

# Spine 3x3 Pre-Arthroplasty

Siemens 16 Slice

Application Examples: back pain, disc replacement

Oral Contrast	No
IV Contrast / Volume	No

## Technical Factors

Scan Type	Spiral
Detector Collimator	Acq 16 x 0.6 mm
kV / mAs / Rotation Time	130 kV / 260mAs / 1.0 seconds
Care Dose 4D	On
Pitch	0.9
Typical CTDIvol	32.65 mGy

Topogram: AP & Lateral, 768 mm

Spine 3x3	Width / Increment	Kernel	Window	FoV	Series Description	Networking
Recon 1	3 x 3	B60s	Bone	200	AXIAL BONE	PACS
Recon 2	3 x 3	B20s	Spine	200	AXIAL STND	PACS
Recon 3	0.75 x 0.5	B20s	Bone	200	AXIAL 0.75 x 0.5 SMOOTH	MPR / Definition / TeraRecon
Recon 4	0.75 x 0.5	B20s	Bone	150	AXIAL 0.75 x 0.5 SMOOTH	Definition

This protocol is used for pre-operative planning for lumbar spine disc arthroplasty surgery. The images note the position of the pubic symphysis in relation to the disc space(s) to be replaced.

**Patient Position:** Supine feet first with arms comfortably above head.

**Scan Range:** One vertebral level above area of interest through pubic symphysis.

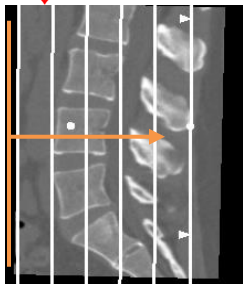
## Retrospective Recons:

**Recons 1, 2, & 3:** will cover the entire scan range and include the pubic symphysis anteriorly.

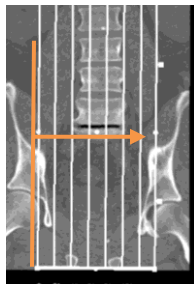
**Recon 4:** will superiorly and inferiorly cover the L-spine only and include the aorta anteriorly.

**Reformations:** Use Recon 4 as planning base to make a coronal MPR which anteriorly includes the aorta, true axial MPR(s) through disc space(s) requested, and right and left oblique MPRs of the facet joints. Use Recon 3 as planning base to make the sagittal MPR. Reformat the coronal and true axial MPR(s) from the sagittal viewport, the oblique MPRs from the axial viewport, and the sagittal MPR from the coronal viewport.

1. Coronal MPR  
(through aorta)  
3x3mm



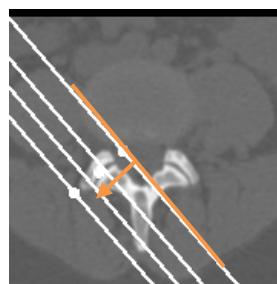
2. Sagittal MPR  
(from Recon 3)  
3x3mm



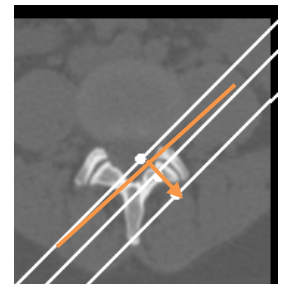
3. True Axial MPR  
(through disc space)  
2x2mm



4. Oblique RT MPR  
(through right facet joints)  
2x2mm



5. Oblique LT MPR  
(through left facet joints)  
2x2mm



Series: Spine 3x3	Reformat Type	Width / Increment	Window	Series Description	Networking
Recon 3	Sagittal MPR	3 x 3	Bone	SAG	PACS
Recon 4	Coronal MPR	3 x 3	Bone	COR	PACS
Recon 4	Axial MPR	2 x 2	Bone	AXIAL MPR	PACS
Recon 4	Oblique Right MPR	2 x 2	Bone	OBL RT	PACS
Recon 4	Oblique Left MPR	2 x 2	Bone	OBL LT	PACS

**3D:** None.