**Imaging of Acute Pancreatitis**

**Descriptor:**

Appropriate imaging and reporting in acute pancreatitis.

**Background:**

In the UK it is not current practice to perform early (< 3 days) CT for detection and staging of severe cases of acute pancreatitis. It is not clear how soon the full extent of the necrotic process will occur and early CT may underestimate final severity of the disease [1]. There is evidence to support that the site of pancreatic necrosis is an important prognostic factor with a worse outcome observed in patients with necrosis affecting the head of pancreas [2]. Findings of free intraperitoneal fluid and extensive peripancreatic fat stranding have also been demonstrated to be associated with worse outcome. Furthermore, radiological facilities should be available to permit US examination of the gallbladder <24 hours of diagnosis of acute pancreatitis [3].

## The Cycle

**The standard:**

1. Optimal suggested timing for initial CT assessment is at least 72-96 h after onset of symptoms [4]

2. Indication for initial CT in acute pancreatitis to include one of the following:

  a) Diagnostic uncertainty

  b) Confirmation of severity based on clinical predictors of severe acute pancreatitis [5]

  c) Failure to respond to conservative treatment or in the setting of clinical deterioration

3. CT report should include all of the following:

  a) Presence of pancreatic necrosis +/- site

  b) Presence of free intraperitoneal fluid

  c) Presence of extensive peripancreatic fat stranding [6]

4. US examination of the gallbladder within 24 hours of diagnosis of acute pancreatitis [6]

**Target:**

95% for all standards.

## Assess local practice

**Indicators:**

1. Percentage of CT’s that adhere to the optimal timing

2. Percentage of initial CT’s justified based on clinical request including indications as outlined

3. Percentage of CT reports including prognostic factors as defined

4. Percentage of US scans performed within the specified time limit as specified

**Data items to be collected:**

1. List of patients referred for initial CT for acute pancreatitis

2. Date and time of symptom onset/ date of admission if time of onset unavailable

3. Date and time of initial CT performed +/- US if performed and how long after onset of symptoms the scan was carried out

4. Referral information i.e. indications for requesting initial CT in acute pancreatitis

5. CT report findings of prognostic factors

**Suggested number:**

Data collection period of 6 months, or 30 consecutive patients (whichever is smaller) undergoing CT with clinical information relating to initial presentation/ diagnostic uncertainty for acute pancreatitis.

**Suggestions for change if target not met:**

• Present the audit to fellow radiologists, general surgeons and sonographers

• Educate staff regarding the current guidelines for imaging in acute pancreatitis, including general surgeons and sonographers

• Re-audit in 12 months, consider data collection in collaboration with general surgeons to aid compliance with guidelines

**Resources:**

- Use RIS to identify patients by searching for ‘acute pancreatitis’ in the clinical information/ question

- If unable to search RIS, request medical notes for those patients coded as ‘acute pancreatitis’

- Data collection into digital spreadsheet

- Data analysis

[**imaging\_in\_acute\_pancreatitis\_data\_collection\_spreadsheet.xlsx**](https://www.rcr.ac.uk/sites/default/files/audit_template/imaging_in_acute_pancreatitis_data_collection_spreadsheet.xlsx)EXCEL - 10.29 KB

**References:**

1. Gastroenterology. 1986 Aug;91(2):433-8. Bacterial contamination of pancreatic necrosis. A prospective clinical study. Beger HG, Bittner R, Block S, Büchler M.
2. Br J Surg. 1996 Jul;83(7):924-9. Early localization of necrosis by contrast-enhanced computed tomography can predict outcome in severe acute pancreatitis. Kemppainen E1, Sainio V, Haapiainen R, Kivisaari L, Kivilaakso E, Puolakkainen P.
3. King NK, Powell JJ, Redhead D, et al. A simplified method for computed tomographic estimation of prognosis in acute pancreatitis. Scand J Gastroenterol2003;38:433–6.
4. Pancreatology. 2013 Jul-Aug;13(4 Suppl 2):e1-15. doi: 10.1016/j.pan.2013.07.063. IAP/APA evidence-based guidelines for the management of acute pancreatitis. Working Group IAP/APA Acute Pancreatitis Guidelines.
5. Balthazar EJ, Robinson DL, Megibow AJ, Ranson JH. Acute pancreatitis: value of CT in establishing prognosis. Radiology 1990;174:331e6.
6. UK guidelines for the management of acute pancreatitis. Gut 2005;54:iii1-iii9.

**Submitted by:**

Dr Helen Bailey

**Co-authors:**

Dr Leela Narayanan

**Published Date:**

Monday 26 June 2017

**Last Reviewed:**

Wednesday 1 January 2020