# Decreasing the Incidence of Respiratory Motion Artifacts in CT Chest and Pulmonary Angiogram, by Optimizing Acquisition Parameters and Patient Commands

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# BACKGROUND

- What are Respiratory Motion Artifacts ?
- Present a challenge in image quality and interpretation

# AIM

- To assess the incidence of motion artifacts in CT Chest
- To achieve "less than 10 – 15% incidence" of motion artifacts
- To reduce the incidence of Grade 3 motion artifacts.
- To ensure quality diagnostic service and optimal patient care in the safest environment

# STUDY METHODOLOGY

**Sample Size:** 50
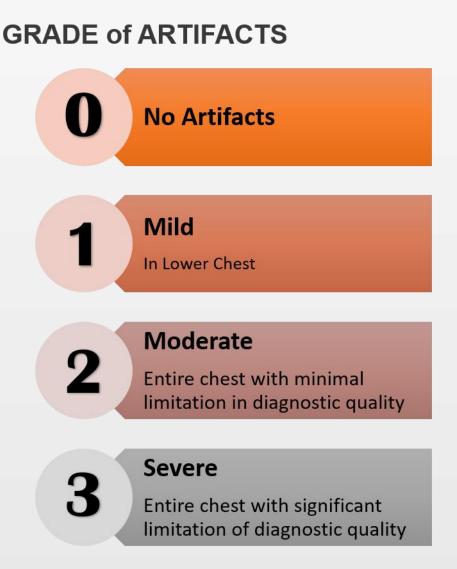       (30 CT Chest Plain and
        20 CT Pulmonary Angiogram)

**Duration**:
       One Month (October- 2020)

**Inclusions**
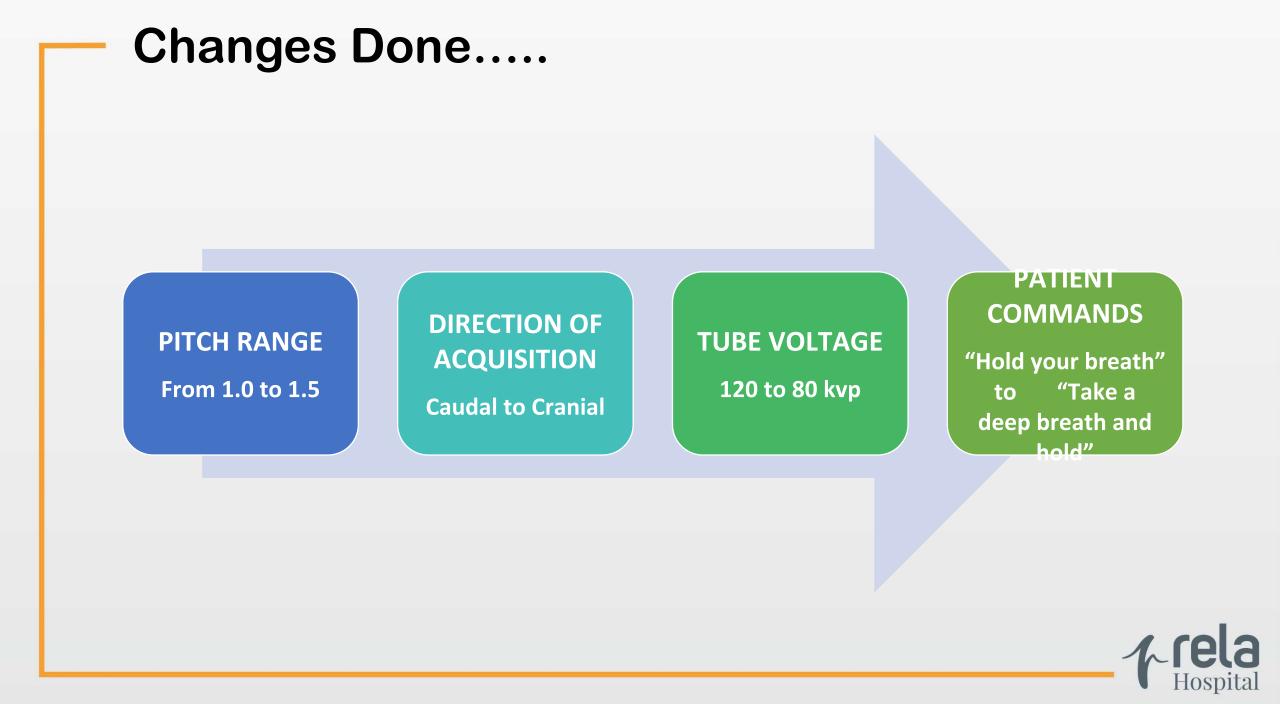- in-patients and out-patients

**Exclusions**
- Patients with external artifacts (pacemakers)
- Children below 12 years
- All other CT scans

## GRADE of ARTIFACTS

**0** No Artifacts

**1** Mild
In Lower Chest

**2** Moderate
Entire chest with minimal limitation in diagnostic quality

**3** Severe
Entire chest with significant limitation of diagnostic quality

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# Changes Done.....

# Results

BEFORE CHANGES

AFTER CHANGES

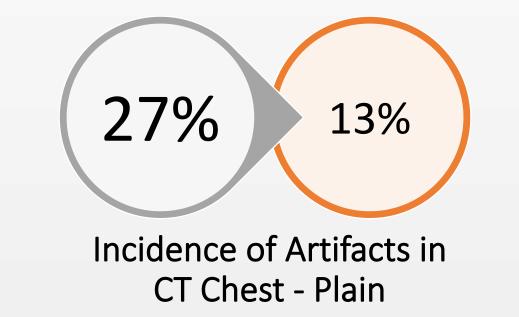**27%** ➤ 13%

Incidence of Artifacts in
CT Chest - Plain

**50%** ➤ 10%

Incidence of Artifacts in
CT Pulmonary Angiogram

# Conclusions

- Presence of artifacts → suboptimal interpretation → requiring repeat study, resulting in unnecessary exposure to radiation

- Incidence of CT  scans with "No Artifacts" (Grade 0) increased

- Incidence of Grade 2 and 3 artifacts decreased

- Incidence of Re-Dos has also drastically decreased

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