Austin Radiological Association

CT Body Protocols

Questions?

Last Update: 11/7/2024 3:37 PM

PROTOCOLS

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

Oral Contrast Guidelines

* Oral prep type, volume, and time will be determined by the diagnosis that is presented

Water Oral Prep

- 2 cups (~16 oz total) water will be administered to the patient just prior to scanning

Positive Oral Prep

- Volume and type determined by presented diagnosis or referral request:
- **Omnipaque**
  - Must be diluted prior to administration
  - Distribute 25 ml of Omnipaque in 16 oz water or non carbonated beverage x 2 cups for a total dose of 50 ml in 32 oz.
  - Patient drinks 1 ½ cups at the time specified by the CT Technologist ½ cup at table time (Dependent on the type of study performed) ½ cup at table time to distend stomach
- **Gastrografin**
  - Must be diluted prior to administration
  - Distribute 10 ml of gastrografin in 16 oz water or non carbonated beverage x 2 cups for a total dose of 20 ml in 32 oz
  - Patient drinks 1 ½ cups at the time specified by the CT Technologist ½ cup at table time (Dependent on the type of study performed) ½ cup at table time to distend stomach
- **Barium Sulfate**
  - Does not need to be diluted prior to administration
  - For CT Abdomen Pelvis the patient will drink a total of 1 ½ bottles broken into three doses: 1st dose at 1 ½ hours prior to exam, 2nd dose at 45 minutes prior, 3rd dose at exam table time
  - For CT of the Abdomen only the patient will drink one bottle broken into two doses: 1st dose at 30 minutes prior to exam, 2nd dose at exam table time

Back to Body Protocol Page

Rectal Contrast Guidelines

* Administered at the request of a radiologist or referring physician based on the diagnosis that is presented

- **Omnipaque**
  - Must be diluted when used for rectal administration
  - Distribute 100 ml Ominpaque into an enema bag filled with 1000 ml water
- **Gastrografin**
  - Must be diluted when used for rectal administration
  - Distribute 20 ml Gastrografin into an enema bag filled with 1000 ml water
- **Barium Sulfate**
  - Does not need to be diluted when used for rectal administration

CT Requests for Rectal contrast for rectum only evaluation or resection evaluation

*Only performed as requested: request may ask for a RED RUBBER CATHETER

Exam Setup:

- Utilize a 24 French Foley catheter or red rubber catheter and an enema kit that does not have a tip on the end (if unavailable, cut existing tip from conventional enema kit)
- Attach enema tubing and the Foley so that they are snug and secure with tape to ensure no liquid will leak from the connection
- **If diagnosis/history indicates possibility of contrast leakage of the bowel (including but not limited to possible/known fistula, perforation, postsurgical evaluation) we should obtain a set of pre-contrast images for comparison

Patient Preparation:

- with the patient in the Sims position, place the lubricated enema tip into the rectum
- **DO NOT INFLATE THE BALLOON**
- Wrap tape around the tube and to tape to patient's skin to help support placement
- Tape the patient's cheeks together to help prevent the tube from slipping out.
- Fill the patient with contrast prior to imaging and drain after scanning as normal.

Back to Body Protocol Page

ARA DIAGNOSTIC IMAGING

Patient Positioning

- Both arms should be raised above the head for optimal image quality
- If the patient cannot raise one arm, one arm down is preferred to both arms down and this information should be documented in tech notes for the radiologist
- If both arms are unable to be raised, this information should be documented in tech notes for the radiologist

Back to Body Protocol Page

IV Contrast

*IV Contrast at the discretion of the Radiologist

- Imaging of the Chest only will use 50 ml of 350 mg/dl non-ionic contrast at 3ml/sec
- All other body protocols will adhere to the following:
    - 50-150 ml of 350 mg iodine/ml non-ionic contrast @ 2 ml/sec, not to exceed a total volume of 150cc for a single date of service

Catheter	Injection Rate	PSI
BD Nexiva Diffusics		
24g	Less than or equal to 2cc/sec	325
22g	Less than 4cc/sec	325
20g	Greater than 4cc/sec	325
B Braun Safety Introcan		
24g	HAND INJECTION ONLY	
22g	Less than or equal to 2cc/sec	300
20g	Less than or equal to 4cc/sec	300
18g	Less than or equal to 6cc/sec	300
B Braun Safety 3 Introcan		
24g	Less than or equal to 2.5cc/sec	325
22g	Less than or equal to 3.5cc/sec	325
20g	Less than or equal to 4cc/sec	325
18g	Less than or equal to 5cc/sec	325

Patient's weight in lbs.	Volume of Contrast
1-50	1cc/lb.
51-100	50cc
101-210	75cc
211-300	100cc
301-400	125cc
>401	150cc

• When performing Soft Tissue Neck imaging in addition to another body region, contrast volume will be split into two doses, not to exceed 150cc for both exams, even if they exceed 210 LBS. May consult Radiologist or Lead for questions

Back to Body Protocol Page

Abdominal CT General Guidelines

Pre-Imaging of the Kidneys and Delayed imaging of the Kidneys, Ureters and Bladder for:

- H/O UTI's, Hydronephrosis, and/or Pyelonephritis, Transitional Cell Cancer

Consult Hematuria Protocol for the following:

- Hematuria

Consult Multi-Phase Protocol for the following:

- Renal mass/cyst
- Cirrhosis, Hepatitis, Liver mass/cyst , Elevated LFT's,
- Pancreatitis, Pancreatic Mass/Cyst
- Adrenal Mass/Cyst, Elevated Hormone Levels- Attn: Adrenals
- NEW diagnosis of Pancreatic, Renal and Transitional Cell Cancer

Delayed imaging of the Kidneys, Ureters and Bladder:

- H/O Bladder CA
- H/O Trauma, MVA
- All Emergency Room and Hospital Inpatients

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ABDOMEN – Revised-4/21/2020

CTDI: ≤ 25 mGy per acquisition

**If a Diagnosis of Acute or Generalized pain is given, please contact referring to request CT Pelvis **

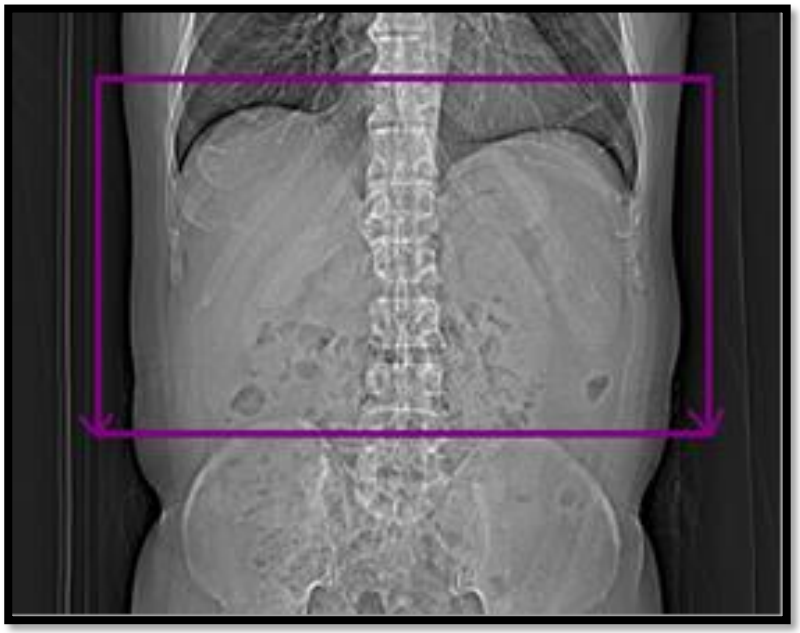
Used for routine abdomen evaluation

See Abdominal CT General Guidelines for additional information

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Supine, PA Scout from above the diaphragm through the through the SI Joints

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)



Scan Parameters:

- Pre-Contrast (if performed)
  - Scan from above the area of concern through the area of concern
- Portal Venous Phase (IV Contrast Dose Chart)
  - 60 second scan delay from start of injection of contrast @ 2ml/sec
  - Scan from above the diaphragm through the top of the crest
- Delayed Imaging (if performed)
  - 8 minute delay
  - Scan from above the area of concern through the area of concern

PACS series in order as performed:

- Topogram
- 5x5 Axial Non Contrast (if performed)
- 5x5 Axial Portal Venous
- 5x5 Axial Bone (if needed for Trauma/MVA)
- 5x5 Coronal Portal Venous
- 5x5 Sagittal Portal Venous
- 5x5 Axial Delay (if performed)
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality

ABDOMEN SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660	
Scan Type	spiral	spiral	spiral		Scan Type	spiral	
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40	
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8	
Pitch	0.6	1	1		Pitch	0.984:1	
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37	
CareDose4D	On	On	On		Scan FOV	Large Body	
Quality ref mAs	90	100	100		Auto mA range	100-500	
kVp	110				kVp	120	
ref kVp		120	120		Smart mA	On	
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15	
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%	
Recon 1 ST Axial					**Recon 1 ST Axial**		
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard	
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35	
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5	
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5	
Slice Increment (mm)	5	5	5		Type	Full	
					ASIR	None	
Coronal/ Sagittal							
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Reformats**		
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard	
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35	
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	2.5	
Slice Increment (mm)	5	5	5		Slice Increment (mm)	1.25	
					Type	Full	
					ASIR	SS50	

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

PELVIS - Revised-8/24/2018

CTDI: ≤ 25 mGy per acquisition

Used for routine pelvis evaluation

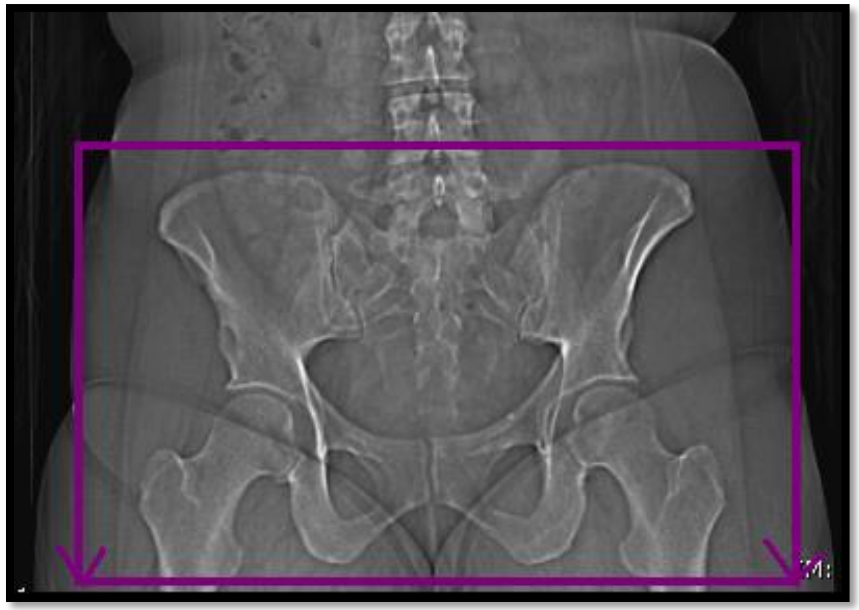
Setup: Scout from above the iliac crests through the symphysis pubis

