**Appendix 15**

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

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| **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 |