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Bloating and abdominal distension: causes, work-up and treatment

Bloating is one of the most frequent gastrointestinal complaints in adults. Up to **30 % of the population** experience bloating regularly, and it accounts for around **10 % of all referrals** to a gastroenterology specialist [1]. Bloating may be **functional** (no demonstrable disease) or **organic** (with an underlying cause requiring treatment).

What does "bloating" actually mean?

The term covers two distinct phenomena that are often confused:

- **Bloating** (subjective sensation): the feeling of a tight abdomen, often without visible change.
- **Distension** (objective measurement): an actual increase in abdominal girth - measurable or visible.

Both arise from an imbalance between **gas production**, **gas transport** and **abdominal wall tone**.

Most common causes

Cause	Share	Characteristics
Irritable bowel syndrome (IBS)	30-40 %	Bloating + altered bowel habit + pain
Functional bloating	15-20 %	Without other IBS criteria
SIBO	10-15 %	Symptoms 30-90 min after meals
Lactose/fructose intolerance	10 %	Tied to specific foods
Constipation	10 %	Infrequent, hard stools
Coeliac disease	1-3 %	Gluten-related, often with weight loss, iron deficiency
Gastroparesis	<2 %	Early satiety, nausea, diabetes history
Ovarian/gynaecological pathology	-	Persistent uniform distension in women >50

Red flags requiring prompt investigation:

- Weight loss, rectal bleeding, fever
- Persistent distension in women >50 (ovarian cancer suspicion)
- Nocturnal symptoms or progression over weeks
- Family history of colorectal cancer

Pathophysiology - why does it happen?

Three mechanisms may occur alone or in combination:

1. **Increased gas production** - bacterial fermentation of carbohydrates (especially FODMAPs) in the colon or small bowel (SIBO).
2. **Delayed gas transit** - reduced motility, often in IBS-C or diabetes.

3. **Visceral hypersensitivity** - normal gas perceived as uncomfortable - classic in IBS [2].
4. **Abdomino-phrenic dyssynergy** - diaphragm descends while abdominal wall relaxes, pushing the belly out.

Work-up

First-line (GP):

- History: diet, bowel habit, weight, medication, gynaecological status.
- Blood tests: haemoglobin, CRP, TSH, coeliac antibodies (anti-tTG IgA), ferritin.
- **Faecal calprotectin** if diarrhoea (excludes IBD).
- Urine hCG in women of reproductive age.

Second-line (specialist):

- **Colonoscopy** for age >50, weight loss, rectal bleeding or positive calprotectin.
- **Gastroscopy** for concurrent dyspepsia, vomiting or iron deficiency.
- **SIBO breath test** (lactulose or glucose) for postprandial bloating.
- **Pelvic ultrasound/MRI** for women >50 or abnormal gynaecological exam.

Treatment

Diet first-line - low-FODMAP diet:

FODMAP restriction reduces symptoms in **70-75 %** of patients with IBS-related bloating [3]. The diet consists of three phases: **elimination (4-6 weeks) → reintroduction → personalised maintenance**. Should be supervised by a dietitian.

Medication:

- **Simethicone** - defoaming agent, eases gas symptoms.
- **Enteric-coated peppermint oil** - antispasmodic, evidence in IBS.
- **Probiotics** - *Bifidobacterium infantis 35624* has the best evidence.

- **Rifaximin** 550 mg three times daily for 14 days - for confirmed SIBO.
- **Linaclotide/prucalopride** - for IBS-C with predominant bloating.

Lifestyle:

- Eat slowly, avoid chewing gum and carbonated drinks.
- Reduce refined carbohydrates and sugar alcohols (sorbitol, xylitol).
- Regular physical activity - even 20 min daily walking improves gas transit.
- Diaphragmatic breathing training for abdomino-phrenic dyssynergy.

When to see a specialist

Contact your GP or Kirurgen.dk if:

- Bloating persists >3 weeks despite dietary changes
- Symptoms worsen or wake you at night
- Weight loss, rectal bleeding, fever or anaemia
- Age >50 with new-onset bloating

Treatment at Kirurgen.dk

We offer full work-up of chronic bloating - colonoscopy, gastroscopy, coeliac screening and SIBO testing. See also: IBS, SIBO, Chronic constipation, Coeliac disease.

References

1. Lacy BE, Cangemi D, Vazquez-Roque M. *Management of chronic abdominal distension and bloating.* Clin Gastroenterol Hepatol 2021;19(2):219-31.
2. Mari A, Abu Backer F, Mahamid M, et al. *Bloating and abdominal distension: clinical approach and current treatment.* Adv Ther 2019;36(5):1075-84.
3. Halmos EP, Power VA, Shepherd SJ, Gibson PR, Muir JG. *A diet low in FODMAPs reduces symptoms of irritable bowel syndrome.* Gastroenterology 2014;146(1):67-75.