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

See Patient Positioning for additional information

Scan Parameters: (IV Contrast Dose Chart)

- 70 second scan delay from start of injection of contrast @ 2ml/sec
- Scan from above the iliac crests through the symphysis pubis



PACS Series in order as performed:

- Topogram
- 5x5 Axial ST
- 5x5 Axial Bone (if needed for Trauma/MVA)
- 5x5 Coronal ST
- 5x5 Sagittal ST
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

PELVIS SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	1	0.6	0.5		Rotation Time (sec)	0.8
Pitch	0.95	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	90	100	100		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
Recon 1 ST Axials					**Recon 1 ST Axials**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard
Window	Abdomen	Abdomen	Pelvis		Window Width/ Level	450/ 35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5
Slice Increment (mm)	5	5	5		Type	Full
					ASIR	None
Coronal/ Sagittal						
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Recons**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	2.5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	1.25
					Type	Full
					ASIR	SS50

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ABDOMEN PELVIS-Revised-5/17/2022

CTDI: ≤ 25 mGy per acquisition

Used for routine abdomen pelvis evaluation

See Abdominal CT General Guidelines for additional information

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Scout from above the diaphragm through the lesser trochanters

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Pre-Contrast (if performed)
  - Scan from above the area of concern through the area of concern
- Portal Venous Phase (IV Contrast Dose Chart)
  - 60 second scan delay from start of injection of contrast @ 2ml/sec
  - Scan from above the diaphragm through the lesser trochanters
- Delayed Imaging (if performed)
  - 8 minute delay
  - Scan from above the area of concern through the area of concern

PACS series in order as performed:

- Topogram
- 5x5 Axial Non Contrast (if performed)
- 5x5 Axial Portal Venous
- 5x5 Bone Axial (if needed for Trauma/MVA)
- 5x5 Coronal Portal Venous
- 5x5 Sagittal Portal Venous
- 5x5 Axial Delay (if performed)
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ABDOMEN PELVIS SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660	
Scan Type	spiral	spiral	spiral		Scan Type	spiral	
Detector Configuration	32 x 1.2	16 x 1.2	16 x 1.2		Detector Coverage (mm)	40	
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.8	
Pitch	0.6	1	1		Pitch	0.984:1	
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37	
CareDose4D	On	On	On		Scan FOV	Large Body	
Quality ref mAs	90	100	100		Auto mA range	100-500	
kVp	110				kVp	120	
ref kVp		120	120		Smart mA	On	
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15	
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%	
Recon 1 ST Axials					**Recon 1 ST Axials**		
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard	
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35	
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5	
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5	
Slice Increment (mm)	5	5	5		Type	Full	
					ASIR	None	
Coronal/ Sagittal							
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Reformats**		
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard	
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35	
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	2.5	
Slice Increment (mm)	5	5	5		Slice Increment (mm)	1.25	
					Type	Full	
					ASIR	SS50	

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ADRENAL-Revised-4/21/2020

CTDI: ≤ 25 mGy per acquisition

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Scout from above the diaphragm through the through the SI Joints

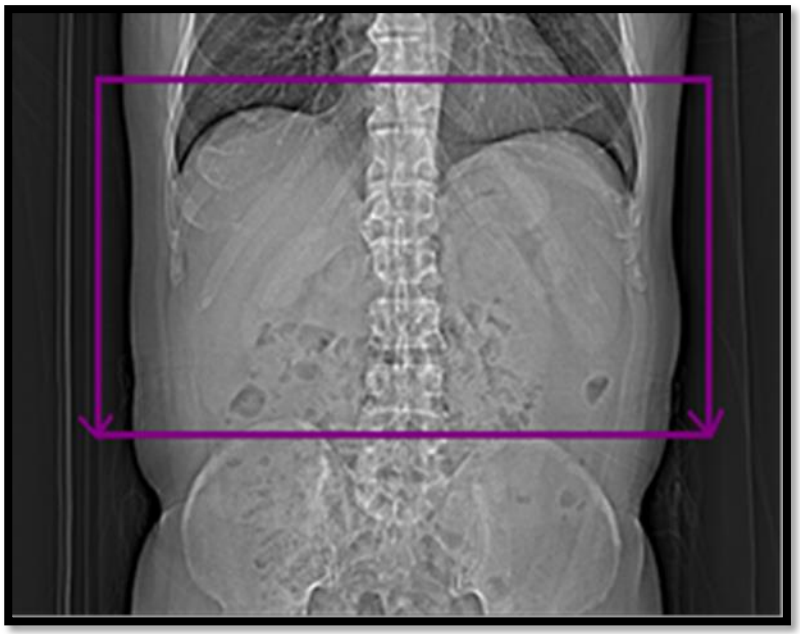
DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Possible Indications

- Adrenal Mass, Adrenal Cyst, Abnormal/ Elevated Hormone Levels, Request for attention to adrenals

Scan Parameters:

- Pre-Contrast
  - Above to Below Adrenals
- Portal Venous (IV Contrast Dose Chart)
  - 60 second scan delay from start of injection of contrast @ 2ml/sec
  - Above the Diaphragm thru Aortic Bifurcation
- Delayed Imaging
  - 10 minutes ~
  - Above to Below the Adrenals



PACS Series in order as performed:

- Topogram
- 1x1 Non Contrast Axial
- 1x1 Venous Axial
- 1x1 Venous Coronal
- 1x1 Venous Sagittal
- 1x1 Delay Axial
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ADRENAL SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660	
Scan Type	Spiral	Spiral	Spiral		Scan Type	Spiral	
Detector Configuration	32 x 0.6	32 x 1.2	64 x 0.6		Detector Coverage (mm)	40	
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8	
Pitch	0.6	1	1		Pitch	0.984:1	
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37	
CareDose4D	On	On	On		Scan FOV	Large Body	
Quality ref mAs	100	100	100		Auto mA range	100-500	
kVp	110				kVp	120	
ref kVp		120	120		Smart mA	On	
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15	
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%	
Recon 1 ST Axials					**Recon 1 Noncon/Venous**		
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard	
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35	
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	1.25	
Slice Thickness (mm)	1	1	1		Slice Increment (mm)	1.25	
Slice Increment (mm)	1	1	1		Type	Full	
					ASIR	None	
Coronal/ Sagittal							
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Reformats**		
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard	
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35	
Slice Thickness (mm)	1	1	1		Slice Thickness (mm)	1.25	
Slice Increment (mm)	1	1	1		Slice Increment (mm)	0.625	
					Type	Full	
					ASIR	SS50	

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

MULTIPHASE - Revised-12/21/2023

CTDI: ≤ 25 mGy per acquisition

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Scout from above the diaphragm through the through the SI Joints

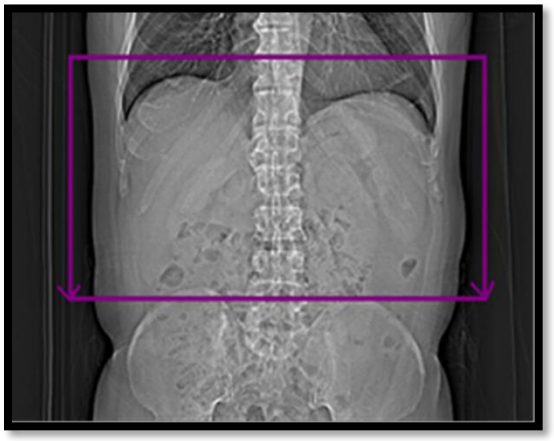
DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Possible Indications:

- **Renal protocol for**: Renal Mass/Cyst, NEW diagnosis of Renal and Transitional Cell Cancer
- **Liver/pancreatic protocol for:** Cirrhosis, Hepatitis, Liver Mass/Cyst, Elevated LFT's Pancreatitis, Pancreatic Mass/Cyst, NEW diagnosis of Pancreatic Cancer

Contrast:

- 50-150ml of 350mg iodine/ml non-ionic IV contrast at the discretion of the Radiologist, not to exceed a total volume of 150cc for a single exam @ 4mL/sec



Patient's weight in lbs.	Volume of Contrast
1-50	1cc/lb.
51-100	50cc
101-210	75cc
211-300	100cc
301-400	125cc
>401	150cc

Scan Parameters: Scan from above to below the anatomy of interest

Renal protocol as follows:

- Non-Contrast
- Arterial Phase
  - Bolus Tracking in Descending Aorta at a level just above diaphragm
  - Monitoring Delay of 4 seconds
  - Scan begins with a trigger of 100 HU with a 10 second delay
- Portal Venous- Above Diaphragm thru Aortic Bifurcation **(Include Chest and/or Pelvis as requested)**
  - Scan begins 25 seconds after arterial acquisition
- Delayed Imaging
  - 10 minute delay

Liver/pancreatic protocol as follows:

- Non-Contrast
- Arterial Phase
  - Bolus Tracking set at level of L1
  - Monitoring Delay of 15 seconds
  - Scan begins with a trigger of 150 HU with a 15 second delay
- Portal Venous- Above Diaphragm thru Aortic Bifurcation **(Include Chest and/or Pelvis as requested)**
  - Scan begins 20 seconds after arterial acquisition
- Delayed Imaging (Not needed for pancreatic evaluation)
  - 5 minute delay

PACS Series in order as performed:

- Topogram
- 3x3 Non-Contrast Axial
- 3x3 Arterial Axial/Coronal/Sagittal
- 3x3 Venous Axial/Coronal/Sagittal
- 3x3 Delay Axial

Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

MULTIPHASE SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660	
Scan Type	Spiral	Spiral	Spiral		Scan Type	Spiral	
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40	
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8	
Pitch	0.6	1	1		Pitch	0.984:1	
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37	
CareDose4D	On	On	On		Scan FOV	Large Body	
Quality ref mAs	100	100	100		Auto mA range	100-500	
kVp	110				kVp	120	
ref kVp		120	120		Smart mA	On	
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15	
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%	
Recon 1 ST Axials					**Recon 1 ST Axials**		
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Algorithm	Standard	
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35	
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	2.5	
Slice Thickness (mm)	3	3	3		Slice Increment (mm)	2.5	
Slice Increment (mm)	3	3	3		Type	Full	
					ASIR	None	
Coronal/ Sagittal							
Kernel	I41s Medium +	I41f Medium +	I41f Medium		**Recon 2 Reformats**		
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard	
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35	
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	2.5	
Slice Increment (mm)	3	3	3		Slice Increment (mm)	1.25	
					Type	Full	
					ASIR	SS50	

