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CR AND DR

QUESTION 1:

Advantages of digital radiography over screen film radiography :

- no repeat examination
- Low exposure techniques
- Low pt dose
- Improve spatial resolution and contrast resolution
- No loading and non loading of cassette
- Reusable image Plate
- No need dark room
- Ability to rapidly change back and forth from dark on light imaging to light on dark imaging
- DR allows the option to retake image immediately

QUESTION 2:

Difference between direct and indirect digital radiography :

Direct DR:

- In DR use a photo conductor material (amorphous selenium) applied on the top of the thin film transistor
- DR convert the X-ray directly into electrical charges
- No coupling element
- Collecting element is TFT

Indirect DR:

- In indirect DR uses an Xray intensify screen that convert Xray to light which is then detected by the flat panel detector
- Indirect DR convert the Xray to light then light to a electrical charge
- Coupling element **fiber optic contact layer**
- Collecting element TFT and csd

QUESTION 3:

Fill factor important:

It is the percentage of the pixel in a digital radiography image receptor that is sensitive to the incoming xray beam and allows conversion of the incident xray beam in to light.

Question 4:

The consequences of producing flat panel digital image receptors with small pixels are noisy images.

Question 5:

Storage phosphor plate :

- Wireless digital radiography system
- Consist of reusable imaging plate coated with phosphor instead of sensor
- It is fit to mouth like conventional film phosphor material **europium-doped barium halide**
- Less rapid than direct digital imaging

- The imaging plate contains not only the phosphor layer but also a protective coat a conductive layer support and laminate layers.