

Appendicitis: Symptoms, diagnosis and modern treatment



Appendicitis is one of the most common acute abdominal surgical emergencies in Denmark. The lifetime risk is approximately 7-8%, and around 8,000-10,000 appendicectomies are performed annually in Denmark [1,2]. The condition can occur at any age but is most often seen between the ages of 10 and 30.

What is appendicitis?

The appendix is a small, finger-shaped tube, 5-10 cm long, that branches off from the first part of the large intestine. When its opening becomes blocked - typically by a small, hard piece of stool (a faecolith), swollen lymphoid tissue, or rarely a tumour - the pressure inside the appendix increases, the blood supply is compromised, and bacteria begin to multiply. The result is inflammation and a risk of perforation (rupture) [3].

Classic symptoms

- **Abdominal pain** that starts around the navel and, within 6-24 hours, moves to the lower right-hand side of the abdomen
- **Nausea, vomiting, and loss of appetite**
- **A mild fever** (37.5-38.5 °C)
- **Pain on pressing and then quickly releasing** over McBurney's point (rebound tenderness)
- Pain that worsens with jumping, coughing, or travelling by car

In children, pregnant women, and the elderly, the symptoms can be atypical, and the diagnosis is often more difficult to make [4].

Diagnosis

The diagnosis is based on a combination of a clinical examination, blood tests, and imaging scans:

- **Blood tests:** An elevated white blood cell count and C-reactive protein (CRP) level support the diagnosis, but they can be normal in the early stages.
- **Ultrasound scan:** The first choice for children and pregnant women; sensitivity is 80-90% [5]
- **CT scan:** The gold standard for adults with an uncertain diagnosis; sensitivity is >95% [6]
- **MRI scan:** Typically used for pregnant women if an ultrasound scan is not conclusive.

Scoring systems, such as the Alvarado and AIR scores, help to assess the likelihood of appendicitis [7].

Treatment: surgery or antibiotics?

Surgery (appendectomy) remains the standard treatment and is almost always performed laparoscopically (using keyhole surgery). The procedure takes 30-60 minutes, and most people can be discharged 1-2 days later [8].

Antibiotic treatment alone has been shown in recent studies to be a safe alternative for uncomplicated appendicitis in selected adult patients. The CODA trial (2020, n=1552) found that antibiotics could prevent the need for surgery in ~60% of patients after one year, but ~40% required an operation at a later date [9]. The presence of a faecolith increases the risk of treatment failure.

Perforated appendicitis with an abscess is often treated initially with antibiotics and sometimes percutaneous drainage, followed by a planned appendicectomy 6-8 weeks later (known as an "interval appendicectomy") [10].

When should you seek urgent medical attention?

Contact 1813 or an on-call doctor if you have:

- Persistent abdominal pain on your right-hand side for more than 4-6 hours
- Abdominal pain accompanied by a fever, nausea, and vomiting
- Pain that gets worse with movement

A delayed diagnosis increases the risk of perforation and peritonitis (inflammation of the lining of the abdomen), and every hour of delay after 36 hours significantly increases the risk of complications [11].

After the operation

Most people are back at work within 1-2 weeks after laparoscopic (keyhole) surgery. You can eat normally as soon as you feel able, and physical activity can be resumed gradually. Contact your doctor if you develop a fever, increasing pain, or redness around the wound sites.

References

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