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

RENAL CALCULI-Revised-4/22/2020

CTDI: ≤ 10mGy per acquisition

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Scout from above the diaphragm through the lesser trochanters

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Non-contrast images from above the diaphragm through the lesser trochanters

PACS series in order as performed:

- Topogram
- 3x3 Axial
- 3x3 Coronal
- 3x3 Sagittal
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality

RENAL CALCULI SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	Helical
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.5
Pitch	1.1	1.1	1.1		Pitch	1.375:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	55
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	75	90	90		Auto mA range	100-350
kVp	110				kVp	120
ref kVp		100	100		Smart mA	On
Optimize Slider position		3	3		Noise Index	18
					ASIR	70%
Recon 1 ST Axials						
Kernel	I30s Medium	I30f Medium	I30f Med Smooth		**Recon 1 ST Axials**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	3		Window Width/ Level	450/ 35
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	2.5
Slice Increment (mm)	3	3	3		Slice Increment (mm)	2.5
					Type	Full
Coronal/ Sagittal					ASIR	None
Kernel	I30s Medium	I30f Medium	I30f Medium			
Window	Abdomen	Abdomen	Abdomen		**Recon 2 Reformats**	
SAFIRE/ADMIRE	2	2	3		Algorithm	Soft
Slice Thickness (mm)	3	3	3		Window Width/ Level	450/ 35
Slice Increment (mm)	3	3	3		Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
					Type	Full
					ASIR	SS70

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

HEMATURIA-Revised-4/22/2020

CTDI: ≤ 25 mGy per acquisition

Prep: PT to have 32 oz water over 30 minutes prior to scanning

See Patient Positioning for additional information

Setup:

- The patient should be asked to empty their urinary bladder prior to scanning.
- Scout from above the diaphragm through the lesser trochanters
- Unless otherwise contraindicated, the patient will receive 10mg of furosemide 3 minutes prior to injecting IV contrast

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Pre-Contrast
  - Scan from above the kidneys through the lesser trochanters
- Portal Venous Phase
  - IV contrast at the discretion of Radiologist
    a. 100ml of 350mg iodine/ml non ionic contrast
  - 100 second scan delay from start of injection of contrast @ 2ml/sec
  - Scan from above the diaphragm through the kidneys
- Delayed Imaging
  - 12 minute delay
  - Scan from above the kidneys through the lesser trochanters

PACS series in order as performed:

Topogram

- 3x3 Non-contrast Axial
- 3x3 Venous Axial
- 3x3 Venous Coronal MPR
- 3x3 Delay Axial
- 3x3 Delay Coronal MPR
- 3x3 Delay Sagittal MPR
- 10x3 Delay Coronal MIP
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

HEMATURIA SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	Helical
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.8
Pitch	0.6	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	90	100	100		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
ST Axials					**Recon Noncon/ABD C**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	2.5
Slice Thickness (mm)	3	3	3		Slice Increment (mm)	2.5
Slice Increment (mm)	3	3	3		Type	Full
					ASIR	None
Coronal/ Sagittal MPR						
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Reformats**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	1.25
Slice Increment (mm)	3	3	3		Slice Increment (mm)	0.625
					Type	Full
Delay Coronal MIP					ASIR	SS50
Kernel	I41s Medium +	I41f Medium +	I41f Medium +			
Window	Abdomen	Abdomen	Abdomen			
SAFIRE/ADMIRE	2	2	2			
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	3	3	3			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST-Revised-9/18/2020

CTDI: ≤ 25 mGy per acquisition

Used for routine chest evaluation

See Patient Positioning for additional information

Setup: Scout from above apices to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters: (IV Contrast Dose Chart)

- Imaging of the Chest only will use 50 ml of 350 mg/dl
- 17 second scan delay from start of injection of contrast @ 3ml/sec
- Scan from above the apices to the mid body of L1

PACS Series in order as performed:

- Topogram
- 5x5 Axial ST
- 5x5 Axial Bone (if needed for Trauma/MVA)
- 5x5 Axial Lung
- 10x7 Axial Lung MIP
- 5x5 Coronal ST
- 5x5 Sagittal ST
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8
Pitch	0.6	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	50	50	50		Auto mA range	100-350
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	20
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	30%
ST Axials/Cor/Sag						
Kernel	I41s Medium +	I41f Medium +	I41f Medium		**Recon 1 ST Axials**	
Window	Mediastinum	Mediastinum	Mediastinum		Algorithm	Standard
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/35
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
Lung					Type	Full
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		ASIR	None
Window	Lung	Lung	Lung			
SAFIRE/ADMIRE	0	2	0		**Recon 2 Lung**	
Slice Thickness (mm)	5	5	5		Algorithm	Lung
Slice Increment (mm)	5	5	5		Window Width/ Level	2000/ -600
Lung MIP					Slice Thickness (mm)	5
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Slice Increment (mm)	5
Window	Lung	Lung	Lung		Type	Full
SAFIRE/ADMIRE	2	2	2		ASIR	SS10
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	7	7	7		**Recon 3 Reformat**	
Reformat					Algorithm	Standard
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Window Width/ Level	450/40
Window	Mediastinum	Mediastinum	Mediastinum		Slice Thickness (mm)	1.25
SAFIRE/ADMIRE	2	2	2		Slice Increment (mm)	0.625
Slice Thickness (mm)	1	1	1		Type	Full
Slice Increment (mm)	0.5	0.5	0.5		ASIR	SS50

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST AND ABDOMEN-Revised-4/21/2020

CTDI: ≤ 25 mGy per acquisition

Used for routine chest/abdomen evaluation

See Patient Positioning for additional information

Setup: Scout from above apices through the SI joints

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Pre-Contrast (if performed)
  - Scan from above the area of concern through the area of concern
- Portal Venous Phase (IV Contrast Dose Chart)
  - 60 second scan delay from start of injection of contrast @ 2ml/sec
  - Scan from above the apices to the iliac crest (to include entire liver)
- Delayed Imaging (if performed)
  - 8 minute delay
  - Scan from above the area of concern through the area of concern

PACS series in order as performed:

- Topogram
- 5x5 Axial Non Contrast (if performed)
- 5x5 Axial Portal Venous
- 5X5 Axial Lung
- 5x5 Bone Axial (if needed for Trauma/MVA)
- 5x5 Coronal Portal Venous
- 5x5 Sagittal Portal Venous
- 5x5 Axial Delay (if performed)
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST ABDOMEN SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.8
Pitch	0.6	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	90	100	100		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
ST Axials/Cor/Sag						
Kernel	I41s Medium +	I41f Medium +	I41f Medium		**Recon 1 ST Axials**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	1		Window Width/ Level	450/ 35
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
Lung					Type	Full
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		ASIR	None
Window	Lung	Lung	Lung			
SAFIRE/ADMIRE	0	2	0		**Recon 2 Lung**	
Slice Thickness (mm)	5	5	5		Algorithm	Lung
Slice Increment (mm)	5	5	5		Window Width/ Level	2000/-600
Lung MIP					Slice Thickness (mm)	5
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Slice Increment (mm)	5
Window	Lung	Lung	Lung		Type	Full
SAFIRE/ADMIRE	2	2	2		ASIR	SS10
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	7	7	7		**Recon 3 Reformats**	
Reformat lung					Algorithm	Standard
Kernel	I31s Med Smooth	I31s Med Smooth	I41s Medium		Window Width/ Level	450/ 35
Window	Mediastinum	Mediastinum	Abdomen		Slice Thickness (mm)	1.25
SAFIRE/ADMIRE	2	2	2		Slice Increment (mm)	0.625
Slice Thickness (mm)	1	1	1.5		Type	Full
Slice Increment (mm)	0.5	0.5	0.75		ASIR	None

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST, ABDOMEN AND PELVIS-Revised-4/21/2020

CTDI: ≤ 25 mGy per acquisition

Used for routine chest/abdomen/pelvis evaluation

See Oral Contrast Guidelines and Patient Positioning for additional information

- Setup: Scout from above apices through the lesser trochanters

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Pre-Contrast (if performed)
  - Scan from above the area of concern through the area of concern
- Portal Venous Phase (IV Contrast Dose Chart)
  - 60 second scan delay from start of injection of contrast @ 2ml/sec
  - Scan from above the apices through the lesser trochanters
- Delayed Imaging (if performed)
  - 8 minute delay
  - Scan from above the area of concern through the area of concern

PACS series in order as performed:

- Topogram
- 5x5 Axial Non Contrast (if performed)
- 5x5 Axial Portal Venous
- 5X5 Axial Lung
- 5x5 Bone Axial (if needed for Trauma/MVA)
- 5x5 Coronal Portal Venous
- 5x5 Sagittal Portal Venous
- 5x5 Axial Delay (if performed)
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CHEST ABDOMEN PELVIS SCAN PROTOCOL

Kernel	I41s Medium +	I41f Medium +	I41f Medium		**Recon 1 ST Axials**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
Lung					Type	Full
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		ASIR	None
Window	Lung	Lung	Lung			
SAFIRE/ADMIRE	0	2	0		**Recon 2 Lung**	
Slice Thickness (mm)	5	5	5		Algorithm	Lung
Slice Increment (mm)	5	5	5		Window Width/ Level	2000/-600
Lung MIP					Slice Thickness (mm)	5
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Slice Increment (mm)	5
Window	Lung	Lung	Lung		Type	Full
SAFIRE/ADMIRE	2	2	2		ASIR	SS10
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	7	7	7		**Recon 3 Reformats**	
Reformat Lung					Algorithm	Standard
Kernel	I31s Med Smooth	I31s Med Smooth	I41f Medium		Window Width/ Level	450/ 35
Window	Mediastinum	Mediastinum	Abdomen		Slice Thickness (mm)	1.25
SAFIRE/ADMIRE	2	2	2		Slice Increment (mm)	0.625
Slice Thickness (mm)	1	1	1.5		Type	Full
Slice Increment (mm)	0.5	0.5	0.75		ASIR	None
					Recon 4 MIP Reformats	
					Algorithm	Standard
					Window Width/ Level	2000/-600
					Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
					Type	Plus
					ASIR	SS70

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

SUPER DIMENSIONAL CHEST-Revised-4/22/2020

CTDI: ≤ 10 mGy per acquisition

See Patient Positioning for additional information

Setup: Scout from above apices to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters: (IV Contrast Dose Chart)

Chest WITH Contrast

Scan from above the apices to the mid body of L1

1. **IV contrast at the discretion of the Radiologist**
    a. **50 ml of 350 mg/dl non-ionic contrast @ 3ml/sec**
2. **17 second delay**

