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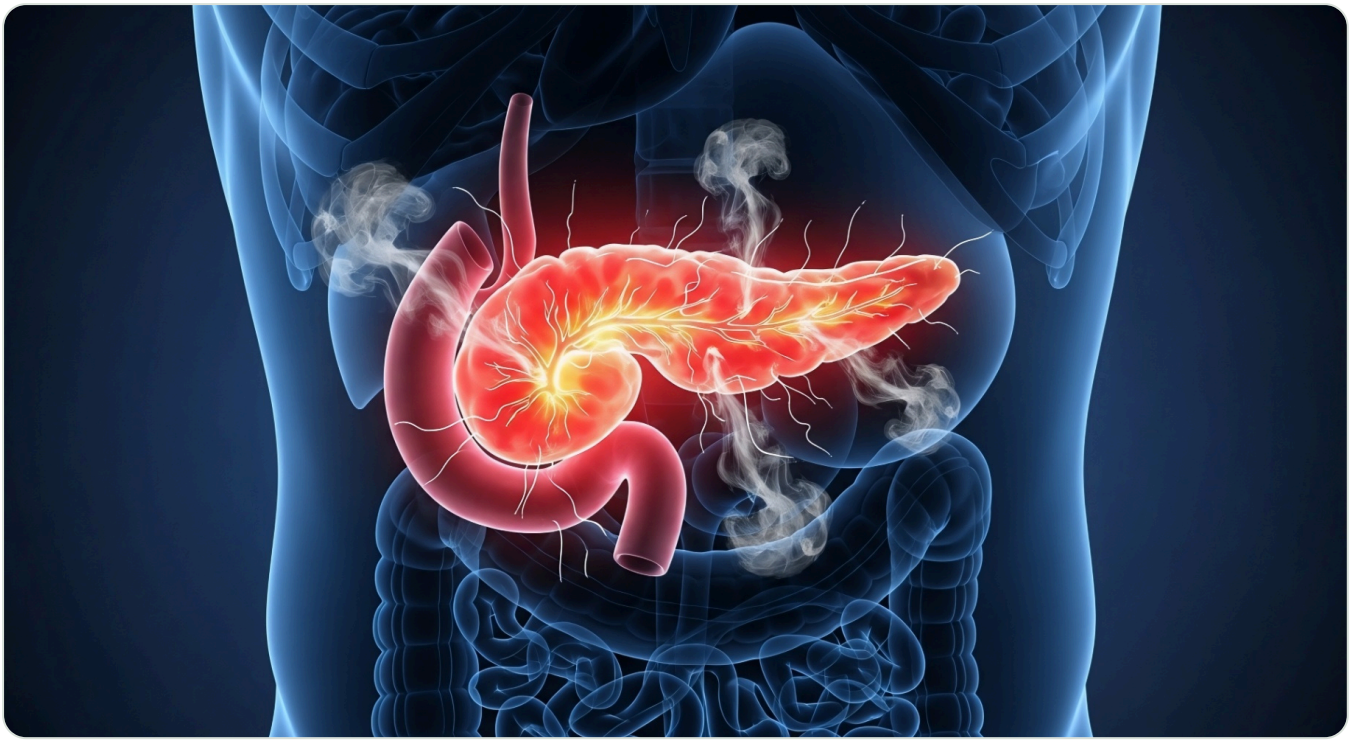
Pancreatitis: acute and chronic - symptoms, causes and treatment



Pancreatitis is inflammation of the pancreas, in which the gland's own digestive enzymes activate prematurely and start to digest the pancreatic tissue itself. It exists in two forms with very different prognoses:

- **Acute pancreatitis** - sudden, potentially life-threatening; annual incidence in Denmark **~35 per 100,000** [1]
- **Chronic pancreatitis** - persistent damage with progressive loss of function

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Main causes - "I GET SMASHED"

Cause	Share	Note
Gallstones	40-50 %	Most common cause of acute pancreatitis in women

Cause	Share	Note
Alcohol	25-35 %	Most common cause of chronic pancreatitis and in men
Hypertriglyceridaemia	5-10 %	>10 mmol/L
ERCP-related	3-5 %	Procedure complication
Medication	<5 %	Azathioprine, valproate, GLP-1 analogues
Autoimmune	<5 %	IgG4-related disease
Genetic	<2 %	PRSS1, SPINK1, CFTR mutations
Idiopathic	10-20 %	No identifiable cause
Cancer	<2 %	Pancreatic cancer can present as pancreatitis

