

# **Management of Acute Pancreatitis in Adults Clinical Guideline**

**V6.0**

**April 2025**

## Summary - Acute Pancreatitis Treatment Pathway

### Definition 2 out of 3 of the following criteria:

- 1) Clinical: Upper abdominal pain.
- 2) Laboratory: Serum amylase > 3 times of upper normal limit.
- 3) Imaging: Imaging proven (CT/MRI/USS).



### Detailed History and Examination:

Previous pancreatitis.  
History of gallstones.  
Alcohol history.  
Medication and drug intake.  
Hyperlipidaemia.  
Trauma.  
Recent intervention (eg. ERCP).  
Co-morbidities (respiratory, cardiac, diabetes, high BMI).  
Family history.



### Investigations

- a) FBC, U+Es, LFTs, amylase, CRP, clotting, calcium and triglycerides +/- blood cultures.
- b) Consider arterial blood gas (to assess hypoxia or metabolic acidosis).
- c) Chest X-Ray (assess for effusion or ARDS).
- d) Upper abdominal ultrasound (assess aetiology).



### Immediate Management

**A** Ensure patent airway.

**B** Oxygen – target 94-98% saturation (88-92% if COPD).

**C** Intravenous fluids:

- Hartmanns solution.
- Administer 30ml/kg for hypotension or lactate  $\geq 4$  mmol/l.
- 5-10mls/kg/h first 24 hours until goals met.
- Goals to meet:
  - Heart rate <120/min.
  - Mean arterial pressure = 65-85mmHg.
  - Urine output = 0.5-1ml/kg/h.

Hourly urine output monitoring and consider urinary catheter.

**D/E** Nil by mouth initially.

Antibiotics – **rarely** indicated. See below (section 2).

Nasogastric tube – Only if vomiting or ileus suspected.



Is Systemic Inflammatory Response Syndrome (SIRS) present?

Any 2 of the following:

- Respiratory rate > 20.
- Heart rate >90.
- WCC <4 or >12.
- Temp <36°C or >38°C.

**Presence of SIRS on admission is a predictor of **severe** pancreatitis and requires senior surgical review and discussion with ITU outreach.**



**Urgent senior surgical and ITU outreach review if any of below:**

**Clinical signs**

A Airway not maintained.

B: Resp. rate >35/min.  
paO<sub>2</sub> <6.7kPa.

C: HR<40 or >150/min.  
Systolic blood pressure <80mmHg.  
MAP <60mmHg.  
Diastolic blood pressure >120mmHg.  
Anuria.

D: Coma (GCS <8).

**Bloods.**

pH <7.1 or >7.7.

Sodium <110 or >170mmol/l.  
Potassium <2.0 or >7.0mmol/l.

Calcium >3.75mmol/l.  
Glucose >44.4mmol/l.

**Severity grading.**

Severe pancreatitis.



**Severity Assessment (ATLANTA classification)** – Assess at admission, 24 hours and 48hours.

**Severe:** Persistent (>48 hrs) organ failure\*, local complications (e.g. necrosis, peripancreatic fluid collections, pseudocyst, splenic and portal vein thromboses) or exacerbation of coexistent disease.

**Moderately severe:** As above but transient only (<48 hours).

**Mild:** No organ failure, local complications or exacerbation of coexistent disease.

**NB: If SIRS or organ failure present at admission then classify as SEVERE. If resolved at 48 hours can be reclassified as moderately severe.**



**Consideration of HDU involvement where:**

- Persistent SIRS >48h.
- Elderly (aged >70yrs).
- Obese (BMI>35).
- Moderately severe pancreatitis.

**\*Organ failure definitions:**

Cardiovascular - Hypotension requiring inotropes.  
Respiratory - Type 1 or 2 respiratory failure.  
Renal - Oliguria or creatinine >177umol/L.  
Hepatic - INR >1.5.  
Haematological - Platelets <100 (10<sup>9</sup>/L).  
Neuro - Impaired consciousness.

# 1. Aim/Purpose of this Guideline

- 1.1. This guideline is for the management of acute pancreatitis in adults. It has been benchmarked against national guidelines to provide a detailed guidance of clinical management of acute pancreatitis in line with best practice guidelines. This guideline applies to all healthcare professionals involved in the treatment of acute pancreatitis.
- 1.2. This version supersedes any previous versions of this document.