Chest WITHOUT Contrast

Scan from above the apices to the mid body of L1

PACS Series in order as performed:

- Topogram
- 5x5 Axial ST
- 1 X 0.6 CD Data Set
- 5x5 Axial Lung
- 5x5 Coronal ST
- 5x5 Sagittal ST
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

SUPER DIMENSIONAL CHEST SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.5
Pitch	0.8	0.6	0.6		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	50	50	50		Auto mA range	100-350
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	20
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	30%
Recon 1 ST Axial					**Recon 1 ST Axial**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Algorithm	Standard
Window	Mediastinum	Mediastinum	Mediastinum		Window Width/ Level	450/35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5
Slice Increment (mm)	5	5	5		Type	Full
					ASIR	SS20
Recon 2 Lung						
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		**Recon 2 Lung**	
Window	Lung	Lung	Lung		Algorithm	Lung
SAFIRE/ADMIRE	0	2	0		Window Width/ Level	2000/ -600
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
					Type	Full
Coronal/ Sagittal					ASIR	None
Kernel	I41s Medium +	I41f Medium +	I41f Medium			
Window	Mediastinum	Mediastinum	Mediastinum		**Recon 3 Reformats & CD Data Set**	
SAFIRE/ADMIRE	2	2	2		Algorithm	Standard
Slice Thickness (mm)	5	5	5		Window Width/ Level	450/40
Slice Increment (mm)	5	5	5		Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
CD Data Set					Type	Plus
Kernel	I41s Medium +	I41f Medium +	I30f Med Smooth		ASIR	SS20
Window	Mediastinum	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	2	2	2			
Slice Thickness (mm)	1	1	1			
Slice Increment (mm)	0.6	0.6	0.5			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

LUNG CANCER SCREENING-Revised-9/18/2020

CTDI: ≤ 3 mGy per acquisition

Used when screening criteria is met

See Patient Positioning for additional information

Setup: Scout from above apices to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Scan from above the apices to the mid body of L1

Automatic dose modulation such as Care Dose or Auto MA will be utilized to adjust the technique accordingly based on patient body habitus

PACS Series in order as performed:

- Topogram
- 2x2 Axial ST
- 2x2 Axial Lung
- 10x7 Axial Lung MIP
- 2x2 Coronal ST
- 2x2 Sagittal ST
- Dose report and/or Patient Protocol Page

Tech must enter lung screening info in MI under lung tree-3 entries *Back to Body Protocol Page*

Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality

LUNG SCREENING SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.3	0.3		Rotation Time (sec)	0.5
Pitch	0.8	0.8	0.8		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	20	20	20		Auto mA range	25-110
kVp	110				kVp	100
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	32
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	70%
ST Axials/Cor/Sag						
Kernel	I30s med smooth	I30f medium smooth	I30f medium smooth		**Recon 1 ST Axials**	
Window	Mediastinum	Mediastinum	Mediastinum		Algorithm	Standard
SAFIRE/ADMIRE	2	0	2		Window Width/ Level	450/40
Slice Thickness (mm)	2	2	2		Slice Thickness (mm)	2.5
Slice Increment (mm)	2	2	2		Slice Increment (mm)	2.5
Recon 2 Lung					Type	Plus
Kernel	I80s Very Sharp	I70f Very Sharp	B70f Very Sharp		ASIR	none
Window	Lung	Lung	Lung			
SAFIRE/ADMIRE	2	0	0		**Recon 2 Lung**	
Slice Thickness (mm)	2	2	2		Algorithm	Lung
Slice Increment (mm)	2	2	2		Window Width/ Level	2000/ -600
Lung MIP					Slice Thickness (mm)	2.5
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Slice Increment (mm)	2.5
Window	Lung	Lung	Lung		Type	Plus
SAFIRE/ADMIRE	2	2	2		ASIR	SS70
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	7	7	7		**Recon 3 Reformat**	
Reformat					Algorithm	Standard
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Window Width/ Level	450/45
Window	Mediastinum	Mediastinum	Mediastinum		Slice Thickness (mm)	2.5
SAFIRE/ADMIRE	2	2	2		Slice Increment (mm)	1.25
Slice Thickness (mm)	1	1	1.5		Type	Plus
Slice Increment (mm)	0.5	0.5	0.7		ASIR	SS70

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

LOW DOSE CHEST-Revised-9/18/2020

CTDI: ≤ 3 mGy per acquisition

Used when lung screening criteria is NOT met or as ordered

See Patient Positioning for additional information

Setup: Scout from above apices to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Scan from above the apices to the mid body of L1

PACS Series in order as performed:

- Topogram
- 2x2 Axial ST
- 2x2 Axial Lung
- 10x7 Axial Lung MIP
- 2x2 Coronal ST
- 2x2 Sagittal ST
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

LOW DOSE CHEST SCAN PROTOCOL

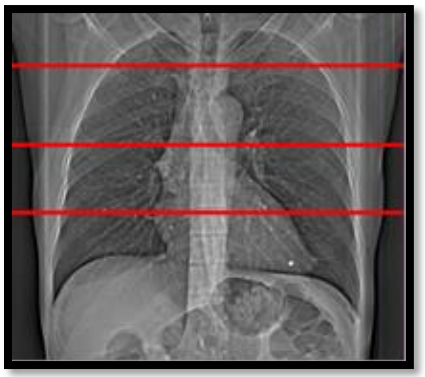
Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.3	0.3		Rotation Time (sec)	0.5
Pitch	0.8	0.8	0.8		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	20	20	20		Auto mA range	25-110
kVp	110				kVp	100
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	32
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	70%
ST Axials/Cor/Sag						
Kernel	I30s med smooth	I30f medium smooth	I30f medium smooth		**Recon 1 ST Axials**	
Window	Mediastinum	Mediastinum	Mediastinum		Algorithm	Standard
SAFIRE/ADMIRE	2	0	2		Window Width/ Level	450/35
Slice Thickness (mm)	2	2	2		Slice Thickness (mm)	2.5
Slice Increment (mm)	2	2	2		Slice Increment (mm)	2.5
Recon 2 Lung					Type	Plus
Kernel	I80s Very Sharp	I70f Very Sharp	B70f Very Sharp		ASIR	None
Window	Lung	Lung	Lung			
SAFIRE/ADMIRE	2	0	0		**Recon 2 Lung**	
Slice Thickness (mm)	2	2	2		Algorithm	Lung
Slice Increment (mm)	2	2	2		Window Width/ Level	2000/ -600
Lung MIP					Slice Thickness (mm)	2.5
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Slice Increment (mm)	2.5
Window	Lung	Lung	Lung		Type	Plus
SAFIRE/ADMIRE	2	2	2		ASIR	SS70
Slice Thickness (mm)	10	10	10			
Slice Increment (mm)	7	7	7		**Recon 3 Reformat**	
Reformat					Algorithm	Standard
Kernel	I31s Med Smooth	I31s Med Smooth	I30f Med Smooth		Window Width/ Level	450/35
Window	Mediastinum	Mediastinum	Mediastinum		Slice Thickness (mm)	2.5
SAFIRE/ADMIRE	2	2	2		Slice Increment (mm)	1.2
Slice Thickness (mm)	1	1	1.5		Type	Plus
Slice Increment (mm)	0.5	0.5	0.7		ASIR	SS70

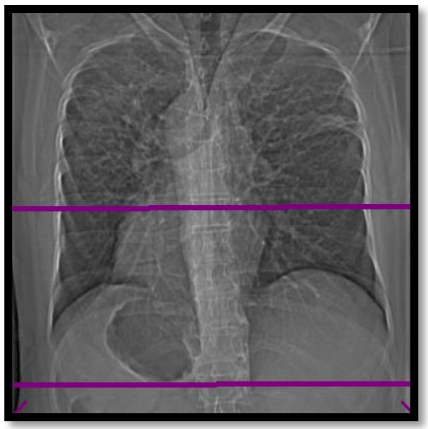
**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

HI RES CHEST-Revised-11/20/2020

CTDI: < 50 mGy combined CTDIvol for all scans

See Patient Positioning for additional information





Setup: Scout from above apices to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- **Supine Scan:**
  - Scan from above the apices to the mid body of L1 during full inspiration
- **Dynamic Expiration:**
  - These axial/sequential scans will be performed while the patient is actively breathing out
    - While in the supine position have the patient take in a full breath and slowly breathe out.
    - While the patient is breathing out 4 rapid sequential scans will be performed at the same table position. This will be done at three different levels.
  - There will be 4 sequential 2- 2.5 mm axial scans performed at three different levels
    - Upper Chest ~ midway between the carina and apices
    - Mid Chest at the level of the carina
    - Lower Chest~ midway between the carina and the costophrenic angles
- **Prone Scan:**
  - Scan the lower one third of the chest in the prone position during full inspiration

PACS Series in order as performed:

- Topogram
- 5x5 Supine Axial ST
- 1x5 Supine Axial Lung
- 1x5 Supine Coronal Lung
- 1x5 Supine Sagittal Lung
- Dynamic Expiration 1, 2, and 3
- 5x5 Prone Axial ST
- 1x5 Prone Axial Lung
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

HI RES CHEST SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64
Scan Type	spiral	spiral	spiral
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6
Rotation Time (sec)	0.6	0.6	0.5
Pitch	0.6	1	0.6
Scan FOV	Large	Large	Large
CareDose4D	On	On	On
Quality ref mAs	50	100	50
kVp	110		
ref kVp		120	120
Optimize Slider position		3	3
Recon 1 Axial ST			
Kernel	I41s Medium +	I41s Medium +	I41s Medium
Window	Mediastinum	Mediastinum	Mediastinum
SAFIRE/ADMIRE	2	2	2
Slice Thickness (mm)	5	5	5
Slice Increment (mm)	5	5	5
Recon 2 Lung			
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp
Window	Lung	Lung	Lung
SAFIRE/ADMIRE	0	0	0
Slice Thickness (mm)	1	1	1
Slice Increment (mm)	5	5	5
Coronal/Sagittal			
Kernel	I41s Medium +	I41s Medium +	I70f Very Sharp
Window	Mediastinum	Mediastinum	Lung
SAFIRE/ADMIRE	2	2	1
Slice Thickness (mm)	1	1	1
Slice Increment (mm)	5	5	5
Dynamic Expiration			
Scan Type	sequential	sequential	sequential
Rotation Time (sec)	0.6	0.33	0.33
Detector Configuration	1 x 2	2 x 1	2 x 1
Feed	0	0	0
Scan FOV	Large	Large	Large
CareDose4D	On	On	On
Quality ref mAs	25	50	50
kVp	110		
ref kVp		120	120
Optimize Slider position		3	3
Dynamic Expiration Recons			
Kernel	I80s Very Sharp	I70f Medium	B80f Ultra Sharp
Window	Lung	Lung	Lung
SAFIRE/ADMIRE	0	0	0
Slice Thickness (mm)	1	1	1
Slice Increment (mm)	0	0	0

