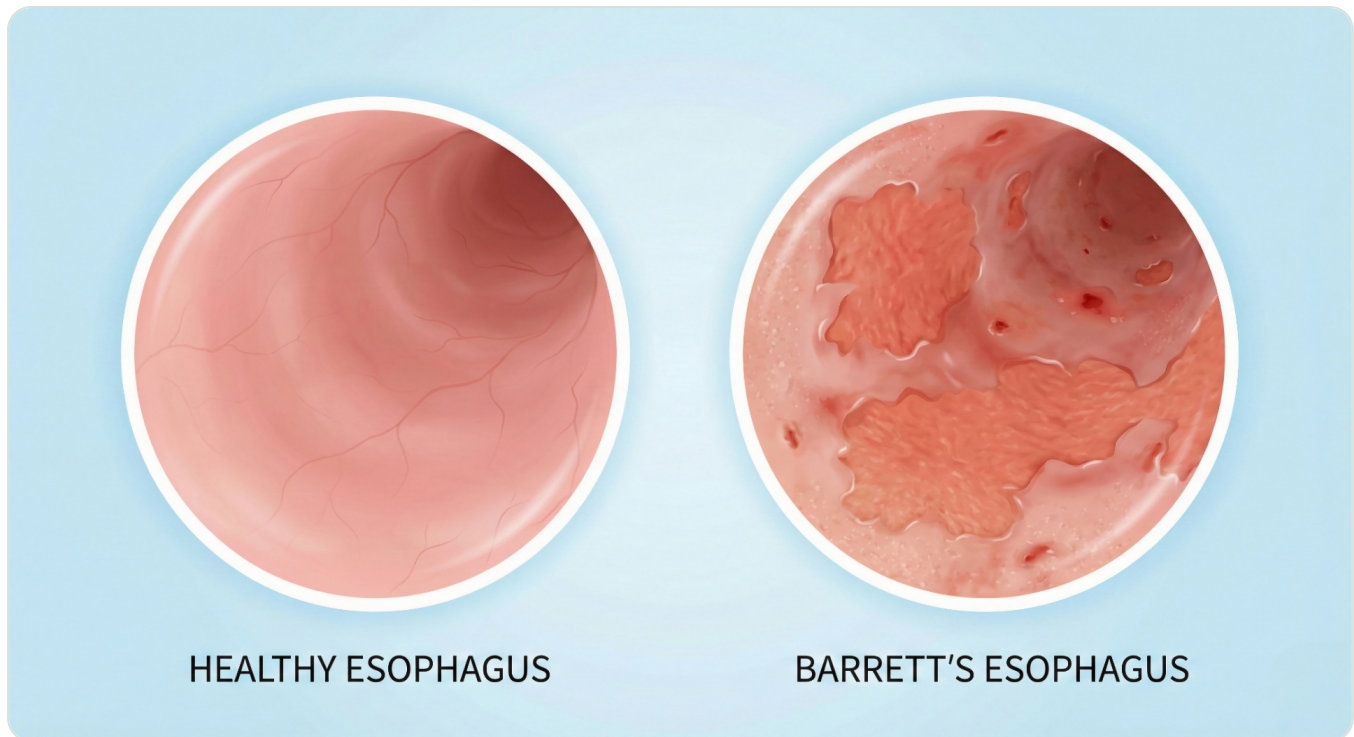




Barrett's oesophagus is a condition where the normal multi-layered squamous cell lining in the lower part of the oesophagus is replaced by a glandular lining (intestinal type, *intestinal metaplasia*). This change is a consequence of chronic acid exposure - typically after many years of **gastro-oesophageal reflux disease (GORD)** - and is the most important known risk factor for developing **adenocarcinoma of the oesophagus**.

The actual risk of developing cancer is low (around 0.1-0.3% per year for Barrett's without dysplasia), but the risk is real, and therefore Denmark has well-defined recommendations for investigation, follow-up, and treatment. This article reviews how we at Kirurgen.dk manage Barrett's oesophagus, based on the **national treatment guidelines from the Danish Society for Gastroenterology and Hepatology (DSGH)** [1], supplemented with European and British guidelines from the **ESGE** [2] and **BSG** [3].

