**Definition of acute pancreatitis:**
Inflammation of the pancreas, ranging from mild, self-limiting disease to complete necrosis of the entire organ.

By definition, acute pancreatitis occurs on the background of a normal pancreas and can return to normal on resolution (cf. chronic pancreatitis, which has irreversible changes)

**Epidemiology of acute pancreatitis:**
- About 300 cases per million per year
- Of these, 20% are mild and resolve without serious complications

**Causes of acute pancreatitis:**
- I – Idiopathic (most common)
- G – Gallstones
- E – Ethanol
- T – Trauma
- S – Steroids
- M – Mumps
- A – Autoimmune (eg. PAN)
- S – Scorpion Venom – black Trinidadian scorpion (tityus trinitatis)
- H – Hyperlipidaemia, Hypercalcaemia
- E – ERCP
- D – Drugs (azathioprine, thiazides, valproate, asparaginase, allopurinol)
- And Pregnancy

**Presentations of acute pancreatitis:**
- **History:**
  - Severe epigastric pain, radiating through to the back
  - Pain worse on lying down and relieved sitting forward
  - Vomiting
  - Recent excess alcohol intake
  - Previous gallstone disease
  - FHx gallstones

- **Examination:**
  - Tachycardia
  - Fever
  - Abdominal/epigastric tenderness
  - Jaundice
  - Rigid abdomen
  - Reduced bowel sounds
  - Periumbilical staining (Cullen’s sign)
  - Flank staining (Grey-Turner’s sign)
  - Shock

**Differential diagnosis of acute pancreatitis:**
- Any other cause of an acute abdomen
- Myocardial infarction
- Pericarditis
- Aortic dissection

**Scoring systems for severity of acute pancreatitis:**

Glasgow criteria for predicting severity: PANCREAS mnemonic

- PaO₂ < 8Kpa
- Age < 55yrs
- Neutrophils (WBC > 15)
- Calcium < 2mmol/L
- Renal function (Urea > 16)
- Enzymes (LDH > 600, AST > 200)
- Albumin < 32g/L
- Sugar > 10mmol/L

3 or more positive factors predicts a severe pancreatitis and the patient should be managed in an HDU/ITU setting.

**Initial management of acute pancreatitis: Current BSG guidance**


- Blood tests:
  - Amylase – often > 1000 but CAN be normal initially (esp if acute on chronic)
  - Lipase – more sensitive and specific than amylase but less readily available as a test
  - FBC (for neutrophils), U+Es (assess renal function), LFTs (for albumin and transaminases/bilirubin), Calcium
- Arterial blood gas
- Intravenous fluids – patients need prompt and adequate fluid resuscitation
- Oxygen supplementation
- Analgesia – patients usually require regular opiates
- Feeding – if nutritional support is required then the enteral route should be the preferred option if this is tolerated.

**Further management of acute pancreatitis:**

- Antibiotics – Current evidence is not conclusive regarding prophylactic antibiotics to prevent infection of necrosis.
- Antisecretory agents – there is no evidence to support the use of these in acute pancreatitis.
- CT abdomen – current guidelines recommend this be done after 6-10 days if persisting signs of organ failure, ongoing sepsis or clinical deterioration. This can be performed earlier if there remains significant diagnostic uncertainty.
- ERCP – urgent therapeutic ERCP with sphincterotomy should be performed within 72 hours in patients with acute severe pancreatitis and evidence of jaundice/common bile duct dilatation/cholangitis.
- Surgical intervention – all patients with infected necrosis will require radiological or surgical drainage and/or surgical debridement.

**Complications of acute pancreatitis:**

- Early:
  - Shock
  - Acute kidney injury
<table>
<thead>
<tr>
<th>Early:</th>
<th>Late:</th>
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<tbody>
<tr>
<td>o Acute respiratory distress syndrome</td>
<td>o Pancreatic necrosis</td>
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<tr>
<td>o DIC</td>
<td>o Pancreatic pseudocyst</td>
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<td>o Fistulae</td>
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</tbody>
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**Prognosis of acute pancreatitis:**
- This is a high mortality condition, especially for severe disease with an overall mortality of 12%
- Infection of necrosis carries a 40% mortality.

**Common questions concerning acute pancreatitis:**

**What are the causes of acute pancreatitis?**

**Causes of acute pancreatitis:**
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**What is the Glasgow scoring system for severity?**

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**Complications of acute pancreatitis:**
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- Acute respiratory distress syndrome
- DIC
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- Hyperglycaemia
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- **Late:**
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  - Pancreatic pseudocyst
  - Pancreatic fluid in lesser sac
    - Fluid in lesser sac
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  - Abscess
  - Thrombosis – splenic/gastroduodenal arteries
  - Fistulae