Image Critique Questions

Module 9

1. Use the 5 evaluation criteria categories when critiquing the following image to determine if it is diagnostic:

Is this image diagnostic? Yes **No*clipped anatomy***

AP Pelvis @ 95 kVp



1. Is all the required anatomy included in the radiograph? Yes **No**
   *If no, explain what is required ***greater trochanters must be included***
2. Does the anatomical appearance in the radiograph correlate to what is expected from an AP projection? Yes **No**
   If no, explain how the appearance of this radiograph is different compared to the ideal radiograph
   Legs appear to be externally rotated (should be rotated medially 15-20º); visible foreshortening of the femoral necks with lesser trochanters in profile internally/medially
3. Identify if the appropriate amount of radiation was used to form the image.
   Acceptable, **Overexposed**, Underexposed
   - Is motion present in the image? Yes **No**
4. Identify if the collimated light field was: Acceptable, **Too Small *side to side***, Too Large
   - Was the CR close to the middle of the required anatomy? **Yes** No
5. Does the marker placement follow Anderson's Marker Rules? Yes **No *should be closer to the ASIS***
   - Are there artifacts in the image? **Yes** No
     *If yes, could they have been removed? ***Yes, the marker is superimposing anatomy of interest. Patients***

should be provided with accurate gowning instructions prior to imaging (can see elastics from underwear)

2. Use the 5 evaluation criteria categories when critiquing the following image to determine if it is diagnostic:

1. Is all the required anatomy included in the radiograph? Yes **No**
**If no, explain what is required*

- **Symphysis pubis**

2. Does the anatomical appearance in the radiograph correlate to what is expected from a routine AP projection?
Yes **No**
**If no, explain how the appearance of this radiograph is different compared to the ideal radiograph*

- ***Femoral neck is foreshortened***
- ***Lesser trochanter is in profile internally***
- **Femur is not parallel to length of IR**

3. Identify if the appropriate amount of radiation was used to form the image.
Acceptable, **Overexposed,** Underexposed

- Is motion present in the image?
Yes **No**

4. Identify if the collimated light field was:
Acceptable, Too Small, Too Large
****If CR centering was 1-inch more medially located, symphysis pubis would have been included***

- Was the CR close to the middle of the required anatomy?
Yes No

AP Hip @ 90 kVp



Is this image diagnostic? Yes **No**

5. Does the marker placement follow Anderson's Marker Rules?
Yes No

- Are there artifacts in the image?
Yes **No**
**If yes, could they have been removed?*

3. Use the image below to answer the next five questions:

90 kVp



a. Which routine projection of the pelvis is displayed? **AP projection**

b. What positioning error(s) occurred?
- **Rotation**
- **Insufficient internal rotation of the right femur**

c. If the image was repeated, how would you correct the positioning error(s)?
- **Palpate ASIS's bilaterally until they are parallel to IR; rotate patient slightly towards their left side (patient is in a slight RPO position)**
- **Internally rotate the right femur 15-20º to match the internal rotation of the left leg**

d. How did you identify the positioning error(s)?
- **Obturator foramen are not symmetrical (Left foramen appears larger than the right)**
- **Ala are not symmetrical (Right wing appears "wider" than the left)**
- **Right lesser trochanter is visualized medial to the body of the femur**

e. If the image had to be repeated, would you make any other adjustment(s)? Explain your rationale.
- **Move the anatomical marker closer to the ASIS**
- **Center a bit more inferiorly (CR should be below ASIS) and increase collimation slightly in the superior-inferior direction**

4. Use the image below to answer the next five questions:



a. Which routine projection of the hip is displayed?

AP projection

b. What positioning error(s) occurred?

- **Left femur not abducted sufficiently**

c. If the image was repeated, how would you correct the positioning error(s)?

- **Move the femur laterally**

d. How did you identify the positioning error(s)?

- **Femoral body not parallel to length of IR**

Note: recall on some patients even after a 15-20º internal rotation of the femur the medial edge of the lesser trochanter may still be visualized – as is seen in this radiograph

e. If the image had to be repeated, would you make any other adjustment(s)? Explain your rationale.

- **Increase technique, image is underexposed**
- **Slightly decrease collimation side-side (aka. increase field size) as symphysis pubis must be included in the radiograph**
- **Center CR more inferiorly and increase collimation superiorly-inferiorly (top of light field should only extend to ASIS)**

5. Use the 5 evaluation criteria categories when critiquing the following image to determine if it is diagnostic:

Is this image diagnostic? Yes No

Lateral Hip @ 80 kVp



1. Is all the required anatomy included in the radiograph? **Yes** No
   **If no, explain what is required*
2. Does the anatomical appearance in the radiograph correlate to what is expected from a lateral projection?
   Yes No
   **If no, explain how the appearance of this radiograph is different compared to the ideal radiograph*
3. Identify if the appropriate amount of radiation was used to form the image.
   Acceptable, Overexposed, Underexposed

- Is motion present in the image? Yes **No**

4. Identify if the collimated light field was: Acceptable, Too Small, **Too Large** ****side to side entire soft tissues of the thigh are not required***

- Was the CR close to the middle of the required anatomy? Yes **No** ****CR should be more superior, over the femoral neck***

5. Does the marker placement follow Anderson's Marker Rules? Yes **No** ****marker is over anatomy***

- Are there artifacts in the image? **Yes** No

If yes, could they have been removed?* ***Yes the anatomical marker is a removable artifact*