

M T W T F S

Date:...../...../20.....

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Program Bs Radiology
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ID 13817

Paper CT Procedures

Submitted to Mam Maheen Gul

Q 1

Ans

Indications:

Rule out/follow up Liver for hypovascular metastases from the following.

- o Primary adenocarcinoma in digestive tract (esophagus, stomach, colon, and rectum). Pancreas and Lung.
- o Squamous cell carcinoma (head and neck, lung, anus)
- o Lymphoma.

CT Body. Liver (Hypervascular)Indications:

Rule out/follow up Liver for hypervascular metastases from the following.

- o Primary Liver tumors.
- o Renal cell carcinoma, leiomyosarcoma, thyroid tumors, Carcinoid and other neuroendocrine tumors.

P-T-2

o Melanoma and breast (may be hypovascular).

o Pancreatic islet cell tumours. GIST
(Gastrointestinal stromal cell tumour)

Patient Preparation:-

4-hr Fast

Positive oral contrast 60/45/30/15 min

Pos. remanent immediately prior to scan).

Supine / Feet First /

Imaging Protocol: [2 Phase Live 5mm
[Laz 2phase Live ^(0.5mm) 5mm
(3mm)]

Scan slice thickness	0.5mm x 64 (2mm x 32)
Pitch	Standard
KV	120
mA	SURE Exposure 3D Standard
Rotation Time	0.55 (0.75s)

Scan Range		Postal venous Phase
Start	Axtertal Phase Top of highest hemidiaphragm	To ot highest hemidiaphragm
End	Iliac Crests	Below ischium
Plane.	Straight gantry	Straight gantry

Contrast:

Volume	70-120 (depending on patient weight)
Rate	4ml/s
Dose	skilstm 180 HU in abdominal aorta + ias Postal venous @ 65s Fixed delay.

Image reconstruction:

5/5 mm	Body	Standard Axial
Volume	Body	Standard Volume

Reformatting:

Multiview	Coronal	sagittal
Start	Posterior	left
End	Anterior	Right
Thickness	4mm	4mm
Spacing	4mm	4mm

Q2

Ans

CT Head & Neck - Sinuses.↳ Indication :-

Sinusitis, Polyps, Post-nasal drip
 Facial bones, ~~an~~ anosmia (see comments)

↳ Patient Preparation:

Supine / Head first, taking care to position
 Head symmetrically
 Always ask if patient has had
 previous surgery and when it
 was performed, and document.

↳ Imaging Protocol: Sinuses HCT 5mm
(0.5mm)

Scan slice thickness

0.5 mm x 64

Pitch

Detail

kV

120

mA

150

Rotation Time

0.5 s

P-T-0

BEST QUALITY

↳ Scan range:

Start Below maxillary sinuses

End Above frontal sinuses

Plane Parallel to hard palate.

↳ Image reconstruction:

5/5 mm Bone sharp

Volume Bone sharp

Reformatting ..

Multiview Coronal Sagittal

Plane → Perpendicular to Hard palate → Perpendicular to hard palate

Start → Anterior to Frontal → Medial wall to left palate

End → Posterior to Sphenoids - medial wall of orbit

Thickness → 2mm → 2mm. medial wall of right orbit

Spacing → 2mm → 2mm

↳ If the patient is not straight, reformatting may need to be performed manually to ensure correct anatomical position.

(b)

Q3

Ans

CT Musculoskeletal - Lumbar Spine.

Indication:.

→ Lower Back Pain (LBP), Sciatica,
Femoral ~~nerve~~ neuralgia, Spinal
Canal stenosis.

↳ Patient Preparation:.

Supine / Feet First, sponge under knee.
Can be scanned in lateral decubitus
or prone position if unable to
lie supine.

↳ Imaging Protocol: [Lumbar spine 3mm (0.5mm)]

[LxS Lumbar spine 3mm (0.5mm)]

Scan slice thickness

0.5 mm x 0.4

Pitch

Detail

kV

135

mAs

SURE Exposure 3D
High quality

Rotation Time

1.0s (1.5s)

Scan range:

Levels specified otherwise

Routine L2-S1

IP Patient < 30 Y.o., then L2-S1 unless

Specific symptoms @ L2-?

Start Above Pedicle of L2

End Below S1 (increase scan range to
obtain sufficient data for MPRs
for L5-S1 disc).

Image reconstruction.

3/3 mm Spine thoracic - Lumbar

3/1 mm Bone standard

Volume Spine thoracic - Lumbar

Reformatting:

use Spine Program in MPR.

Q₄

Ans

CT Musculoskeletal - AnkleAnkle Positioning.

- o Lie Patient supine, feet first
- o Affected leg out straight.
- o Position ankle in middle of the FOV.
- o Toes pointing to ceiling.
- o Unaffected leg bent to remove foot from scan field.

Indication,

Tarsal coalition, lateral or calcaneal pathology, ankle joint pathology, loose bodies.

Patient Preparation:

Supine / Feet first, ankle of interest at center of FOV, other leg bent up.
Ankle/foot immobilized.

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Imaging Protocol: [Ankle/Foot 2mm (0.5mm)]

Scan Slice thickness	0.5mm x 64
Pitch	Detail
kV	120
mA	100
Rotation Time	0.5s

Scan range:

Start Above ankle joint

End Below calcaneum

Plane Straight gantry.

Image reconstruction:

2/2mm Bone Sharp

Volume Bone Sharp

Volume Soft tissue Standard.

(10)

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Reformatting:

	Coronal	Sagittal
Plane	True coronal	True sagittal
Start	Posterior to calcaneum	Lateral to fibula.
End	Anterior to navicular	medial to tibia.
Thickness	2mm	2mm
Spacing	2mm	2mm

Comments:

IP Fractured then 3Ds are
obtained.



Q 5

Ans

CT Vasules - CTA Cardiac.↳ Indication:

Investigation of CAD. assessment of

Coronary Stents.

Note: We recommend our 10-step guide to coronary CTA for detailed instruction for performing these studies.

↳ Patient Positioning / set-up:

Supine Slice thickness

0.5 mm X 64

Pitch

Determined by
SURE Cardio™

kV

120

mA

400

Rotation Time

Determined by
SURE Cardio.↳ Scan range.

Start

Chest

End

Below apex of Heart

Plane

Straight gantry

↳ Contrast:

Single-Phase Contrast Injection Protocol

Phase 1

XX mL @ 4-5 mL/S

Phase 2 (Saline)

50 mL @ 4-5 mL/S

XX = (scan time + 10) x injection rate

SURE start on descending aorta at level of Pulmonary trunk)

Trisec at 180 HU.

↳ Image Reconstruction:

Use Image Xact to determine the optimal Phase for motion-free

Images

Volume

Cardiac CTA

↳ Comments:-

→ SURE Cardio should be used to ensure that the Pitch, rotation speed, and reconstruction method are optimized for the scan.