



Attachment C ARRT Standard Definitions

Digital Radiography	Digital Radiography includes both computed radiography and direct radiography <u>Computed Radiography (CR)</u> systems use storage phosphors to temporarily store energy representing the image signal. The phosphor then undergoes a process to extract the latent image. <u>Direct Radiography (DR)</u> systems have detectors that directly capture and readout an electronic image signal.
Spatial Resolution	The sharpness of the structural edges recorded in the image.
Receptor Exposure	The amount of radiation striking the image receptor.
Brightness	Brightness is the measurement of the luminance of an area in a radiographic image displayed on a monitor. It is calibrated in units of candela (cd) per square meter
Contrast	Contrast is the visible difference between any two selected areas of brightness levels within the displayed radiographic image. It is determined primarily by the processing algorithm (mathematical codes used by the software to provide the desired image appearance). The default algorithm determines the initial processing codes applied to the image data. <u>Grayscale</u> refers to the number of brightness levels (or gray shades) visible on an image and is linked to the bit depth of the system. <u>Long Scale</u> is the term used when slight differences between gray shades are present (low contrast) but the total number of gray shades is great. <u>Short Scale</u> is the term used when considerable or major differences between gray shades are present (high contrast) but the total number of gray shades is small.
Dynamic Range	The range of exposures that may be captured by a detector.
Receptor Contrast	The fixed characteristic of the receptor. Most digital receptors have an essentially linear response to exposure. This is impacted by contrast resolution (the smallest exposure change or signal difference that can be detected). Ultimately, contrast resolution is limited by the quantization (number of bits per pixel) of the analog-to-digital convertor.
Exposure Latitude	The range of exposures which produces quality images at appropriate patient dose.
Subject Contrast	The magnitude of the signal difference in the remnant beam as a result of the different absorption characteristics of the tissues and structures making up that part.