**Appendix 15**

**Quantitative Chest X-ray Image Critique** – **Scoring definitions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Score****Criteria** | **4** | **3** | **2** | **1** |
| **Use of lead side-markers** | * Permanent
* Non-obscuring of relevant anatomy
* On the correct side of the patient
 | * Post-processed markers
* Non-obscuring of relevant anatomy
* On the correct side of the patient
 | * Post-processed markers
* Obscures relevant anatomy
* On the correct side of the patient
 | * No side-marker is evident OR
* Side-marker present is on the incorrect side of the patient
 |
| **Collimation comprising inclusion of relevant anatomy and exclusion of irrelevant anatomy** | * All required anatomy is included
* Four borders of collimation are evident
* Collimation is tight to the area of interest
 | * All required anatomy is included
* Two or more borders of collimation are evident
* Collimation is tight to the area of interest OR
* The image has been shuttered to demonstrate four close borders
 | * All required anatomy is included
* Collimation is not tight to the area of interest for at least two borders
 | * Not all required anatomy is included OR
* Collimation is not tight to the area of interest for at least three borders OR
* There is no evidence of shuttering
 |
| **Image artifacts and aesthetics** | * No artifacts are present OR
* Artifacts are removed from the relevant anatomy as best as possible
* The long axis of the body plane is aligned to long axis of the image receptor
 | * No artifacts are present OR
* Artifacts are removed from the relevant anatomy as best as possible
* The long axis of the body plane is not reasonably aligned to the long axis of the image receptor
 | * Artifacts are present that obscure relevant anatomy
* The long axis of the body plane is aligned to the long axis of the image receptor
 | * Artifacts are present that obscure relevant anatomy
* The long axis of the body plane is not reasonably aligned to the long axis of the image receptor
 |
| **Exposure** | * No quantum mottle (noise) is present on the image
* Visually adequate exposure
* Exposure is within the acceptable exposure indicator range or slightly outside the range, indicating under-exposure
 | * No quantum mottle (noise) is present on the image
* Visually adequate exposure
* Exposure is outside the acceptable exposure indicator range, indicating over-exposure
 | * Some quantum mottle (noise) is present on the image
* Visually adequate exposure
* Exposure is outside the acceptable exposure indicator range, indicating under-exposure
 | * Quantum mottle (noise) is present on the image
* Visually inadequate exposure
* Exposure is outside the acceptable exposure indicator range, indicating under-exposure
 |
| **Contrast** | * Demonstration of vertebral bodies through the mediastinum
* Good evidence of peripheral vascular markings
 | * Demonstration of vertebral bodies through the mediastinum
* Some or little evidence of peripheral vascular anatomy
 | * No demonstration of vertebral bodies through the mediastinum
* Some evidence of peripheral vascular anatomy
 | * No evidence of vertebral bodies through the mediastinum
* No evidence of peripheral vascular anatomy
 |
| **Movement Unsharpness** | * Cortical bony margins are sharp
* Lung detail is sharp
* No patient movement
 |  |  | * Cortical bony margins are not sharp
* Lung detail is not sharp
* Patient movement
 |
| **Patient rotation** | * Clavicular heads are equidistant from the spinous processes
* No patient rotation
 | * There is 1-2mm difference in the distance between the clavicular heads and the spinous processes
* Slight patient rotation
 | * There is 2-4mm difference in the distance between the clavicular heads and the spinous processes
* Moderate patient rotation
 | * There is more than 4mm difference in the distance between the clavicular heads and the spinous processes
* Very rotated patient
 |
| **Projectional correctness** | * Clavicular heads are projected between the third and fifth thoracic vertebrae
 | * Clavicular heads are projected at either the second or sixth thoracic vertebrae
 | * Clavicular heads are projected at either the first or seventh thoracic vertebrae
 | * Clavicular heads are projected above the lung apices or below the seventh thoracic vertebrae
 |
| **Consideration of other structures** | * The scapulae are retracted from the thorax
* The chin is projected above the lung apices
 | * The scapulae are not adequately retracted from the thorax OR
* The chin is projected slightly over the lung apices
 | * The scapulae are not adequately retracted from the thorax
* The chin is projected slightly over the lung apices
 | * The scapulae are not adequately retracted from the thorax
* The chin is projected significantly over the lung apices
 |
| **Patient functional state** | * 10 or more posterior ribs are visible above the diaphragm
* Full inspiration
 | * 8-9 posterior ribs are visible above the diaphragm
* Almost full inspiration
 | * 7 posterior ribs are visible above the diaphragm
* Inadequate inspiratory effort
 | * Less than 7 posterior ribs are visible above the diaphragm
* Loss of aeration in the lungs
* Expiratory
 |