Scanner	Optima 660
Scan Type	Helical
Detector Coverage (mm)	20
Rotation Time (sec)	0.5
Pitch	0.968:1
Speed (mm/rot)	19.375
Scan FOV	Large Body
Auto mA range	80-250
kVp	100
Smart mA	On
Noise Index	15
ASIR	40%
Recon 1 Axial ST	
Algorithm	Standard
Window Width/ Level	400/40
Slice Thickness (mm)	5
Slice Increment (mm)	5
Type	Full
ASIR	SS20
Recon 2 Lung	
Algorithm	Lung
Window Width/ Level	2000/ -600
Slice Thickness (mm)	5
Slice Increment (mm)	5
Type	Full
ASIR	SS40
Recon 3 Reformat	
Algorithm	Lung
Window Width/ Level	2000/ -600
Slice Thickness (mm)	0.625
Slice Increment (mm)	0.625
Type	Plus
ASIR	SS40
Dynamic Expiration	
Scan Type	Axial
Interval	0
Rotation Time (sec)	0.5
Thick	1.25
Mode	1i
Rows	2
Scan FOV	Large Body
Auto mA range	50-100
kVp	80
Smart mA	On
Noise Index	15
Algorithm	Lung
Window Width/Level	2000/ -600
Type	Full
ASIR	SS70

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

PULMONX ZEPHYR/SPIRATION CHEST-Revised-6/18/2020

CTDI: < 20 mGy

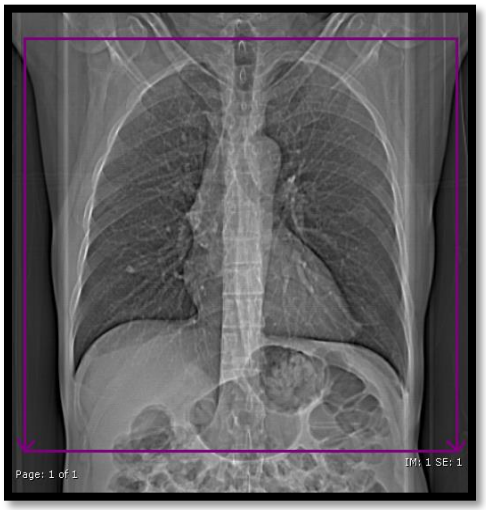
See Patient Positioning for additional information

Setup: Supine, AP/Lateral Scout from above the apices through the adrenal glands

DFOV: Appropriate for patients body habitus. Use same DFOV as prior exam when available.

Scan Parameters:

Set up scan range from above apices to mid L1



Chest without Contrast

1. Scan from above the apices to the mid body of L1 on full inspiration
2. Ensure no movement artifacts

PACS Series:

- Topogram
- 5x5 Axial Soft Tissue
- 1x 0.8 Soft Tissue CD Data Set – Entire Lung Field must be present
- 5x5 Axial Lung
- 5x5 Coronal Soft Tissue
- 5x5 Sagittal Soft Tissue
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

PULMONX ZEPHYR / SPIRATION CHEST SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.8
Pitch	0.8	0.6	0.6		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	50	50	50		Auto mA range	100-350
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	20
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	30%
Recon 1 ST Axial					**Recon 1 ST Axial**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Algorithm	Standard
Window	Mediastinum	Mediastinum	Mediastinum		Window Width/ Level	450/40
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5
Slice Increment (mm)	5	5	5		Type	Full
					ASIR	None
Recon 2 Lung						
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		**Recon 2 Lung**	
Window	Lung	Lung	Lung		Algorithm	Lung
SAFIRE/ADMIRE	0	2	0		Window Width/ Level	2000/ -600
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
					Type	Full
Coronal/ Sagittal					ASIR	None
Kernel	I41s Medium +	I41f Medium +	I41f Medium			
Window	Mediastinum	Mediastinum	Mediastinum		**Recon 3 Reformats & CD Data Set**	
SAFIRE/ADMIRE	2	2	2		Algorithm	Standard
Slice Thickness (mm)	5	5	5		Window Width/ Level	450/35
Slice Increment (mm)	5	5	5		Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
CD Data Set					Type	Full
Kernel	I41s Medium +	I41f Medium +	I30f Med Smooth		ASIR	SS20
Window	Mediastinum	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	2	2	0			
Slice Thickness (mm)	1	1	1			
Slice Increment (mm)	0.6	0.6	0.8			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ION BRONCH CHEST-Revised-9/16/2021

CTDI: < 10 mGy

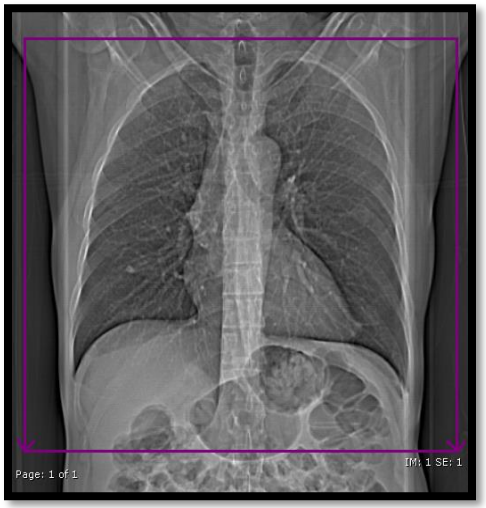
See Patient Positioning for additional information

Setup: Supine, PA/Lateral Scout from above the apices to mid L1

DFOV: Appropriate for patients body habitus. Use same DFOV as prior exam when available.

Scan Parameters:

Set up scan range from above apices to mid L1



Chest without Contrast

- Scan from above the apices to the mid body of L1 on full inspiration
- Ensure no movement artifacts

Chest with Contrast

- Contrast if requested
    a. 50ml Omnipaque 350 @ 3ml/sec with a 17 second delay from start of injection

PACS Series:

- Topogram
- 5x5 Axial Soft Tissue
- 1x 0.6 CD Data Set <32 cm FOV
- 5x5 Axial Lung
- 5x5 Coronal Soft Tissue
- 5x5 Sagittal Soft Tissue
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

APPENDIX I: CT scan settings for PlanPoint software

Table A-1 Minimum radiation dose (CTDIvol; unit mGy)

Recon. Method / Patient Size	Small-Average (BMI ≤25)	Larger (BMI>25)
Using non-iterative reconstruction	6	10
Using iterative reconstruction	3	5

Table A-2 Scanner Settings

Parameter	Rationale	Recommended Values
kVp	Reduced artifacts in the lung apexes	110 – 140 kV
Pitch	Reduced motion artifacts from breathing or cardiac cycle	≥ 1.0
Rotation time	Fastest rotation time reduces motion artifacts	NA
Slice spacing	Ensure high resolution to identify peripheral airways	0.5 mm – 0.8 mm
Slice thickness	Zero or slight overlap	0.5 mm – 1.0 mm
Field of View	Minimize the field of view to the lungs	≤ 32 cm
Iterative reconstruction	Low to medium strengths are compatible; defer to department specific lung imaging protocols	NA

Table A-3 Scanner Settings, Reconstruction Kernel

Parameter	Rationale	Recommended Values			
		Siemens™	Philips™	GE™	Toshiba[3]
Reconstruction kernel	Multiple reconstruction kernels are compatible; medium sharpness is ideal	B31f	C 0	Standard Body	FC05

Information taken from - PlanPoint Software IFU Appendix - PN554076

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ION BRONCH PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6		Detector Coverage (mm)	20
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.5
Pitch	0.8	0.6	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	50	50	50		Auto mA range	100-350
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	20
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	30%
ST					**Recon 1 ST Axial**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Algorithm	Standard
Window	Mediastinum	Mediastinum	Mediastinum		Window Width/ Level	450/35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5
Slice Thickness (mm)	5	5	5		Slice Increment (mm)	5
Slice Increment (mm)	5	5	5		Type	Full
					ASIR	None
Lung						
Kernel	I80s Very Sharp	I70f Medium	B70f Very Sharp		**Recon 2 Lung**	
Window	Lung	Lung	Lung		Algorithm	Lung
SAFIRE/ADMIRE	0	2	0		Window Width/ Level	2000/ -600
Slice Thickness (mm)	5	5	5		Slice Thickness (mm)	5
Slice Increment (mm)	5	5	5		Slice Increment (mm)	5
					Type	Full
Coronal/ Sagittal					ASIR	None
Kernel	I41s Medium +	I41f Medium +	I41f Medium			
Window	Mediastinum	Mediastinum	Mediastinum		**Recon 3 Reformats & CD Data Set**	
SAFIRE/ADMIRE	2	2	2		Algorithm	Standard
Slice Thickness (mm)	5	5	5		Window Width/ Level	450/35
Slice Increment (mm)	5	5	5		Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
CD Data Set					Type	Full
Kernel	I41s Medium +	I41f Medium +	I31f Med Smooth		ASIR	SS20
Window	Mediastinum	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	2	2	2			
Slice Thickness (mm)	1	1	1			
Slice Increment (mm)	0.6	0.6	0.5			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

AIRWAY-Revised-4/22/2020

CTDI: ~10 mGy per acquisition
Used for evaluation of the airway

Setup: Scout from above the frontal sinuses through the diaphragm

PT Positioning: Patient to lie supine with head in flat square sponge to open airway, arms up over head and supported.
See Patient Positioning for additional information

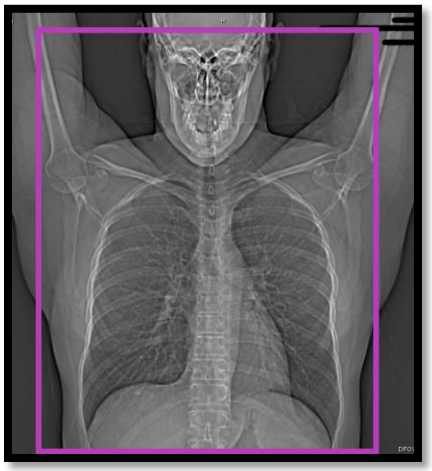
DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

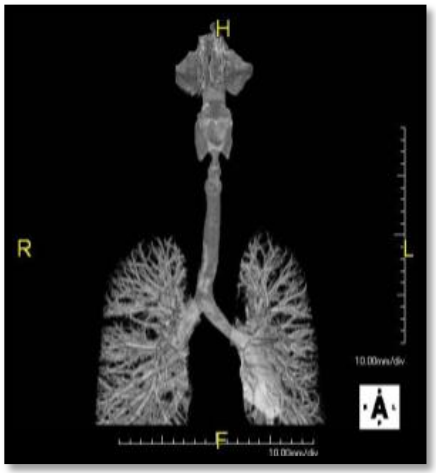
Scan Parameters:

- Inspiration
  - Scan from above the frontal sinuses through the diaphragm on full inspiration.
- Expiration
  - Scan from above the frontal sinuses through the diaphragm on full expiration.

