrition (intravenous nutrition)

Parenteral nutrition (PN) supplies nutrients into a vein when oral or tube feeding cannot safely or sufficiently meet needs. It is not a routine wellness or vitamin infusion.

## When PN is considered

Examples include selected cases of intestinal failure, severe malabsorption or obstruction where adequate use of the gut is not possible.

PN may supplement other intake or provide all nutrition. Central versus peripheral access depends on the prescription and duration. The decision weighs expected benefit against catheter and metabolic risks.

PN supplies nutrients into the bloodstream rather than relying on intestinal digestion and absorption. It may supplement oral or tube feeding or provide the main nutrition when the intestine cannot be used adequately. The reason for using it should be clear, because a central line and intravenous formulation introduce risks that do not arise with ordinary food. Where possible, usable gut function is still considered in the overall plan.

## Risks and monitoring

Risks include catheter bloodstream infection, blood clots, line damage, glucose or electrolyte disturbances, fluid imbalance and liver complications.

Refeeding syndrome is possible. A specialist team monitors weight, fluid balance, blood tests and the catheter. PN composition, rate and duration must not be altered without instructions.

Monitoring is more intensive when PN starts or changes and is adjusted once the person is stable. The team reviews blood results, fluid balance, weight, glucose and the catheter, as well as whether nutrition goals are being met. Blood tests are used to change an individual prescription, not to support a standard formula for everyone. Long-term treatment also requires review for micronutrient and liver or bone complications.

## Home treatment and warning signs

Home PN requires assessment, training, aseptic line care, safe storage, suitable equipment and reliable access to support.

Fever or rigors during infusion, line redness, arm or neck swelling, line damage or breathing difficulty needs urgent assessment. Do not use a damaged line or wait for an online reply when seriously unwell.

Training must cover hand hygiene, the specific aseptic connection technique, storage, pump use and what to do if equipment fails. A written emergency plan is essential. Fever or chills during an infusion may indicate a bloodstream infection even if the line site looks normal; seek urgent medical assessment. Do not manipulate, repair or continue using a damaged line while waiting for routine advice.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without

> instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Nutritional management

Nutritional assessment and malnutrition

Refeeding syndrome

## Professional references

ESPEN · Home parenteral nutritionNICE CG32 · Nutrition support for adults

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https://paulng.clinic/en/parenteral-nutrition/

# Feeding-tube and stoma care

Safe care depends on the exact tube, its position and how recently it was placed. A generic guide cannot replace device-specific teaching.

## A written care plan

The team should explain skin care, fixation, prescribed water flushes, feeding equipment and what to do if the tube blocks or moves.

Rotation and advancement instructions differ between PEG, PEG-J and jejunostomy tubes. Do not apply one tube's technique to another. Keep the tube details and emergency contact information available.

The written plan should identify the tube, when it was placed, any external markings, routine checks, and whether the particular device should ever be rotated or advanced. It

should distinguish routine care from tasks reserved for trained professionals. Ask for a demonstration and then practise under supervision; a family member reading a generic care leaflet has not necessarily been trained to manage that device.

## Medicines and blockage

A pharmacist should review which medicines and formulations are suitable. Not all tablets can be crushed, and some must not be administered through a feeding tube.

Follow the prescribed flushing and medication plan. Do not force a blocked tube, insert objects or use unapproved liquids or home remedies. Contact the team if it will not flush.

Modified-release, enteric-coated and other medicines may be unsuitable for crushing, and tube delivery can alter absorption. Ask the pharmacist about each medicine, not only the feeding formula. A blockage can be

caused by medicines, feed or a mechanical problem and needs an appropriate response. Never use pressure, sharp objects, improvised chemicals or another person's unblocking method.

## When to stop and seek help

Stop using a displaced or suspected displaced tube. Increasing pain, spreading redness, fever, bleeding, substantial leakage or breathing difficulty needs assessment.

A recently placed gastrostomy or jejunostomy falling out is urgent. Do not attempt reinsertion yourself. Severe symptoms require emergency care rather than waiting for routine clinic contact.

Know which problems can wait for the nutrition team and which need urgent assessment. Stop using a tube if its position is uncertain, if feeding causes new significant pain, or if it has fallen out. Do not put anything into the tract to keep it open unless

a qualified team has specifically instructed and trained you. Breathing difficulty, severe abdominal pain, collapse or major bleeding requires emergency care.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Percutaneous endoscopic gastrostomy (PEG)

Feeding-tube insertion: nasogastric and nasojejunal tubes

PEG-J (gastrostomy with jejunal extension)

## Professional references

ESGE · Enteral tubes: indications and accessESGE · Enteral tubes: placement and aftercareESPEN · Home enteral nutrition

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https://paulng.clinic/en/feeding-tube-care/

# Refeeding syndrome

Restarting nutrition after significant or prolonged undernutrition can cause dangerous shifts in electrolytes and fluid. This can occur with food, supplements, tube feeding or PN.

## Who may be at risk?

Risk assessment considers low or falling weight, a prolonged period of very poor intake, alcohol-related problems, relevant illnesses and electrolyte results.

Body size alone cannot exclude risk. Even someone who is overweight may be vulnerable after substantial nutritional depletion.

After prolonged undernutrition, restarting carbohydrate intake changes hormone levels and moves electrolytes into cells. Blood

phosphate, potassium and magnesium can fall and fluid can accumulate, affecting muscles, breathing and heart function. A normal initial blood result does not eliminate the risk of a subsequent fall. The history of intake and weight change is therefore important before nutrition is increased.

## Supervised prevention

People at risk may need a supervised introduction of nutrition, thiamine and other supplements, and close monitoring of phosphate, potassium, magnesium, glucose and fluid balance.

