## Pre-operative chest radiographs (CXR) for elective surgery

## Descriptor

Pre-operative chest radiographs prior to elective surgery.

## Background

Screening preoperative CXR is indicated in patients undergoing cardiothoracic surgery. For elective non-cardiothoracic surgery, routine preoperative CXR is not indicated but may be appropriate in patients with significant cardiorespiratory disease [1].

Other indications to consider – these will depend on local guidelines:

• Those with acute respiratory symptoms

• Those with possible metastases

• Those with suspected or established cardio-respiratory disease, who have not had a chest radiograph during the past 12 months

• Recent immigrants from countries where tuberculosis is still endemic and who have not had a chest radiograph during the past 12 months

• Those with a recent history of chest trauma

• Those whose operation may involve a thoracotomy

• Those undergoing a major abdominal operation, who run a high risk of respiratory complications

• Heavy smokers who have not had a chest radiograph during the past 12 months

• Patients not included in the above categories, if the request is made by the appropriate anaesthetist

Many pre-operative chest radiographs contribute little to patient management in elective surgery. The Royal College of Radiologists’ guidelines are often not followed. This audit can help to reduce unnecessary radiography by encouraging stricter application of these guidelines [4].

## The Cycle

### The Standard

A locally agreed standard based on local guidelines with two elements such as:

1. Pre-operative CXR only for patients undergoing cardiothoracic surgery or for patients with significant cardiorespiratory disease or other valid indication

2. All requested CXR images should be reported.

### Target

90% of elective surgery pre-operative CXRs should be in patients with a valid indication (see local guidelines)

100% should have a pre-operative CXR report

## Assess local practice

### Indicators

• Percentage of patients undergoing elective surgery pre-operative CXR with a valid indication

• Percentage of pre-operative CXR images reported

### Data items to be collected

During the review period, record for each specialty:

* RIS search for pre-op OR pre op AND CXR AND [specialty group eg trauma & orthopaedics], exporting clinical details and report.
* Identify the number of elective surgery patients for whom a pre-operative chest radiograph is requested
* Indication for CXR as documented on request clinical information
* The number of exams with no report

### Suggested number

Fifty consecutive pre-operative CXR in each speciality.

## Suggestions for change if target not met

• Share audit with surgical teams and staff involved in preoperative assessment clinics

• Guidelines should be circulated and reiterated in reports (most easily as a macro), for example those from the Royal College of Radiologists [1]

• Local variations may be incorporated [3] and infographics used [8]. Patient information regarding the need for pre-operative CXR could be sent with other literature prior to surgery [9, 10].

• Following this, those requests which do not adhere to the locally agreed guidelines should be rejected through electronic requesting rules or clinical decision support systems.

## Resources

- RIS-PACS

- 2 sessions: 1 for for data collection, 1 for preparation of slides.

## References

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## Editors Comments

## Submitted by

Taken from Clinical Audit in Radiology 100+ recipes RCR 1996, updated by D Howlett and D Remedios 2023.

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## Published Date

Monday 7 January 2008

## Last Reviewed

14 April 2023