PACS Series in order as performed:

- Topogram
- 3x3 Axial ST Inspiration
- 3x3 Axial Lung
- 3x3 Coronal ST
- 3x3 Sagittal ST
- 3x3 Axial ST Expiration
- 3x3 Axial Lung
- 3x3 Coronal ST
- 3x3 Sagittal ST
- Dose report and/or Patient Protocol Page
- 3D lab will create and submit VRT airway rotations





Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

AIRWAY SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	Spiral	Spiral	Spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.5	0.5		Rotation Time (sec)	0.5
Pitch	0.8	0.6	0.6		Pitch	0.938:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.375
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	50	50	50		Auto mA range	80-300
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3	3		Noise Index	15
					ASIR	20%
Axial ST						
Kernel	I41s Medium +	I41f Medium +	I41f Medium		**Recon 1 Axial ST**	
Window	Mediastinum	Mediastinum	Mediastinum		Algorithm	Standard
SAFIRE/ADMIRE	0	0	2		Window Width/ Level	350/40
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	2.5
Slice Increment (mm)	3	3	3		Slice Increment (mm)	2.5
					Type	Full
Lung					ASIR	SS20
Kernel	I80s Very Sharp	I70f very sharp	I70f Very Sharp AS			
Window	Lung	Lung	Lung		**Recon 2 Lung**	
SAFIRE/ADMIRE	0	0	1		Algorithm	Lung
Slice Thickness (mm)	3	3	3		Window Width/ Level	2000/ -600
Slice Increment (mm)	3	3	3		Slice Thickness (mm)	2.5
					Slice Increment (mm)	2.5
Reformat for 3D					Type	Full
Kernel	I41s Medium +	I41f Medium +	I41f Medium		ASIR	None
Window	Mediastinum	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	0	0	2		**Recon 3 Reformats**	
Slice Thickness (mm)	1.5	0.75	0.75		Algorithm	Soft
Slice Increment (mm)	0.7	0.5	0.5		Window Width/ Level	350/40
					Slice Thickness (mm)	1.25
Coronal/ Sagittal					Slice Increment (mm)	0.625
Kernel	I41s Medium +	I41f Medium +	I70f Very Sharp AS		Type	Full
Window	Mediastinum	Mediastinum	Lung		ASIR	SS20
SAFIRE/ADMIRE	0	0	1			
Slice Thickness (mm)	3	3	3			
Slice Increment (mm)	3	3	3			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

AIR TRAPPING-Revised-1/27/2011

CTDI: ~10 mGy per acquisition
Used for evaluating air trapping

* Both arms should be raised above the head for optimal image quality. See Patient Positioning for additional information

Setup: Scout from above the apices through the diaphragm

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- **Inspiration**
  - Scan from above the apices through the diaphragm on full inspiration.
- **Expiration**
  - Scan from above the apices through the diaphragm on full expiration

PACS Series in order as performed:

- Topogram
- 5x5 Axial ST Inspiration
- 1x5 Axial Inspiration Lung
- 1x5 Coronal/Sagittal Inspiration
- 5x5 Axial ST Expiration
- 1x5 Axial Expiration Lung
- 1x5 Coronal/Sagittal Expiration
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

AIR TRAPPING PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64
Scan Type	Spiral	Spiral	Spiral
Detector Configuration	32 x 0.6	32 x 0.6	64 x 0.6
Rotation Time (sec)	0.6	0.5	0.5
Pitch	0.8	0.6	0.6
Scan FOV	Large	Large	Large
CareDose4D	On	On	On
Quality ref mAs	50	50	50
kVp	110		
ref kVp		120	120
Optimize Slider position		3	3
Recon 1 ST Axial			
Kernel	I41s Medium +	I41f Medium +	I41f Medium
Window	Mediastinum	Mediastinum	Mediastinum
SAFIRE/ADMIRE	0	2	2
Slice Thickness (mm)	5	5	5
Slice Increment (mm)	5	5	5
Recon 2 Lung			
Kernel	I80s Very Sharp	I70f very sharp	70f Very Sharp AS
Window	Lung	Lung	Lung
SAFIRE/ADMIRE	0	0	1
Slice Thickness (mm)	1	1	1
Slice Increment (mm)	5	5	5
Coronal/ Sagittal			
Kernel	I80s Very Sharp	I70f very sharp	I70f very sharp
Window	Lung	Lung	Lung
SAFIRE/ADMIRE	0	0	1
Slice Thickness (mm)	1	1	1
Slice Increment (mm)	5	5	5

Scanner	Optima 660
Scan Type	spiral
Detector Coverage (mm)	40
Rotation Time (sec)	0.8
Pitch	1.375:1
Speed (mm/rot)	55
Scan FOV	Large Body
Auto mA range	100-500
kVp	100
Smart mA	On
Noise Index	15
ASIR	50%
Recon 1 ST Axial	
Algorithm	Standard
Window Width/ Level	400/ 40
Slice Thickness (mm)	5
Slice Increment (mm)	5
Type	Full
ASIR	SS50
Recon 2 Lung	
Algorithm	Lung
Window Width/ Level	2000/ -600
Slice Thickness (mm)	1.25
Slice Increment (mm)	5
Type	Full
ASIR	None
Recon 3 Reformats	
Algorithm	Lung
Window Width/ Level	2000/ -600
Slice Thickness (mm)	1.25
Slice Increment (mm)	0.625
Type	Full
ASIR	None

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ESOPHAGRAM -Revised-4/22/2020

CTDI: ≤ 25 mGy per acquisition

See Patient Positioning for additional information

Setup: Scout from above the mandible to mid L1

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- **Scan 1: Chest without oral contrast:**
  - This scan is performed from mid neck through the stomach without oral contrast

Oral Contrast Mixture Instructions used for the second scan

- In the first cup, mix approximately 12 ounces of water with 25ml Omnipaque 350 or similar contrast
- In the second cup, mix approximately 12 ounces of water, 1 packet of ThickenUp, SimplyThick or similar thickening agent with 25ml Omnipaque 350 or similar contrast

- **Scan 2: Chest with oral contrast:**
- Oral contrast mixes given for Scan 2. Assist the patient in swallowing thin mixture first while lying flat. Next, have patient swallow part of the thickened mixture and instruct them to hold the last bit in their mouth. Exit the scan room and have the patient swallow the remaining mixture as Scan 2 is performed.
  - Contrast if requested- 50ml Omnipaque 350 @ 3ml/sec with a 17 second delay from start of injection (as they swallow)
  - In the event it is necessary to have the patient slightly sitting up while drinking, it is essential to take care to not move the patient out of position
  - This scan is performed from above the lower mandible through the stomach

PACS Series in order as performed:

- Topogram
- 3x3 Noncontrast Axial ST
- 3x3 Noncontrast Axial Lung
- 3x3 Oral contrast Axial ST
- 3x3 Oral contrast Axial Lung
- 2x1 Oral contrast Axial ST (focused DFOV ~30cm)
- 3x3 Coronal Lung
- 3x3 Sagittal Lung
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ESOPHAGRAM SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660	
Scan Type	spiral	spiral	spiral		Scan Type	Helical	
Detector Configuration	32 x 0.6	40 x 0.6	64 x 0.6		Detector Coverage (mm)	40	
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.6	
Pitch	0.6	1	0.6		Pitch	0.984:1	
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37	
CareDose4D	On	On	On		Scan FOV	Large Body	
Quality ref mAs	50	100	50		Auto mA range	100-500	
kVp	110				kVp	120	
ref kVp		120	120		Smart mA	On	
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15	
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%	
Recon 1 ST Axial					**Recon 1 ST Axial**		
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Algorithm	Standard	
Window	Mediastinum	Mediastinum	Mediastinum		Window Width/ Level	450/35	
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	2.5	
Slice Thickness (mm)	3	3	3		Slice Increment (mm)	2.5	
Slice Increment (mm)	3	3	3		Type	Full	
					ASIR	None	
Recon 2 Lung							
Kernel	I80s Very Sharp	I70f Medium	I70f Very Sharp AS		**Recon 2 Lung**		
Window	Lung	Lung	Lung		Algorithm	Lung	
SAFIRE/ADMIRE	0	2	1		Window Width/ Level	2000/ -600	
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	2.5	
Slice Increment (mm)	3	3	3		Slice Increment (mm)	2.5	
					Type	Full	
Recon 3 Oral contrast 2x1					ASIR	SS10	
Kernel	I41s Medium +	I41f Medium +	I41f Medium				
Window	Mediastinum	Mediastinum	Mediastinum		**Recon 2 Reformats**		
SAFIRE/ADMIRE	2	2	2		Algorithm	Standard	
Slice Thickness (mm)	2	2	2		Window Width/ Level	450/35	
Slice Increment (mm)	1	1	1		Slice Thickness (mm)	1.25	
					Slice Increment (mm)	0.625	
Coronal/ Sagittal					Type	Full	
Kernel	I41s Medium +	I41f Medium +	I41f Medium		ASIR	SS40	
Window	Mediastinum	Mediastinum	Mediastinum				
SAFIRE/ADMIRE	2	2	2				
Slice Thickness (mm)	3	3	3				
Slice Increment (mm)	3	3	3				

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ENTEROGRAPHY-Revised-4/22/2020

CTDI: ~10- 20 mGy per acquisition

See Patient Positioning for additional information

PT Preparation: A total of three 450ml bottles of Breeza are to be consumed, the total prep time is approximately 45 minutes

1. The first 450ml dose is given 45 minutes prior to scan time.
   - After the first dose and in between doses the patient should lie on their right side.
2. A second 450ml dose will be consumed 30 minutes prior to the scan.
3. The final bottle will be given 15 minutes prior to the scan time
4. The patient should drink 225ml of water ten minutes prior to lying down on the CT table.

****Radiologist Questions should be directed to your designated Body MR Radiologist****

- **Setup**: Supine, AP/Lateral Scout from above the diaphragm through the lesser trochanters

DFOV: Appropriate for patient body habitus. Use same DFOV as prior exam when available.

Scan Parameters:

Abdomen With and Pelvis With Contrast

Arterial

- Scan from above the diaphragm through the lesser trochanters

1. IV Contrast:
   a. at the discretion of the Radiologist
   b. 100-150 ml of 320- 370 mg iodine/ml non-ionic contrast @ 4.5 ml/sec (50 ml saline chase @ 4.5 ml/sec if the facility has a dual head injector) Not to exceed a total volume of 150 cc for a single exam
   c. If unable to access an 18 gauge, please use a 20 gauge and adjust to 4ml/sec.