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The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

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For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team

Royal Cornwall Hospital Trust [rch-tr.infogov@nhs.net](mailto:rch-tr.infogov@nhs.net)

# 2. The Guidance

## 2.1. Initial Management

All patients should initially be admitted and remain under the emergency general surgical team on their index admission **UNLESS** known chronic alcohol-related pancreatitis without significant amylase rise, local complications or requirement for continuous patient controlled intravenous opiates (PCA) – these patients should instead be admitted under the medical gastroenterology team.

## 2.2. Specialist referral

**Patients with complex pancreatitis (for example walled off necrosis, infected necrosis, pseudocyst, gastric outflow obstruction, multiorgan failure) can be discussed with an upper GI surgeon for advice and where appropriate their care taken over by the upper GI surgery team. This should be clearly documented in the patient notes.**

## 2.3. Antibiotic Therapy

2.3.1. Antibiotics should **NOT** be routinely given to patients with pancreatitis, even in the presence of necrosis, except in these circumstances:

- Extra-pancreatic infection (e.g., pneumonia, urinary tract infection).
- Suspected cholangitis.

- USS proven cholecystitis.
- Suspected **INFECTED** pancreatic necrosis.

### 2.3.2. Extra-pancreatic infection

Treat according to source of infection as per Trust antimicrobial guidelines.

### 2.3.3. Cholangitis / cholecystitis

- Amoxicillin IV 500mg 8 hourly + Gentamicin.
- Add metronidazole IV 500mg 8 hourly if empyema or anaerobes suspected.
- If penicillin allergy: Vancomycin + Gentamicin +/- metronidazole.

### 2.3.4. Infected Pancreatic Necrosis

Meropenem IV 1g 8 hourly.

## 2.4. Imaging

2.4.1. Gold standard first line investigation is USS abdomen.

2.4.2. CT indications:

- Diagnostic uncertainty.
- Failure to respond to initial treatment or clinical deterioration (Optimal timing for CT is **AT LEAST** 72-96 hours after onset of symptoms).

2.4.3. MRCP

This is only indicated in patients with abnormal LFTs and common bile duct dilatation that either progressively worsen or fail to settle, where a common bile duct stone is suspected.

## 2.5. Nutrition

- Oral nutrition is safe to start in mild pancreatitis once abdominal pain settling and inflammatory markers improving, or within 72 hours in severe or moderately severe pancreatitis unless vomiting.
- Enteral feeding is the gold standard for feeding in moderately severe/severe acute pancreatitis.
- Nasogastric tube feeding is tolerated in most patients as first line.
- Nasojejunal feeding is reserved for those unable to tolerate nasogastric feed.
- Parenteral nutrition should only be used as a second line where nasojejunal feed not tolerated.

- CREON – this should be considered in patients with diarrhoea where pancreatic insufficiency suspected and/or faecal elastase abnormal.

**2.6. Inpatient biliary drainage by ERCP or PTC (percutaneous transhepatic cholangiopancreatography) should be considered for:**

- Severe gallstone pancreatitis with cholangitis (**URGENT <24h**).
- Gallstone pancreatitis with obstructing common bile duct stone, where surgical bile duct exploration not considered appropriate.
- Gallstone pancreatitis with non-obstructing common bile duct stone, where surgical bile duct exploration not considered appropriate.

**2.7. Outpatient elective biliary drainage with ERCP** should be considered for:

- Gallstone pancreatitis with non-obstructing common bile duct stone where not technically achievable during the index admission due to pancreatic swelling and surgical bile duct exploration not considered appropriate.
  - Definitive treatment for gallstone pancreatitis where not surgically fit.
- 2.7.1. All requests for ERCP should be discussed with a Consultant gastroenterologist specialising in ERCP. All requests for PTC should be discussed with a Consultant interventional radiologist.
- 2.7.2. Patients with gallstone pancreatitis, who underwent ERCP and are fit for surgery, should have a cholecystectomy, as ERCP doesn't prevent recurrence of cholecystitis or biliary colic.

**2.8. Intervention in necrotising pancreatitis**

- 2.8.1. Fine needle aspiration is **NOT** indicated routinely because clinical and imaging signs are accurate predictors of infected necrosis in the majority.
- 2.8.2. Endoscopic intervention should be used **first line** if available.
- 2.8.3. Image-guided percutaneous drainage should be used where endoscopic drainage is not available.
- 2.8.4. Surgical necrosectomy should be reserved for treatment failure once above measures trialed.

