Clinical Audit Template

Reach for the Sky! Adequacy of Lateral Chest Radiographs

Background and Aim:
The standard radiographic examination of the chest involves the frontal and lateral projections. The lateral chest x-ray can play an important role in making diagnoses, and is an excellent source of information. Adequate positioning can be a challenge when obtaining the lateral radiograph. Specifically, the patient's humeri can obscure visualization of the lung fields, which limits assessment and can be a source of missed pathology.

The aim of this study was to analyze a number of lateral chest x-rays obtained from the emergency department and from an outpatient clinic to determine how well the humeri were abducted.

Standards:
No published standard is available.

Audit Target:
90% of lateral chest x-ray's obtained from the emergency department and outpatient clinic must have adequately abducted humeri.

Methods:
Using PACS, the technologist generated a random list of 50 emergency department and 50 outpatient clinic lateral chest x-ray studies. There was an agreed upon consensus for an adequate study. Two separate reviews were performed, one by the radiologist and one by the technologist to determine adequacy of humeri positioning.

Intervention/Action Plan:
Results were publicized to all chest radiography staff. A short PowerPoint presentation was sent out to departmental technologists highlighting the following points:
a) importance of lateral CXR
b) inadequate positioning can be a limitation and a source of missed pathology
c) encouraging patients to reach as high as possible on the bar

A poster emphasizing good technique and positioning was emailed to staff members and was later displayed next to chest x-ray stations.

Results of the audit will presented to the radiology department as part of our audit/research day later in the year.

Resources required:
a) access to PACS to generate a random list of chest x-rays to analyze
b) radiologist and technologist to independently evaluate the studies

Time Required to Perform the Audit:
a) A random list of chest x-rays can be generated in PACS in a few minutes.
b) Approximately 15-20 minutes was required to analyze all CXRs (this will depend on the number of CXRs assessed).
c) Intervention took place over a one month period
d) steps a) and b) were performed again

References:
Gaber, K.A., McGavin, C.R., Wells, I.P. 2005. Lateral chest X-ray for physicians. Journal of the Royal Society of Medicine. 98(7):310-312

SUMMARY:

1. Pre-Intervention

- Using PACS, generate a random list of 50 emergency department and 50 outpatient clinic lateral chest radiograph studies
- Two separate independent reviews of the lateral radiographs performed by technologist and radiologist to determine adequacy of humeri positioning

2. Intervention

- Short PowerPoint presentation sent to departmental technologists highlighting the following points:
    - importance of lateral CXR
    - inadequate positioning can be a limitation
    - encouraging patients to reach as high as possible on the bar

- Posters demonstrating proper positioning placed in the department

3. Post-Intervention

- Repeat pre-intervention methods and compare results after 1 month