Patient's weight in lbs.	Patients weight in kg	Volume of Contrast
≤99lbs	44kg	1 cc/lb. or 2cc/kg
100-210lbs	45-95kg	100ml
211-290lbs	96-130kg	125ml
≥291lbs	≥131kg	150ml

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

2. Smart Prep/Bolus Tracking – start scanning upon entry of contrast into the descending aorta at a level just above the diaphragm or trigger at 80 HU

Portal Venous Phase

1. 30 second delay after arterial scan is complete
2. Scan from above the diaphragm through the lesser trochanters

Reconstructions

1. Recon 1 is an axial data set
2. Recon 2 is for MPR's and VRT's
3. Coronal and Sagittal MPR's should be reconstructed at 3mm x 3mm

PACS Series:

- Topogram
- Arterial Axial
- Venous Axial
- Arterial Coronal
- Venous Coronal
- Arterial Sagittal
- Venous Sagittal
- VRT and MIP Rotations (3D)

Back to Body Protocol Page

ENTEROGRAPHY SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8
Pitch	0.6	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	140	140	140		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
Recon 1 ST Axial						
Kernel	I41s Medium +	I41f Medium +	I41f Medium			
Window	Abdomen	Abdomen	Abdomen		**Recon Arterial/Venous**	
SAFIRE/ADMIRE	2	2	2		Algorithm	Standard
Slice Thickness (mm)	3	3	3		Window Width/ Level	400/40
Slice Increment (mm)	3	3	3		Slice Thickness (mm)	2.5
Coronal/ Sagittal					Slice Increment (mm)	2.5
Kernel	I41s Medium +	I41f Medium +	I41f Medium		Type	None
Window	Angio	Angio	CT Angio		ASIR	SS20
SAFIRE/ADMIRE	2	2	2			
Slice Thickness (mm)	3	3	3		**Recon 2 Reformats**	
Slice Increment (mm)	3	3	3		Algorithm	Soft
Reformat					Window Width/ Level	700/80
Kernel	I30s Med Smooth	I30s Med Smooth	I30s Med Smooth		Slice Thickness (mm)	1.25
Window	Abdomen	Abdomen	Abdomen		Slice Increment (mm)	0.625
SAFIRE/ADMIRE	2	2	2		Type	Full
Slice Thickness (mm)	1.5	1.5	1.5		ASIR	SS20
Slice Increment (mm)	1	1	0.75			
Venous						
Kernel	I41s Medium +	I41f Medium +	I41f Medium			
Window	Abdomen	Abdomen	Abdomen			
SAFIRE/ADMIRE	2	2	2			
Slice Thickness (mm)	3	3	3			
Slice Increment (mm)	3	3	3			

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

VIRTUAL COLONOGRAPHY-Revised-4/22/2020

CTDI: ≤ 25 mGy for exam

See Patient Positioning for additional information

Patient Preparation: Verify the patient has completed the appropriate bowel cleansing prep and that the last bowel movement was clear liquid. If not clear, consult with Radiologist on whether to proceed.

Setup: Insufflate colon with insufflator. Scout from above the diaphragm through the lesser trochanters. If you feel it is inadequately insufflated, consult with Radiologist before proceeding with exam.

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Supine Imaging: If contrast is indicated see: (IV Contrast Dose Chart)
  - Scan from below the lesser trochanters to above the diaphragm
  - If contrast indicated, 60sec scan delay after contrast @ 2ml/sec
- Prone Imaging
  - Scan from below the lesser trochanters to above the diaphragm

PACS series in order as performed:

- Supine Topogram
- 2x1 Axial Supine
- 2x1 Coronal Supine
- 2x2 Sagittal Supine
- Prone Topogram
- 2x1 Axial Prone
- 2x1 Coronal Prone
- 2x1 Sagittal Prone
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

VIRTUAL COLONOGRAPHY SCAN PROTOCOL

Scanner	**Perspective**					
Scan Type	Spiral					
Detector Configuration	32 x 0.6					
Rotation Time (sec)	1					
Pitch	1					
Scan FOV	Large					
CareDose4D	On					
Quality ref mAs	90					
kVp	110					
Recon 1 Axial						
Kernel	I41s Medium +					
Window	Abdomen					
SAFIRE/ADMIRE	2					
Slice Thickness (mm)	2					
Slice Increment (mm)	1					
Recon 2 Reformat						
Kernel	I41s Medium +					
Window	Abdomen					
SAFIRE/ADMIRE	2					
Slice Thickness (mm)	1					
Slice Increment (mm)	0.5					
Coronal/ Sagittal						
Kernel	I41s Medium +					
Window	Abdomen					
SAFIRE/ADMIRE	2					
Slice Thickness (mm)	2					
Slice Increment (mm)	1					

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CYSTOGRAPHY-Revised-4/16/2019

CTDI: ≤ 10-25 mGy per acquisition

See Patient Positioning for additional information

Patient Preparation: Catheterize patient. Mix 500ml normal saline and 25cc's omnipaque 350

Setup: Scout from above the diaphragm through the lesser trochanters.

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters:

- Empty Bladder
  - Scan from above and through the entire urinary bladder
- Maximally Distended Bladder
  - Bladder must be distended with at least 250ml of contrast mixture.
  - If unable to tolerate, radiologist mush be notified before proceeding with exam
  - Scan from above and through the entire urinary bladder
- Post Void. *If IV contrast is indicated see: (IV Contrast Dose Chart)
  - Drain contrast mixture from bladder
  - If contrast indicated, 60sec scan delay after contrast @ 2ml/sec
  - Scan from above the diaphragm through the urinary bladder

PACS series in order as performed:

- Topogram
- 5x5 Empty Bladder Axial
- 5x5 Empty Bladder Coronal
- 5x5 Empty Bladder Sagittal
- 5x5 Distended Bladder Axial
- 5x5 Distended Bladder Coronal
- 5x5 Distended Bladder Sagittal
- 5x5 Post Void Abd/Pel Axial
- 5x5 Post Void Abd/Pel Coronal
- 5x5 Post Void Abd/Sagittal
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CYSTOGRAPHY SCAN PROTOCOL

Scanner	**Perspective**					
Scan Type	Spiral					
Detector Configuration	32 x 1.2					
Rotation Time (sec)	0.6					
Pitch	0.6					
Scan FOV	Large					
CareDose4D	On					
Quality ref mAs	90					
kVp	110					
Recon 1 Axial						
Kernel	I41s Medium +					
Window	Abdomen					
SAFIRE/ADMIRE	2					
Slice Thickness (mm)	5					
Slice Increment (mm)	5					
Coronal/ Sagittal						
Kernel	I41s Medium +					
Window	Abdomen					
SAFIRE/ADMIRE	2					
Slice Thickness (mm)	5					
Slice Increment (mm)	5					

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CALCIUM SCORE-Revised-2/22/2022

CTDI: ≤ 25 mGy per acquisition

See Patient Positioning for additional information

Setup: Scout from above the apices through the heart.

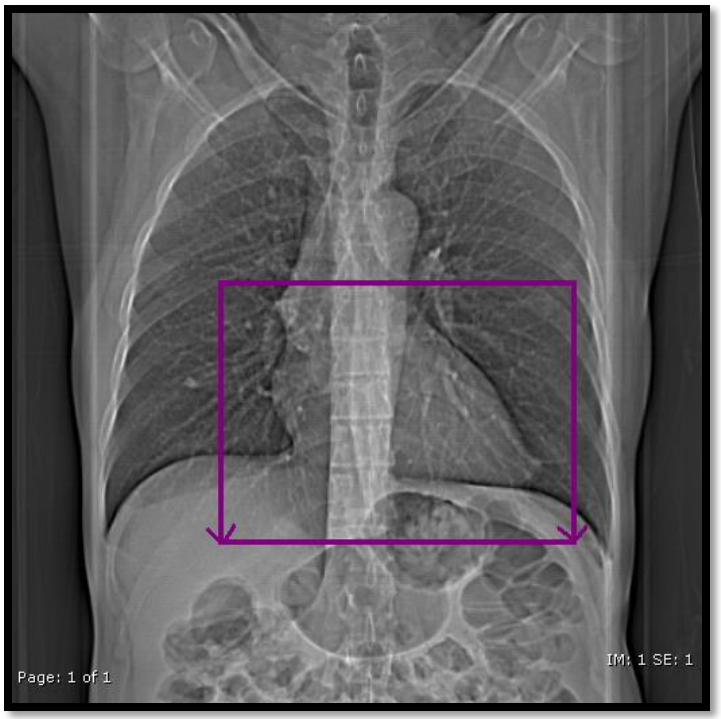
EXAM SHOULD NOT BE PERFORMED IF A PATIENT HISTORY INDICATES EXISTING CORONARY ARTERY STENT(S) AND/OR CARDIAC PACEMAKER.

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)GE-Must be 25 DO NOT CHANGE

Scan Parameters:

- Scan from the carina through the apex of the heart
- This is a prospectively gated scan. Crucial to set the ECG trigger prior scanning. The scan should be performed with full inspiration

Spiral Scan mode can be used for larger patients that need more technique; you must do a retrospective gating if a spiral scan is used



Sequential-normal heart rate below 90

Spiral-Abnormal heart rate or above 90

Send Axial set to 3D/Terarecon

PACS Series in order as performed:

- Topogram
- 3x3 Axial ST
- Calcium Score Report (3D post processing)
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

CALCIUM SCORE SPIRAL SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	Axial	Axial	Axial		Scan Type	Axial
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.3	0.3		Rotation Time (sec)	0.4
Feed		17	17		Rows	32
Scan FOV	Large	Large	Large		Mode	8i
CareDose4D	On	On	On		Interval	20
Quality ref mAs	70	50	50		Scan FOV	Large Body
kVp	110				Auto mA range	100-500
ref kVp		120	120		kVp	120
Optimize Slider position		3	3		Smart mA	On
					Noise Index	15
Recon 1 ST Axial					ASIR	40%
Kernel	B35s Medium	B35f Medium	I30f Med Smooth			
Window	Mediastinum	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	0	0	2		Recon 1 ST Axial	
Slice Thickness (mm)	3	3	3		Algorithm	Standard
Slice Increment (mm)	3	3	3		Window Width/ Level	400/ 40
					Slice Thickness (mm)	2.5
					Slice Increment (mm)	2.5
					Type	Plus
					ASIR	SS40

