

Name = Yazan Hassan

ID = 14706

Subject = Radiological positioning

Submitted = Mam Atroqz Aqmat.

NO: 1 W

Ans: OPG: Orthopantomogram.

The OPG is a machine design to rotate around the patient's head during the X-rays. The OPG is the fast and painless. The X-rays takes about 15-20 min.

- An OPG can be used to look for
  - Trauma to the jaw
  - Fractures
  - Infection
  - Dentition.

Preparation:

- No preparation is required.
- Before the procedure remove glasses, jewelry

→ Patient positioning:

- During an OPG the patient remain in a stationary position (seated or standing) while both the X-rays source and film rotate in combination around the patient. The X-ray source rotate from the one side of the jaw around front of the patient and then to the other side of the jaw. The film rotates opposite to the X-ray source behind the patient. It take few seconds.

## Technical factor.

- panoramic projection
- paused Respiration
- Centring point
  - Frankfurt horizontal line is perpendicular to the floor
  - Laser light will be vendor-specific however
    - Central laser light in the midsagittal ~~axial~~ plane.
    - Axial laser at IOML
    - Lateral laser at the lateral incisor.

## → Orientation

- Landscape

## → Detector Size

- OPB Specific detector.

## → Exposure.

- 70-80 KVP

- 8-15 MA over a number of

second

## → Grids

- yes.

DNO: 02

**RMS:** The MRI was developed in 1980's and has revolutionized treatment for patients with lower back pain. An MRI scan is generally considered to be the single best imaging study of the spine to help plan treatment for back pain.

→ Lumbar Spine x-ray view.

→ PA/AP view

- The entire lumbar spine should be visible, with demonstration of T12/L12 superiorly and Sacrum inferiorly
- often performed erect unless otherwise indicated

→ Lateral View

- visualization of lumbar vertebral bodies, pedicles and facet joints
- ideal projection when examining for suspected fractures
- can be performed erect to assess stable fractures.

→ Oblique View.

- Used to visualize the articular facet and pars interarticularis of the lumbar spine.

QNO: 03

Ans:

- views of knee pain.
- Rolled Lateral view.

often perform on bed-bound patients with suspect arthritis

- orthogonal views of the AP project
- Skyline view. (Merchant)  
Superior-inferior projection of patella. This is an ideal projection for patient.

- Skyline: (Levine)  
inferior-superior projection of patella.

- Knee AP weight bearing view  
often used in the context of orthopaedic appointment to obtain image of knee.

- Knee intercondyle view  
view utilized to demonstrate intercondyle space.

- Resonberg's view  
weight bearing projection used to assess joint space related pathology such as osteoarthritis

QNO: 04

Ans: The treatment of head injuries depends on the types of the injuries. by type of injuries The physician may perform imaging Test Such as..

→ CT Scan of the head  
physician used CT of The head to detect bleeding, swelling brain injury and skull fracture.

MRI of Head.

physician MRI of brain including Special MR Scanning technique called diffusion weighted imaging. to help diagnose brain

X-rays of Head:

physician occasionally used an x-rays of the head to detect and assess skull fracture  
CT Scan Show most fracture more clearly than x-rays.

It clearly understood by physician that for determination of brain injury the proper test is CT Scan. and if need MRI are preferred imaging techniques.

Q NO: 05 (A)

Ans

Kilovolt peak (kvp)

is the peak potential applied to x-rays tube. Which accelerates electron from the cathode to anodes in radiography or computed tomography. Tube voltage in turn determine the quantity and quality of photon generated. As increase the kvp extend and intensifies the x-rays emission spectrum ~~factor~~

Along with MAs and filtration kvp is one of the primary setting that can be adjust on x-ray machines to control image quality and patient dose.

(B)

- positioning of pelvic
- patient is supine
  - lower limb are internally rotated 15-25° from the Hip

→ Technique

- AP projection
- Centering point
- Collimation - laterally to the skin margin
- Orientation - Landscap
- Detector Size - 35cm x 43cm
- Exposure: 70-80 kVp — 20-30 mAs
- SID = 100cm
- Grid = yes