The starting amount, rate of increase and replacement treatment are individual medical prescriptions. Do not follow a generic calorie schedule or self-prescribe electrolyte replacement.

Prevention is a coordinated plan, not simply eating slowly. The clinician decides the starting intake, vitamin support, electrolyte

replacement and the intensity of monitoring, taking other illnesses into account. Early follow-up blood tests may be needed even when the person initially feels well. Someone at significant risk may need hospital-based care; the safe setting cannot be decided from an online checklist alone.

## Recognising deterioration

Weakness, swelling, breathlessness, confusion, palpitations or rapid deterioration after restarting intake requires prompt medical assessment.

Refeeding problems can be serious or life-threatening. Severe breathlessness, collapse or altered consciousness needs emergency care; call 999 rather than waiting for an online response.

Symptoms can be non-specific, and not every symptom after restarting food is refeeding syndrome. Nevertheless, new swelling, marked weakness, palpitations or

breathlessness during nutritional rehabilitation should be assessed promptly. Do not try to correct a suspected problem with electrolyte powders, large quantities of fluid or an internet feeding schedule. If severely unwell, seek emergency care rather than waiting for the next scheduled blood test.

## Individual assessment and care

General educational information, not a personal feeding prescription or consent for a procedure. Discuss benefits, burdens, alternatives and your wishes with the treating team. Do not change medicines, feeding or line care without instructions. Serious breathing difficulty, collapse or severe illness requires emergency care; call 999 in Hong Kong.

## Continue reading

Nutritional assessment and malnutrition

Dietary support and oral nutritional supplements

Parenteral nutrition (intravenous nutrition)

## Professional references

NICE CG32 · Nutrition support for adultsESPEN · Home enteral nutrition

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https://paulng.clinic/en/refeeding-syndrome/

# Clinic details

Please do not travel to either address without first confirming your appointment location and time with the nurses.

## Central

20/F Entertainment Building, 30 Queen's Road Central, Hong Kong

Map and directions

## Tsim Sha Tsui

7/F, 37 Cameron Road, Tsim Sha Tsui, Kowloon

Map and directions

## Gleneagles Hospital

Elective consultations at Gleneagles Hospital will continue to be offered, strictly on Tuesdays only and by appointment.

Map and directions

Bookings for all three locations can be arranged through the same WhatsApp contact.

Phone: +852 2120 6186
WhatsApp: +852 9631 7065
Email: nurse@paulng.clinic

For current arrangements, please contact the nurses.

> Seek urgent care for vomiting blood, black stools or heavy bleeding, severe or worsening abdominal pain, fainting, breathing difficulty, or serious symptoms after a procedure. Attend an emergency department; call 999 in an emergency. Do not wait for an online reply.

https://paulng.clinic/en/visit/

# Aftercare following gastroscopy and colonoscopy

General aftercare information, not a consent form. Follow your individual discharge instructions.

## If you received sedation

Leave with a responsible adult and follow the care arrangements given by your team. Do not drive, drink alcohol, operate machinery or make important decisions for the period specified in your discharge instructions.

## After your OGD

**Purpose, limits and risks:** OGD examines the upper digestive lining and may include tissue sampling. It can help investigate symptoms but cannot diagnose every condition. Serious

complications are uncommon but include bleeding, perforation (a tear in the digestive wall) and sedation-related reactions.

A temporarily sore throat or bloating may occur after OGD. If throat spray was used, wait until the team says swallowing is safe before eating or drinking.

Seek urgent medical care for severe or worsening chest or abdominal pain, fever, breathing difficulty, vomiting blood or significant bleeding.

## After your colonoscopy

**Purpose, limits and risks:** Colonoscopy examines the large-bowel lining and may include tissue sampling or polyp removal. Preparation and other factors can limit the view; not every abnormality is detected. Significant risks include bleeding (sometimes delayed after polyp removal), perforation (a tear in the bowel wall) and sedation-related reactions.

Temporary bloating or extra wind is common after colonoscopy. If a biopsy or polyp removal was performed, follow any additional instructions on diet, medicines and activity.

Seek urgent medical care for heavy or persistent bleeding, severe or worsening abdominal pain, fever, breathing difficulty or fainting. Bleeding after polyp removal can also occur after you have gone home.

## Your medicines

Follow your individual medicine plan, especially for blood thinners and diabetes medicines. Do not stop, restart or change prescribed medicines on your own. If the plan is unclear, ask your treating team before making changes.

## Recovery and going home

Rest in the recovery area until the team considers you ready to leave. Follow the written discharge advice on food, drink,

medicines and activity. After sedation, leave with your arranged escort and follow the restrictions given by the team.

## Results and follow-up

Dr Paul Ng is responsible for your follow-up. The team will explain the findings when you are ready; biopsy or polyp laboratory results may still be pending. Before leaving, confirm how and when to obtain your results, whether a follow-up appointment is needed and whom to contact if you have not heard back as arranged.

## When to seek help

For severe symptoms, go to an emergency department or call 999 in Hong Kong. Do not wait for a WhatsApp or WeChat reply. For non-urgent recovery or results questions, contact the nurses using your discharge contact details or the clinic contacts below.

Seek urgent care for vomiting blood, black stools or heavy bleeding, severe or worsening abdominal pain, fainting, breathing difficulty, or serious symptoms after a procedure. Attend an emergency department; call 999 in an emergency. Do not wait for an online reply.

## Non-urgent recovery and results enquiries

Phone: +852 2120 6186
WhatsApp: +852 9631 7065
Email: nurse@paulng.clinic

https://paulng.clinic/en/visit/