CALCIUM SCORE SEQUENTIAL SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	Axial	Axial	Axial		Scan Type	Axial
Detector Configuration	32 x 1.2	32 x 1.2	16 x 1.2		Detector Coverage (mm)	40
Rotation Time (sec)	Quick 0.41s	0.3	0.3		Rotation Time (sec)	0.4
Feed		17	17		Rows	32
Scan FOV	Large	Large	Large		Mode	8i
CareDose4D	On	On	On		Interval	20
Quality ref mAs	70	50	50		Scan FOV	Large Body
kVp	130				Auto mA range	100-500
Cycle	2.5	120	120		kVp	120
Optimize Slider position		3	3		Smart mA	On
					Noise Index	15
Recon 1 ST Axial					ASIR	40%
Kernel	B35 Heart View	B35f Medium	I30f Med Smooth			
Window	Cardiac	Mediastinum	Mediastinum			
SAFIRE/ADMIRE	0	0	2		Recon 1 ST Axial	
Slice Thickness (mm)	3	3	3		Algorithm	Standard
Slice Increment (mm)	3	3	3		Window Width/ Level	400/ 40
					Slice Thickness (mm)	2.5
					Slice Increment (mm)	2.5
					Type	Plus
					ASIR	SS40

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

BRACHIAL PLEXUS-Revised-3/23/2018

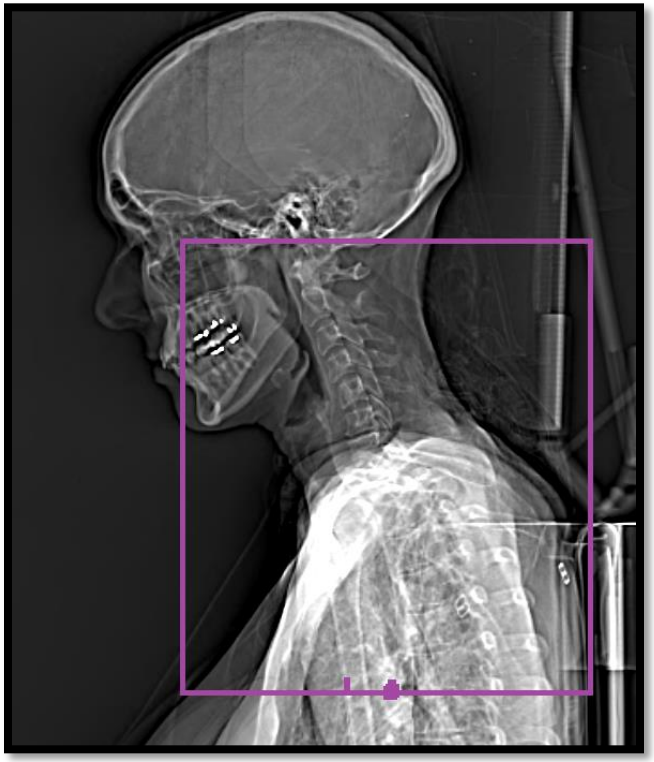
CTDI: ~15-20 mGy per acquisition

Setup: IV access to be obtained in arm contra-lateral to patient's symptoms. Place patient in the flat sponge on table top, arms down in neutral position. Scout from base of skull through mid-chest.

DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Scan Parameters: (IV Contrast Dose Chart)

- Scan aortic arch thru C2
- Include opposite edge of spine through humeral head on side of interest
- 45 second scan delay after start of contrast @ 4ml/sec



PACS Series in order as performed:

- Topogram
- 1x1 Axial ST
- 3x3 Axial Lung
- 1x1 Coronal MIP
- 1x1 Sagittal MIP
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

BRACHIAL PLEXUS SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	spiral	spiral	spiral		Scan Type	spiral
Detector Configuration	32 x 0.6	32 x 0.6	32 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.6	0.6		Rotation Time (sec)	0.8
Pitch	0.6	0.6	0.6		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	90	90	90		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
Recon 1 ST Axials					Recon 1 ST Axials	
Kernel	I41s Medium +	I41s Medium +	I41s Medium +		Algorithm	Standard
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	5
Slice Thickness (mm)	1	1	1		Slice Increment (mm)	5
Slice Increment (mm)	1	1	1		Type	Full
					ASIR	SS50
Recon 2 Lung						
Kernel	I80s Very Sharp	I70f Medium	I70f Medium		Recon 2 Lung	
Window	Lung	Lung	Lung		Algorithm	Lung
SAFIRE/ADMIRE	0	2	2		Window Width/ Level	450/ 35
Slice Thickness (mm)	3	3	3		Slice Thickness (mm)	5
Slice Increment (mm)	3	3	3		Slice Increment (mm)	5
					Type	Full
Coronal/ Sagittal MIP					ASIR	SS10
Kernel	I41s Medium +	I41f Medium +	I41f Medium +			
Window	Abdomen	Abdomen	Abdomen		Recon 3 Reformats	
SAFIRE/ADMIRE					Algorithm	Standard
Slice Thickness (mm)	1	1	1		Window Width/ Level	450/ 35
Slice Increment (mm)	1	1	1		Slice Thickness (mm)	1.25
					Slice Increment (mm)	0.625
					Type	Full
					ASIR	SS50

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

RESEARCH ADRENAL VCR1-Revised-3/27/23

CTDI: ≤ 25 mGy per acquisition

See Oral Contrast Guidelines and Patient Positioning for additional information

Setup: Scout from above the diaphragm through the through the Aortic Bifurcation

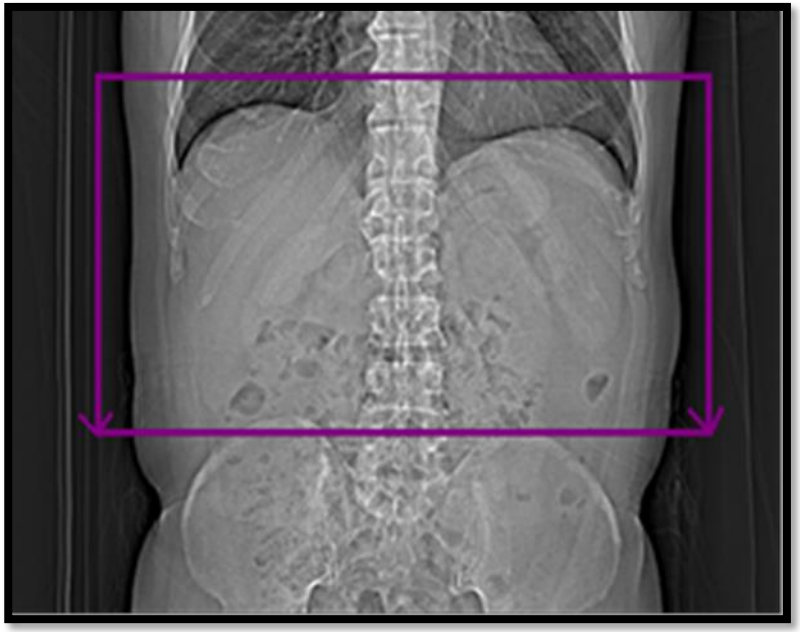
DFOV: Appropriate for patient's body habitus (Use same DFOV as prior exam when available)

Possible Indications

- Research protocol request only

Scan Parameters:

- Noncontrast Axial
  - Above the Diaphragm thru Aortic Bifurcation



PACS Series in order as performed:

- Topogram
- 1x1 Noncontrast Axial
- 1x1 Noncontrast Coronal
- 1x1 Noncontrast Sagittal
- Dose report and/or Patient Protocol Page

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ADRENAL SCAN PROTOCOL

Scanner	Perspective	Definition AS 40	Definition AS 64		Scanner	Optima 660
Scan Type	Spiral	Spiral	Spiral		Scan Type	Spiral
Detector Configuration	32 x 0.6	32 x 1.2	64 x 0.6		Detector Coverage (mm)	40
Rotation Time (sec)	0.6	0.6	0.5		Rotation Time (sec)	0.8
Pitch	0.6	1	1		Pitch	0.984:1
Scan FOV	Large	Large	Large		Speed (mm/rot)	39.37
CareDose4D	On	On	On		Scan FOV	Large Body
Quality ref mAs	100	100	100		Auto mA range	100-500
kVp	110				kVp	120
ref kVp		120	120		Smart mA	On
Optimize Slider position		3 w/o contrast	3 w/o contrast		Noise Index	15
Optimize Slider position		7 w/ contrast	7 w/ contrast		ASIR	50%
Recon 1 ST Axials					**Recon 1 Noncon**	
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		Algorithm	Standard
Window	Abdomen	Abdomen	Abdomen		Window Width/ Level	450/ 35
SAFIRE/ADMIRE	2	2	2		Slice Thickness (mm)	1.25
Slice Thickness (mm)	1	1	1		Slice Increment (mm)	1.25
Slice Increment (mm)	1	1	1		Type	Full
					ASIR	None
Coronal/ Sagittal						
Kernel	I41s Medium +	I41f Medium +	I41f Medium +		**Recon 2 Reformats**	
Window	Abdomen	Abdomen	Abdomen		Algorithm	Standard
SAFIRE/ADMIRE	2	2	2		Window Width/ Level	450/ 35
Slice Thickness (mm)	1	1	1		Slice Thickness (mm)	1.25
Slice Increment (mm)	1	1	1		Slice Increment (mm)	0.625
					Type	Full
					ASIR	SS50

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

Quick Tips

CT Calcium scoring

No heart stents or pacemaker

can self-refer if: males must be 40-65, women must be 45-70 PLUS one of the following:

+family history heart disease

Diabetes

obesity

current smoker

+hypertension or high cholesterol

Lung cancer screening

-age 50-77 (Medicare) 50-80 (Commercial)

-must have counseling and lung cancer form completely filled out

-Asymptomatic

-current smoker or quit within 15 YRS

-20 pack years or greater

-not currently under treatment for lung cancer

4D neck need US and SPECT or RAD permission prior

IDTF sites- WMC, SW, RCP, GTN

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ISTAT indicators

Known chronic kidney disease (CKD)

Remote history of AKI Dialysis

Kidney surgery

Kidney ablation

Albuminuria

History of diabetes mellitus

Metformin or metformin containing drug combinations

	Low Risk	At Risk
eGFR	**≥30 mL/min/1.73m²**	**≤29 mL/min/1.73m²**
Contrast administration	Administer	*Radiologist determination required*
Contrast	*Omnipaque*	*Radiologist determination required*
Oral hydration	Encouraged	
IV hydration	At radiologist's discretion in conjunction with patient's nephrologist	
Dialysis patients	Dialysis will be directed by the patient's nephrologist	
Intermittent Dialysis	Alternative imaging studies not requiring contrast media should be considered	

Back to Body Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

Protocol Review

CT Protocols are reviewed by the Radiation Safety Protocol Committee.

Committee members consists of ARA Radiation Safety Officer, Radiologists, ARA Outpatient Imaging Center Directors, Manager of Quality, Safety and Risk Management and Lead CT Technologists

Protocol(s) Review Date
09/04/2024

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

Back to Body Protocol Page

Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality