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Papar = Positioning.

Answer No 1.

ORTHO PANTOMOGRAPHY:

Positioning of Patient.

A bulky clothing and
radio-opaque object such as
jewel or hearing Should be
removed

A 15x30 cm image receptor
is used to many machines,
The patient walk into the
machine, holding and handle
and adopting a "sking"
position. The head is fixed
downward until the front
plane is parallel and
the machine height is
adjusted. The chest should
be placed on the
rest.

(2)

The patient is rotated by ensuring the sagittal plane through the middle of face. The patient asked to place their tongue their mouth to reduce the shadow and asked to keep still for 20 second.

Direction and centring of X-ray Beam.

The anterior-posterior should be centred distally to the upper lateral incisors. the Positioning of "Focal trough" the zone focusing outside which anatomical details blurred.

Essential image Characteristics

Correct anatomical coverage which should include the entire mandible joints. use good contrast and enamel and dentine edge to edge incise. no removal metallic body. The true no movement avoidance sharpness.

(3)

No evidence of positioning errors and including rotation and errors with in occlusal plane. The spine should be minimized.

The air should be at the roof of the mouth should be minimized the tongue was placed correctly.

Additional Consideration

problems can occur with producing an optimal image with this technique, including patient movement and positioning errors.

The patient cooperate and still stay for 20 seconds for best examination.

14)

Answer No 2:

Lumbar spine x-ray:

A x-ray is very useful for test formation. It can help to doctor understand to cause of chronic back pain as view the effect of injury, disease or infection. X-ray may refer to lumbar spine x-ray to diagnosis.

both effect that effect spine. injury to fractures to the lower spine.

low back pain: more the 4 to 8 weak.

osteoarthritis: arthritis affecting the joint.

osteoporosis: That cause bone thin.

abnormal curvatures: change in
flex lumbar spine such bone
spurs
cancer

AP view.

Anterior posterior.

Position of patient and image receptor

The patient lie in supine on the table with median sagittal plane and right angle of the midline of the table and buckley

The anterior superior should be equidistant from table top

The hip and knee are flexed and feet are placed on the table top to reduce the lumbar arch and bring the lumbar region of the vertebral column parallel with image receptor

The image receptor should be large include the lower thoracic vertebra and sacro-iliac joint at the level of lower costal margin

The exposure should made in arrested- allowing the diaphragm to move superiorly.

(6)

The large and lower air effect poses Lumbos and lungs cause different density contrast b/w vertebrae.

Essential image characteristic

The image should include the top down the bottom of the sacro-iliac joint.

Rotation can be assumed by ensuring that the sacro-iliac joint are equidistant from the spine.

The exposure used should produce a density such that many details can be discerned throughout the region of interest.

Ans No 3. (7)

Knee Pain ?

AP view.

Anteroposterior view.

Position of patient and
image receptor

The computed radiography (CR) and 18x24-cm image receptor is generally used, and the patient is either supine on the X-ray table with both legs extended. The affected limb is rotated to centralize the patella b/w the femoral condyle. and Sandbags are placed against the ankle to help maintain the position and the image receptor should close to contact with the posterior aspect of the knee joint central level upper border of tibial condyles.

(8)

Essential image characteristics

The patella must be centralized
over the femur and the
distal third of femur
and proximal third tibia
and are included

Additional Consideration:

This projection can also
be undertaken in the
erect position.

Answer No 4 ✓

The patient fell from
bike and complain headache
is a medical condition
that pain in the head.
Some time neck or upper
~~back~~ back pain

⇒ It ranks the amongst
the common local pain
complaint.

(9)

First x-ray prescrib

By doctor.

and after the result the doctor prescribe the CT or MRI. The doctor will always prescribed MRI and CT scan for diagnosis.

=> In most cases you will have a CT-scan of the brain.

=> The test is like an x-ray but shows more detail in all three dimension.

MRI scan is being use because MRI has a higher sensitivity for detecting the presence of tumor.

=> But MRI refers in severe cases when doctor think there is a tumor.

Supplementary view.

Skull = Submentovertex.

Skull - Townes

(10)

Answer

NO

5

Part = A.

KVP:

KVP is the property called radiographic contrast of an x-ray image (The ratio of transmission radiation through regions of different thickness or density). Each body part contains a certain type of cellular composition which requires an x-ray beam with a certain KVP to penetrate it.

MAS:

The MAS (milliampere second) determine the ~~x-ray~~ number of x-ray produce per unit time and the number of x-ray reaching the film determine the degree of blackening of the film the type

(11)

~~Answer~~

of Film or Screen system
being used.

increasing kVp increasing
the penetrating power of X-ray
beam.

kVp and mAs effect
image quality.

The experiment showed that
when the film density is
kept constant the higher the
kVp, the lower the resolution
and image contrast
percentage also. the higher
the mAs, the higher the
resolution and image contrast
percentage.

(12)

(b)

Positioning about the
pelvic x-rays?

Pelvic (AP view):

The AP pelvic view is part of pelvic series examination. The iliac crest, sacrum, proximal femur, pubis, ischium and great pelvic ring. It is of considerable importance in the management of severely injured patients presenting to emergency department.

Patient Position:-

:-

Patient is supine.
Lower limb are internally
rotated 15-25° from
the hip (do not attempt
this if a fracture is
suspected)

(13)

Technical Factors:-

=> AP projection.

=> Centring point

The mid point
of the anterior superior
iliac spine and the
pubic symphysis

=> Collimation

=> Laterally to the skin
margins.

=> Superior to above the
iliac crest

=> inferior to the proximal
third of the femur

Detector size

35 cm x 43 cm.

Exposure

70 - 80 kVp

20 - 30 mAs

SID

100 cm

Technique:-

=> Entirely of the bone pelvis
is imaged from superior.

(14)

Of the iliac crest to the proximal shaft of Femur obturator foramina appear equal iliac wings have an equal concavity.

Greatest trochanters of the proximal Femur are in profile.

Essential image characteristic

⇒ Iliac crest and proximal Femora including the lesser trochanters. Should be visible on the image.

⇒ No rotation the iliac bone and obturator foramina should be the same size and shape.

Additional Consideration:-

At first visit and trauma cases. gonad protection is usually omitted however local protocols can vary. it is used on follow image.