What is Barrett's oesophagus?

The lining of the oesophagus is normally pink and covered by squamous cells. In Barrett's oesophagus, a **salmon-coloured, velvety lining** is seen instead, growing upwards from the junction between the oesophagus and the stomach (the Z-line). The definitive diagnosis is made by **endoscopy + biopsy**:

- **Endoscopically:** a visible columnar lining that extends ≥ 1 cm proximally from the gastro-oesophageal junction.
- **Histologically:** demonstration of **specialised intestinal metaplasia** with goblet cells.

Both criteria must be met before the diagnosis of "Barrett's oesophagus" is made [1,3].

Prague C&M Classification

The extent is described using the **Prague C&M classification**, where:

- **C** = the circumferential (all-round) length of the metaplastic segment in cm.
- **M** = the maximum length measured from the Z-line to the highest tongue of metaplasia in cm.

For example, *C2M5* means that the bottom 2 cm are covered all around by Barrett's lining, and that the longest tongue extends up to 5 cm. The classification is crucial for determining how often the patient requires follow-up.

Who is at risk?

Barrett's oesophagus is most commonly seen in adults with several of the following risk factors [1,3]:

- Chronic **reflux symptoms for ≥ 5 years** (heartburn, acid regurgitation)
- **Age ≥ 50 years**
- **Male sex**
- **White (Caucasian) ethnicity**
- **Central obesity** (apple shape)
- **Current or former smoker**
- **First-degree relative** with Barrett's oesophagus or oesophageal adenocarcinoma

The DSGH recommends **considering a screening gastroscopy** for patients with long-term reflux (≥ 5 years) and several of the risk factors above [1]. General population screening is not recommended.

Symptoms - and why the diagnosis is often incidental

Barrett's oesophagus **does not cause any specific symptoms in itself**. Most patients are referred for a gastroscopy because of typical reflux symptoms:

- **Heartburn** behind the breastbone
- **Acid regurgitation**
- **Difficulty swallowing** (dysphagia)
- Chronic **cough, hoarseness** or asthma-like problems

"Red flag" symptoms that should trigger an urgent gastroscopy include [1,3]:

- Difficulty or pain on swallowing
- Unexplained weight loss
- Vomiting blood or black stools (see also our article on black stools (melaena))
- Chronic anaemia with no other explanation
- Persistent vomiting

Investigation - The Seattle Protocol

Once a Barrett's lining has been identified at endoscopy, the biopsy strategy is crucial to avoid missing dysplasia or early cancer.

The DSGH recommends the **Seattle biopsy protocol** [1,2]:

1. **Targeted biopsies** from all visible irregularities (nodules, ulcers, colour changes). Use the **Paris classification** to describe their shape and height.

2. **4-quadrant biopsies every 2 cm** throughout the entire Barrett's segment (every 1 cm if dysplasia is known).
3. Biopsies are sent in separate, labelled pots according to their level.
4. The use of **high-definition endoscopy (HD-WLE)** and **virtual chromoendoscopy (NBI or similar)** increases the detection of dysplasia and should be standard practice [1,2].

The histology is assessed by a pathologist with a subspeciality in gastroenterology, and **a finding of dysplasia must always be confirmed by a second pathologist** before treatment is initiated [1,3].

Follow-up - depends on segment length and dysplasia

The follow-up intervals follow DSGH recommendations, which are in line with the BSG and ESGE [1,2,3]. The main principles are:

Finding	Recommended follow-up
Short segment < 3 cm without intestinal metaplasia	No routine follow-up
Short segment < 3 cm with intestinal metaplasia	Surveillance gastroscopy every 3-5 years
Segment 3-10 cm	Surveillance gastroscopy every 2-3 years
Segment ≥ 10 cm	Referred to a specialist department (expert centre)
Indefinite for dysplasia	Optimise PPI treatment and repeat gastroscopy after 6 months
Low-grade dysplasia (LGD) confirmed	Endoscopic eradication therapy is offered; alternatively, follow-up every 6-12 months