Acute pancreatitis

Symptoms

- **Sudden, severe upper abdominal pain** (epigastrium), often radiating to the back
- **Pain worsens with meals, eased by leaning forward**
- **Nausea and vomiting**
- **Fever**, tachycardia, tachypnoea
- In severe cases: shock, multi-organ failure

Diagnosis

Diagnosis requires **2 of 3 criteria** (Atlanta) [2]:

1. **Characteristic pain**
2. **Serum lipase or amylase >3× upper normal**
3. **Characteristic imaging** (CT, MR, US)

Severity: mild (interstitial oedematous), moderately severe (transient organ failure) or severe (persistent organ failure). BISAP and APACHE-II used for risk scoring.

Treatment

Mild acute pancreatitis:

- Hospital admission (rarely outpatient)
- **Aggressive IV fluid resuscitation** (Ringer's lactate 5-10 ml/kg/h first 24 h)
- Pain control (opioids - paracetamol insufficient)
- **Early oral nutrition** if tolerated (24-72 h) [3]
- No routine antibiotics

Treat the cause:

- **Gallstones**: ERCP + sphincterotomy within 72 h if cholangitis; **cholecystectomy on same admission** after mild gallstone pancreatitis
- **Alcohol**: total abstinence, addiction treatment
- **Hypertriglyceridaemia**: insulin infusion, plasmapheresis if severe

Severe pancreatitis: intensive monitoring, possible necrosis drainage after 4 weeks.

Complications

- **Pancreatic necrosis** (10-20 %) - can become infected → septic shock
- **Pseudocyst** (15 %) - develops 4+ weeks after acute episode
- **Acute peripancreatic fluid collection**
- **Pancreatic abscess**
- **Splanchnic vein thrombosis**

Chronic pancreatitis

Symptoms

- **Recurrent or persistent abdominal pain** (may disappear in late "burn-out" stage)
- **Weight loss**
- **Steatorrhoea** (fatty, foul-smelling stools) - sign of exocrine insufficiency
- **Type 3c diabetes mellitus** - sign of endocrine insufficiency
- **Fat-soluble vitamin deficiencies** (A, D, E, K)

Diagnosis

1. **Imaging**: CT, MRCP or endoscopic ultrasound (EUS - most sensitive)
2. **Exocrine function**: faecal elastase-1 (<200 µg/g = insufficiency)
3. **HbA1c** for diabetes screening
4. **Vitamin D, B12, ferritin, INR**

Treatment

Pain:

- Stepwise analgesia (paracetamol → weak opioid → strong opioid)
- **Pregabalin** for neuropathic component
- **Endoscopy/surgery** for duct stenosis or pancreatic stones

Exocrine insufficiency:

- **Pancreatic enzyme replacement** (Creon) 25,000-75,000 units lipase per meal
- Fat-soluble vitamin supplementation

Endocrine insufficiency:

- Insulin (oral antidiabetics often insufficient)

Lifestyle:

- **Total alcohol abstinence** - most important prognostic factor
- **Smoking cessation** - accelerates progression
- Frequent small meals with moderate fat content

When to seek immediate medical care?

Acute pancreatitis is a **medical emergency**. Call your local emergency number for:

- Sudden severe abdominal pain radiating to the back
- Persistent vomiting + abdominal pain
- Pale, sweaty patient (shock)
- Jaundice + abdominal pain (suspected cholangitis)

Investigation at Kirurgen.dk

We investigate unexplained chronic upper abdominal pain with oral or nasal gastroscopy and refer for imaging (CT/MRCP/EUS) when pancreatitis is suspected clinically or biochemically. Acute pancreatitis is treated in hospital. See also: Peptic ulcer, GERD, Bile acid malabsorption, Chronic abdominal pain.

References

1. Roberts SE, Akbari A, Thorne K, Atkinson M, Evans PA. *The incidence of acute pancreatitis.* Aliment Pharmacol Ther 2013;38(5):539-48.
2. Banks PA, Bollen TL, Dervenis C, et al. *Classification of acute pancreatitis - 2012: revision of the Atlanta classification.* Gut 2013;62(1):102-11.
3. Crockett SD, Wani S, Gardner TB, Falck-Ytter Y, Barkun AN. *AGA institute guideline on initial management of acute pancreatitis.* Gastroenterology 2018;154(4):1096-101.