**2.9. Indications for intervention** (endoscopic / radiological / surgical) include:

- Clinical suspicion of, or documented, infected necrosis with clinical deterioration and once walled-off (wait at least 4 weeks from onset of pancreatitis).
- Ongoing organ failure for several weeks in absence of infected necrosis but walled off (wait at least 4 weeks).
- Ongoing gastric outlet, intestinal or biliary obstruction due to mass effect

(ideally >4-8 weeks after onset of pancreatitis).

- Disrupted pancreatic duct (ideally >8 weeks after onset of pancreatitis).
- Persistent symptoms in walled off necrosis without infection (ideally > 8 weeks).

## 2.10. Discussion with hepatopancreaticobiliary unit

- 2.10.1. Consider discussion with the regional HPB centre at Derriford Hospital in patients with severe, necrotising, infective or haemorrhagic pancreatitis, that fail to respond to first line endoscopic and/or radiological treatment, or in whom surgical necrosectomy is being considered, or with pancreatic ascites and pleural effusion.
- 2.10.2. Paediatric patients with pancreatitis – consider discussion with Bristol Children's Hospital.

## 2.11. Pseudocysts

- 2.11.1. Offer EUS-guided drainage, or endoscopic transpapillary drainage for pancreatic head pseudocysts, to people with **symptomatic** pseudocysts (for example, those with pain, vomiting or weight loss).
- 2.11.2. Consider EUS-guided drainage, or endoscopic transpapillary drainage for pancreatic head pseudocysts, for people with **non-symptomatic** pseudocysts that meet 1 or more of the following criteria:
  - They are associated with pancreatic duct disruption.
  - They are creating pressure on large vessels or the diaphragm.
  - They are at risk of rupture.
  - There is suspicion of infection.
- 2.11.3. Consider surgical (laparoscopic or open) drainage of pseudocysts that need intervention if endoscopic therapy is unsuitable or has failed.

## 2.12. Timing of cholecystectomy

- 2.12.1. In general:
  - For mild biliary pancreatitis, cholecystectomy with on-table cholangiogram should be performed during the index admission or within two weeks of admission.
  - In patients with moderately severe/ severe acute pancreatitis with peripancreatic collections, cholecystectomy with on-table cholangiogram should be delayed until the collections either resolve or persist beyond 6 weeks.
- 2.12.2. **Where surgery is deemed appropriate during the index admission:**

Arrangements will be made with the CEPOD theatre list coordinator and the patient's details entered into the electronic CEPOD theatre booking system.

**2.12.3. Where surgery is deemed appropriate within 2 weeks of inpatient admission:**

- An assessment of suitability for West Cornwall or Royal Cornwall Hospital should be made by the responsible clinic. Where uncertainty exists, the CEPOD anaesthetist will assess the patient and make that decision.
- All patients must have a Group and Screen prior to discharge.
- The patient will be placed on the '*add to waiting list*' electronic referral system, to maintain an electronic record, with the date of surgery documented in order to ensure that pre-operative assessment clinic (POAC) can triage the need for further tests, or book face to face assessment.
- The patient will be informed of the proposed date of surgery prior to discharge.

**2.12.4. Where surgery should be delayed longer than 2 weeks for clinical reasons, the patient will, dependent on the advice of the upper GI surgeon, either:**

- Have an outpatient clinic appointment booked within 6 weeks of discharge and the date will be made available to the patient prior to discharge **or**;
- Have a suitable date for surgery arranged, the patient informed of this prior to discharge and an '*add to waiting list*' electronic form completed (including this date of surgery), enabling the Pre-Operative Assessment Clinic (POAC) to identify the need for further triage or face to face review prior to surgery.

**2.13. Idiopathic pancreatitis - investigation**

**2.13.1. If gallstones and alcohol have been excluded as the cause, investigate other possible causes such as:**

- Metabolic causes (such as hypercalcaemia or hyperlipidaemia).
- Prescription drugs.
- Microlithiasis.
- Hereditary causes.
- Autoimmune pancreatitis.
- Ampullary or pancreatic tumours.



- Anatomical anomalies (pancreas divisum).
- 2.13.2. In patients where no aetiology has been identified, the following investigations should be performed in sequential order:
1. Repeat abdominal USS (at 6 weeks).
  2. If above normal, then for endoluminal ultrasound (EUS).
  3. If above normal, consider hereditary causes through genetic testing.

#### 2.14. Alcohol-related pancreatitis

- 2.14.1. **ALL** patients require assessment of harmful drinking and alcohol dependence.
- 2.14.2. Support should be provided for alcohol cessation.
- 2.14.3. For **acute** alcohol-related pancreatitis treat according to above pathway.
- 2.14.4. For **chronic** alcohol-related pancreatitis diagnosis requires:
- Person's symptoms.
  - Imaging to determine pancreatic structure (CT scan first line investigation).
  - Tests of pancreatic exocrine and endocrine function.
- 2.14.5. If steatorrhoea or poor nutrition – for pancreatic enzyme supplements (e.g., Creon).
- 2.14.6. If pain only symptom – no enzyme supplements.
- 2.14.7. Patients with pain:
- Offer surgery if large duct (obstructive) pancreatitis.
  - Offer splanchicectomy or surgery if small duct (non-obstructive) chronic pancreatitis and pain poorly controlled.

#### 2.15. Patient Information

All patients should receive written and verbal information regarding pancreatitis. The Trust's 'Pancreatitis' information leaflet should be provided.

### 3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Management of Acute Pancreatitis in Adults.
Lead	Mr. Michael Clarke, Consultant Upper GI Surgeon.
Tool	Patient documentation and Rolling audit.
Frequency	Adult acute pancreatitis patients who are reviewed by specialist teams. Audit 6 monthly.
Reporting arrangements	Involved specialties governance committees. Repeated non-compliance to be reported via Datix.
Acting on recommendations and Lead(s)	Mr. Michael Clarke, Consultant Upper GI Surgeon.
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned within 6 months. A lead member of the team will be identified to take each change forward where appropriate. Lessons learned or changes to practice will be shared with all stakeholders.

### 4. Equality and Diversity

- 4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ['Equality, Inclusion and Human Rights Policy'](#) or the [Equality and Diversity website](#).
- 4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

## Appendix 1. Governance Information

Information Category	Detailed Information
<b>Document Title:</b>	Management of Acute Pancreatitis in Adults Clinical Guideline V6.0
<b>This document replaces (exact title of previous version):</b>	Management of Acute Pancreatitis in Adults Clinical Guideline V5.1
<b>Date Issued/Approved:</b>	November 2024
<b>Date Valid From:</b>	April 2025
<b>Date Valid To:</b>	April 2028
<b>Directorate / Department responsible (author/owner):</b>	Michael Clarke, Consultant Upper GI Surgeon.
<b>Contact details:</b>	01872 252373
<b>Brief summary of contents:</b>	This guideline is for the management of acute pancreatitis in adults. This guideline applies to all healthcare professionals involved in the treatment of acute pancreatitis.
<b>Suggested Keywords:</b>	Pancreatitis.
<b>Target Audience:</b>	<b>RCHT:</b> Yes <b>CFT:</b> No <b>CIOB ICB:</b> No
<b>Executive Director responsible for Policy:</b>	Chief Medical Officer.
<b>Approval route for consultation and ratification:</b>	General Surgery Speciality Governance Audit Meeting.
<b>Manager confirming approval processes:</b>	Ian McGowan.
<b>Name of Governance Lead confirming consultation and ratification:</b>	Suzanne Atkinson.
<b>Links to key external standards:</b>	None required.
<b>Related Documents:</b>	<ol style="list-style-type: none"> <li>1. Working group IAP/APA acute pancreatitis guidelines. IAP/APA evidence-based guidelines for the management of acute pancreatitis. Pancreatology 2013; 13:e1-e15.</li> <li>2. UK working party on acute pancreatitis. UK guidelines for the management of acute pancreatitis. Gut 2005; 54:1-9.</li> </ol>

Information Category	Detailed Information
	3. NICE. Alcohol-related pancreatitis. 2015. 4. NICE. Pancreatitis. 2018
Training Need Identified?	No.
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet.
Document Library Folder/Sub Folder:	Clinical / General Surgery.

### Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
01 September 2015	V1.0	Draft for consultation	Michael Clarke – Consultant Upper GI and Bariatric Surgeon.
23 February 2016	V2.0	Approved for implementation	Michael Clarke – Consultant Upper GI and Bariatric Surgeon.
18 May 2017	V3.0	Incorporated changes regarding subsequent ownership of patients as well as timing of cholecystectomy	Michael Clarke Consultant Upper GI Surgeon.
25 June 2019	V4.0	Updated reference 4 (NICE. Pancreatitis 2018), section 4 on nutrition (<72 hrs in severe or moderately severe), section 6 (endoscopic drainage first line for infected necrosis), section 7 (discussion of haemorrhagic pancreatitis and paediatric with specialist centre), new section 8 on pseudocysts, adjusted investigation section 10, section 11 (support provided for alcohol cessation), new section 12 (patient info leaflet), change wording flowchart ('consider' ABG and urinary catheter), section 1 responsible specialty (rather than ownership).	Ji Tham (upper GI registrar) and Michael Clarke Consultant Upper GI Surgeon.
April 2023	V5.0	Updated to new Trust template.	Michael Clarke – Consultant Upper GI and Bariatric Surgeon.

Date	Version Number	Summary of Changes	Changes Made by
July 2023	V5.1	Updated information regarding ownership under 'responsible specialty' and 'timing of cholecystectomy'.	Michael Clarke – Consultant Upper GI and Bariatric Surgeon.
November 2024	V6.0	Removed MRCP from 2.13. Full version update.	Michael Clarke – Consultant Upper GI and Bariatric Surgeon.

**All or part of this document can be released under the Freedom of Information Act 2000.**

**All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.**

**This document is only valid on the day of printing.**

**Controlled Document.**

This document has been created following the Royal Cornwall Hospitals NHS Trust [The Policy on Policies \(Development and Management of Knowledge Procedural and Web Documents Policy\)](#). It should not be altered in any way without the express permission of the author or their Line Manager.

## Appendix 2. Initial Equality Impact Assessment Form

### Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team

[rcht.inclusion@nhs.net](mailto:rcht.inclusion@nhs.net)

Information Category	Detailed Information
<b>Name of the strategy / policy / proposal / service function to be assessed:</b>	Management of Acute Pancreatitis in Adults Clinical Guideline V6.0
<b>Directorate and service area:</b>	General Surgery and Cancer, General Surgery.
<b>Is this a new or existing Policy?</b>	Existing.
<b>Name of individual completing EIA</b> (Should be completed by an individual with a good understanding of the Service/Policy):	Michael Clarke, Consultant UGI Surgeon.
<b>Contact details:</b>	01872 252373

Information Category	Detailed Information
<b>1. Policy Aim - Who is the Policy aimed at?</b>  (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To provide detailed guidance on the clinical management of acute pancreatitis in line with best practice guidelines.
<b>2. Policy Objectives</b>	To provide a consistent approach to the management of acute pancreatitis at RCHT sites.  To maintain patient safety and improve outcomes for patients experiencing acute pancreatitis whilst inpatients at RCHT sites
<b>3. Policy Intended Outcomes</b>	Consistent management of acute pancreatitis at RCHT sites.  Prompt and safe management of acute pancreatitis and follow upcare.
<b>4. How will you measure each outcome?</b>	Audit.  Datix Reporting.  Review of nursing/ medical documentation as required.

Information Category	Detailed Information
<b>5. Who is intended to benefit from the policy?</b>	All patients who experience acute pancreatitis in hospital at RCHT sites.
<b>6a. Who did you consult with?</b> (Please select Yes or No for each category)	<ul style="list-style-type: none"> <li>Workforce: Yes</li> <li>Patients/ visitors: No</li> <li>Local groups/ system partners: No</li> <li>External organisations: No</li> <li>Other: No</li> </ul>
<b>6b. Please list the individuals/groups who have been consulted about this policy.</b>	<b>Please record specific names of individuals/ groups:</b> General surgery Governance Meeting
<b>6c. What was the outcome of the consultation?</b>	Agreed
<b>6d. Have you used any of the following to assist your assessment?</b>	<b>National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys:</b> No

## 7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
<b>Age</b>	No	
<b>Sex</b> (male or female)	No	
<b>Gender reassignment</b> (Transgender, non-binary, gender fluid etc.)	No	
<b>Race</b>	No	
<b>Disability</b> (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
<b>Religion or belief</b>	No	

Protected Characteristic	(Yes or No)	Rationale
Marriage and civil partnership	No	
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

**A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.**

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment:

Michael Clarke, Consultant UGI Surgeon.

**If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:**  
[Section 2. Full Equality Analysis](#)