Finding	Recommended follow-up
High-grade dysplasia (HGD) or intramucosal carcinoma	Endoscopic resection (EMR/ESD) + radiofrequency ablation (RFA) at an expert centre

"Patients with histologically verified Barrett's oesophagus without dysplasia are followed up at intervals that depend on the length of the segment. Low-grade dysplasia must be confirmed by a second-opinion pathologist, and for confirmed dysplasia, endoscopic eradication therapy is offered." - DSGH, NBV Barrett's Oesophagus [1]

Treatment

1. Optimal Acid Suppression

All patients with Barrett's oesophagus must be treated with a **proton pump inhibitor (PPI)** in a sufficient dose to control reflux symptoms and keep the lining free of visible oesophagitis [1,3]. PPIs probably reduce - but do not eliminate - the risk of progression to dysplasia.

Read more about acid suppression and lifestyle in our article on [GORD / acid reflux](#).

2. Lifestyle Changes

The same measures as for GORD are recommended:

- **Weight loss** if overweight
- **Smoking cessation**
- **Elevating the head of the bed** and no meals in the last 2-3 hours before bedtime
- Reducing alcohol, coffee and known triggers

3. Endoscopic treatment of dysplasia and early cancer

When dysplasia or intramucosal carcinoma is detected, treatment today is **endoscopic** and takes place at expert centres [1,2,3]:

- **Endoscopic mucosal resection (EMR)** or **endoscopic submucosal dissection (ESD)** of visible lesions - both for diagnosis and treatment.
- **Radiofrequency ablation (RFA)** of the remaining Barrett's segment to remove the risk of new dysplastic foci.
- **Cryotherapy** may be used as an alternative to RFA.

Endoscopic treatment has replaced open oesophagectomy as the first-choice treatment for HGD and T1a adenocarcinoma, with cure rates >90% and significantly lower morbidity [2,3].

4. Anti-reflux Surgery

Anti-reflux surgery (typically **laparoscopic fundoplication**) is **not** routinely recommended for cancer prevention in Barrett's oesophagus [1,3]. The procedure may be considered for patients with persistent reflux symptoms despite optimal medical treatment, or for volume reflux that PPIs cannot manage.

When should you be referred?

As a patient, you should talk to your GP about a referral for **gastroscopy** if you have:

- Reflux symptoms for more than **5 years** along with several risk factors (age, male sex, obesity, smoking, family history).
- "Red flag" symptoms as described above - regardless of age.
- A previous finding of Barrett's oesophagus without a follow-up plan.

At Kirurgen.dk, we perform **oral gastroscopy** and **nasal gastroscopy** (see [nasal vs. oral gastroscopy](#)) in the same clinic visit. With a referral from your GP, the examination is free of charge under the public health service.

Prognosis

For the individual patient with Barrett's oesophagus **without dysplasia**, the annual risk of developing adenocarcinoma is low - approx. 0.1-0.3% per year [3]. The risk is higher with long segments and in cases of confirmed dysplasia. Structured follow-up programmes reduce mortality by detecting dysplasia or early cancer at a stage where endoscopic treatment is curative [1,2,3].

The most important message is that **Barrett's oesophagus is not the same as cancer** - but it is a condition that requires structured follow-up. With good acid suppression, a sensible lifestyle and the agreed surveillance programme, the prognosis for the vast majority of patients is good.

Do you want your reflux investigated?

If you have long-standing reflux symptoms, "red flag" symptoms, or a known Barrett's diagnosis that is not being monitored, you are welcome to [contact the clinic](#) to book an appointment. With a referral from your GP, the investigation and treatment are free of charge.

We have also put together a short [patient guide on Barrett's oesophagus](#) with practical information about gastroscopy, the surveillance programme, and how to prepare.

Frequently asked questions about Barrett's oesophagus

What are the symptoms of Barrett's oesophagus?

Barrett's oesophagus does not cause **any specific symptoms in itself**. Most cases are discovered incidentally during a gastroscopy performed for long-term reflux - heartburn, acid regurgitation, difficulty swallowing, or a chronic cough. "Red flag" symptoms like

difficulty swallowing, unexplained weight loss, vomiting blood, or black stools should always be investigated urgently.

Is Barrett's oesophagus the same as cancer?

No. Barrett's oesophagus is a **pre-cancerous condition**, where the risk of adenocarcinoma is slightly increased - approx. 0.1-0.3% per year for Barrett's without dysplasia. The vast majority of patients never develop cancer, and a structured surveillance programme detects any dysplasia at a stage where it can be treated endoscopically.

How is the diagnosis made?

The diagnosis requires both a **gastroscopy**, where the doctor sees the characteristic salmon-coloured lining ≥ 1 cm above the Z-line, and a **biopsy** with histological confirmation of specialised intestinal metaplasia. The biopsies are taken according to the **Seattle protocol**: 4 biopsies every 2 cm, plus targeted biopsies from any visible irregularities.

How often do I need surveillance?

This depends on the length of the segment and whether there is any dysplasia (according to DSGH recommendations):

- **Short segment (< 3 cm) without dysplasia**: every 3-5 years
- **Intermediate segment (3-10 cm)**: every 2-3 years
- **Long segments (≥ 10 cm)**: referred to an expert centre
- **Low-grade dysplasia**: an offer of endoscopic eradication or surveillance every 6-12 months
- **High-grade dysplasia/early cancer**: endoscopic resection + radiofrequency ablation at an expert centre

What treatment is offered?

All patients receive a **proton pump inhibitor (PPI)** in a sufficient dose and advice on lifestyle (weight loss, smoking cessation, elevating the head of the bed). For confirmed dysplasia or intramucosal cancer, **endoscopic treatment** (EMR/ESD + RFA) is offered at an expert centre. Anti-reflux surgery is not routinely recommended for cancer prevention.

Can Barrett's oesophagus go away?

The metaplastic lining itself does not disappear spontaneously but can be removed with treatment like radiofrequency ablation (RFA) if dysplasia is present. PPIs and lifestyle changes slow progression but do not eliminate the risk completely - which is why continued surveillance is recommended.

What happens during a gastroscopy?

The examination takes 10-20 minutes and is performed with a local anaesthetic spray to the throat - sometimes supplemented with sedation. You will need to **fast from midnight**. Read our [patient guide on gastroscopy](#) and [nasal vs. oral gastroscopy](#) for practical details.

When should I get a referral?

Talk to your GP about a referral if you have had **reflux symptoms for more than 5 years** combined with risk factors (age > 50, male sex, obesity, smoking, family history of Barrett's or oesophageal cancer), or if you have any "red flag" symptoms. With a referral, the investigation is free of charge under the public health service.

Read also

- [Acid Reflux \(GORD\)](#)
- [Eosinophilic Oesophagitis \(EoE\)](#)

- [Helicobacter pylori and Stomach Ulcers](#)
 - [Difficulty Swallowing \(Dysphagia\)](#)
 - [Black Stools \(Melaena\)](#)
 - [Nasal vs. Oral Gastroscopy](#)
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Sources

1. **Danish Society for Gastroenterology and Hepatology (DSGH).** National Treatment Guideline: Barrett's oesophagus - investigation, follow-up and treatment. dsgh.dk.
2. **Weusten BLAM, Bisschops R, Coron E, et al.** Endoscopic management of Barrett's esophagus: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement. *Endoscopy* 2017;49(2):191-198 (updated 2023).
3. **Fitzgerald RC, di Pietro M, Ragunath K, et al.** British Society of Gastroenterology guidelines on the diagnosis and management of Barrett's oesophagus. *Gut* 2014;63(1):7-42 (BSG 2023 update).
4. **Shaheen NJ, Falk GW, Iyer PG, et al.** ACG Clinical Guideline: Diagnosis and Management of Barrett's Esophagus. *Am J Gastroenterol* 2022;117(4):559-587.
5. **Sharma P, Dent J, Armstrong D, et al.** The development and validation of an endoscopic grading system for Barrett's esophagus: the Prague C&M criteria. *Gastroenterology* 2006;131(5):1392-1399.

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