



Revolution™ Ascend, Revolution™ Ascend Elite, Revolution™ Ascend Plus, Revolution™ Ascend Select

Reference Protocol Guide

5971512-1EN
Revision 1
General User Documentation

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Revision History

Revision	Date	Reason For Change
1	August 2024	Initial Release.
The original language of this document is English, Direction Number 5971512-1EN, Revision 1, and is applicable to Revolution Ascend 1.0 software 24MW10.xx for Revolution™ Ascend, Revolution™ Ascend Elite, Revolution™ Ascend Plus, Revolution™ Ascend Select.		

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Chapter 1 Overview

1.1 Purpose

This document provides a list of parameters provided in the GE Reference Adult and GE Reference Pediatric protocol selector. The protocols in Reference Adult Protocols are based on the parameters needed to scan an average-sized adult, and factor in the clinical aim of the protocols. The protocols in Reference Pediatric Protocols are based on age in the Head area, and in the rest of the body, use Color Coding for Kids. These protocols are designed as a starting point. They should be reviewed with your Radiologist, Physicist, and Radiation Safety Officer and revised as needed to meet the clinical needs of your department. The document is divided into protocol categories available on the system.

The table for each category lists the Protocol Number, Protocol Name, Post Processing software associated with the protocol, Scan Type, SFOV, Pitch/Table Speed in mm/rotation, Rotation Time, Detector Coverage, kV, mA, SmartmA with Min/Max mA and Noise Index, Recon Type, ASiR-V Level in %, CTDIvol (mGy), DLP (mGycm), Scan Length, Phantom Type used for dose calculations and Description.

Manual mA mode allows you to scan without enabling SmartmA mode. When building protocols, make sure the mA value field contains a reasonable mA value in the event that SmartmA is turned off. In GE Reference Adult Protocols, the Average (Avg) mA provided in the tables within this document are what is used in calculating the CTDI and DLP for protocols using SmartmA. The Avg mA value provided in the table is an estimate based on an average patient size (32 - 36 cm). The actual Avg mA for each image is calculated using all of the mA values for each scan rotation, as determined by SmartmA for the patient.

All dose information described is based on NG1700 Elite, NG2000 Elite, VT1700 and VT2000 table. Use CTDI Adjustment Factors below to convert CTDI for VT2000x table.

CTDI Adjustment Factors for VT2000x table		
Ped Head Head	Ped Body Small Body Cardiac Small	Large Body Cardiac Large
0.977	0.985	0.983

NOTE

The mA and dose information described in all protocols is based on a system with the 0.35 second option. If the fastest rotation time for your system is 0.4sec, 0.5 sec or 0.7 sec, the mA and dose information is automatically adjusted according to the fastest rotation time available on your system for all protocols where there is a rotation mismatch. If your system is 55.3kW or 5.5MHU tube, Max mA is changed to maximum mA value of each system.

NOTE

** These protocols are installed options. As a result, the numbering is a function of when and where the option is installed.

NOTE

Some protocols are restricted by detector configuration. Therefore, protocol numbers that do not fit the 20mm configuration will be left blank.

Chapter 2 Quality Assurance Protocols for 40mm detector configuration system

2.1 Quality Assurance

*Interval**

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
30.1	Example ACR Protocols		Axial	Large Body		0.5	5	40	120	270	STD	50	11.32	135.84	120	Body 32	Example protocols for ACR accreditation scans
			Axial	Head		1	5	20	120	170	STD	50	28.76	402.67	140	Head 16	Example protocols for ACR accreditation scans
			Helical	Large Body	0.984 78.75	0.5	5	40	120	220	STD	50	9.37	178.72	160	Body 32	Example protocols for ACR accreditation scans
			Axial	Ped Body		0.35	5	40	120	90	STD	50	2.31	27.73	120	Body 32	Example protocols for ACR accreditation scans
			Axial	Ped Head		0.5	5	20	120	190	STD	50	16.07	225.02	140	Head 16	Example protocols for ACR accreditation scans
			Helical	Ped Body	0.984 112.5	0.35	5	40	120	80	STD	50	2.09	39.7	160	Body 32	Example protocols for ACR accreditation scans

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Chapter 3 Reference Adult Protocols for 40mm detector configuration system

3.1 Adult Head

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
21.1	CT HEAD		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
21.2	CT HEAD with ODM		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
21.3	CT HEAD Helical		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD#	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities
21.4	CT HEAD ANGIO CIRC WILLIS	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature
21.5	CT HEAD ANGIO CIRC WILLIS with ODM	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Head	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 50–400 mA NI=7 Avg mA 120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature
21.6	CT HEAD PERFUS WO & W PREFUS Cine		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
		Perfusion	Cine	Head		1	5 0	40	80	SmartmA & ODM 100–200 mA NI=8.0 Avg mA 100	STD	50	255.15	1020.6	40	Head 16	CT Perfusion using Cine scan mode for evaluation of cerebral perfusion over time
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement
21.7	CT HEAD PERFUS WO & W PREFUS Axial		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
		Perfusion	Axial	Head		1	5 0	40	80	SmartmA & ODM mA 100–200 mA NI=8.0 Avg mA 100	STD	50	125.71	502.84	40	Head 16	CT Perfusion using Axial scan mode for evaluation of cerebral perfusion over time
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
21.8	CT HEAD PERFUS WO 4PHASE mCTA PREFUS Cine		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
	Group 1	DMPR	Helical	Small Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50-500 mA NI=13.8 Avg mA 410	STD	50	15.27	619.74	370.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature
	Group 2	DMPR	Helical	Small Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50-500 mA NI=13.8 Avg mA 410	STD	50	15.27	253.15	130.625	Body 32	CT angiography of the head evaluation of cerebral vasculature
	Group 3	DMPR	Helical	Small Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50-500 mA NI=13.8 Avg mA 410	STD	50	15.27	253.15	130.625	Body 32	Delayed CT angiography of the head evaluation of cerebral vasculature
	Group 4	DMPR	Helical	Small Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50-500 mA NI=13.8 Avg mA 410	STD	50	15.27	253.15	130.625	Body 32	Delayed CT angiography of the head evaluation of cerebral vasculature
		Perfusion	Cine	Head		1	5 0	40	80	SmartmA & ODM 100–200 mA NI=8.0 Avg mA 100	STD	50	255.15	1020.6	40	Head 16	CT Perfusion using Cine scan mode for evaluation of cerebral perfusion over time
21.9**	CT HEAD Helical MAR		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD #	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities with Metal Artifact Reduction Reconstructions included

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
21.10**	CT HEAD ANGIO CIRC WILLIS MAR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with Metal Artifact Reduction Reconstructions included
21.11**	CT HEAD PERFUS WO & W PREFUS Axial Shuttle		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
		Perfusion	Axial	Head	17 pass 2 positions	0.5	5	40	80	SmartmA 100–400 mA NI=8.0 Avg mA 200	STD	50	97.14	777.11	80	Head 16	CT Perfusion using Axial Shuttle scan mode for evaluation of cerebral perfusion over time
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement
21.12**	CT HEAD DLIR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.13**	CT HEAD with ODM DLIR		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.14**	CT HEAD Helical DLIR		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD#	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.15**	CT HEAD ANGIO CIRC WILLIS DLIR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with DLIR
21.16**	CT HEAD ANGIO CIRC WILLIS with ODM DLIR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 50–400 mA NI=7 Avg mA 120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with DLIR

3.2 Adult Orbit

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
22.1	CT HEAD SINUSES Supine		Helical	Head	0.531 10.63	1	0.625	20	120	75	BONE	50	23.89	232.33	80.625	Head 16	Axial Sinus protocol, Evaluation for any abnormality
22.2	CT HEAD ORBITS		Helical	Head	0.969 38.75	0.5	0.625	20	120	110	STD	50	9.61	36.01	19.375	Head 16	Axial Orbit protocol, Evaluation for abnormality soft tissues and bone structures of the orbit and face
22.3	CT HEAD FACIL BNS		Helical	Head	0.969 19.38	1	0.625	20	120	80	BONE PLUS	50	13.97	129.96	75	Head 16	Axial Facial Bone protocol, Evaluation for soft tissue and bone structures of the face
22.4	CT HEAD IAC 140 kV		Axial	Head		2	1.25	20	140	80	BONE PLUS	50	38.08	152.32	40	Head 16	Axial scan mode, Evaluation for inner ear abnormalities
22.5	CT HEAD IAC Helical 140 kV		Helical	Head	0.531 10.63	1	0.625	20	140	85	BONE PLUS	50	38.08	213.35	39.375	Head 16	Helical scan mode, Evaluation for inner ear abnormalities

3.3 Adult Neck

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
23.1	CT CERVICAL SPINE DMPR	DMPR	Helical	Large Body	0.516 25.78	0.8	0.625	40	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.17	290.55	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for bone, disc and soft tissue abnormalities
23.2	CT NECK SFT TISS NECK DMPR	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 200	STD	50	8.52	157.71	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality
23.3	CT NECK ANGIO SmartPrep DMPR	DMPR	Helical	Large Body	0.516 41.25	0.5	0.625	40	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.2	249.0	170.625	Body 32	Carotid CTA Evaluation of carotid vasculature
23.4	CT HEAD NECK CIRC WILLIS CAR ART	MIROI	Axial	Head		1.0	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Large Body	0.516 41.25	0.5	0.625	40	120	Smart mA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.2	249.0	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature
23.5	CT HEAD NECK CIRC WILLIS CAR ART Hi Res	MIROI	Axial	Head		1	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.516 41.25	0.5	0.625	40	120	Smart mA & ODM 80–500 mA NI=11 Avg mA 150	DTL	50	12.2	249.0	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature
23.6**	CT CERVICAL SPINE DMPR MAR	DMPR	Helical	Large Body	0.516 25.78	0.8	0.625	40	120	SmartmA 50–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.17	290.55	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone abnormalities with Metal artifact reduction reconstruction
23.7**	CT NECK SFT TISS NECK DMPR MAR	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50–500 mA NI=12.6 Avg mA 200	STD	50	8.52	157.71	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality with metal artifact reductions.
23.8**	CT HEAD NECK CIRC WILLIS CAR ART MAR	MIROI	Axial	Head		1.0	5 0	5	120	60	STD	0	140.5	70.25	5.0	Head 16	Test bolus for determining prep delay

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Large Body	0.516 41.25	0.5	0.625	40	120	ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.2	249.0	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature with metal artifact reduction reconstructions included
23.9**	CT CERVICAL SPINE DMPR DLIR	DMPR	Helical	Large Body	0.516 25.78	0.8	0.625	40	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.17	290.55	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for bone, disc and soft tissue abnormalities with DLIR
23.10**	CT NECK SFT TISS NECK DMPR DLIR	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 200	STD	50	8.52	157.71	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality with DLIR
23.11**	CT NECK ANGIO SmartPrep DMPR DLIR	DMPR	Helical	Large Body	0.516 41.25	0.5	0.625	40	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.2	249.0	170.625	Body 32	Carotid CTA Evaluation of carotid vasculature with DLIR
23.12**	CT HEAD NECK CIRC WILLIS CAR ART DLIR	MIROI	Axial	Head		1.0	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.516 41.25	0.5	0.625	40	120	Smart mA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.2	249.0	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature with DLIR

3.4 Adult Upper Extremities

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
24.1	CT UPPER EXTREMITY SHOULDER	DMPR	Helical	Large Body	0.516 20.63	1	1.25 0.625	40	140	ODM 80–500 mA NI=21.4 Avg mA 110	STD	50	25.87	346.8	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area
24.2**	CT UPPER EXTREMITY SHOULDER MAR	DMPR	Helical	Large Body	0.516 20.63	1	1.25 0.625	40	140	ODM 80–500 mA NI=21.4 Avg mA 110	STD	50	25.87	346.8	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area with Metal Artifact reduction reconstructions included
24.3**	CT UPPER EXTREMITY SHOULDER DLIR	DMPR	Helical	Large Body	0.516 20.63	1	1.25 0.625	40	140	ODM 80–500 mA NI=21.4 Avg mA 110	STD	50	25.87	346.8	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area with DLIR

3.5 Adult Chest

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.1	CT CHEST SmartPrep	DMPR	Helical	Large Body	1.375 110	0.5	2.5	40	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	3.81	139.94	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR
25.2	CT CHST ABD PEL		Helical	Large Body	1.375 110	0.5	5.0	40	120	SmartmA 50-500 mA NI=13 Avg mA 125	STD	50	3.81	114.92	255.00	Body 32	Evaluation of chest region for abnormalities
	Group 2		Helical	Large Body	0.984 78.75	0.5	5.0	40	120	SmartmA 50-500 mA NI=12 Avg mA 135	STD	50	5.75	166.47	255.00	Body 32	Evaluation of abdominal pelvic region for abnormalities
25.3	CT NECK CHST ABD PEL	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI=12.6 Avg mA 200	STD	50	8.52	221.07	225	Body 32	Evaluation of Neck region for abnormalities

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
	Group 2	DMPR	Helical	Large Body	1.531 122.5	0.5	0.625	40	120	SmartmA 50-500 mA NI=22.0 Avg mA 200	STD	50	5.48	193.37	300	Body 32	Evaluation of Chest region for abnormalities
	Group 3	DMPR	Helical	Large Body	0.984 49.22	0.8	0.625	40	120	SmartmA 50-500mA NI=18 Avg mA 205	STD	50	13.97	614.65	405	Body 32	Evaluation of abdominal and pelvic region for abnormalities
25.4	CT CHST ANGIO		Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI=22.1 Avg mA 180	STD	50	7.67	256.94	300.625	Body 32	Evaluation of thoracic aortic aneurysm
25.5	CT CHST ANGIO PULMARTS SmartPrep		Helical	Large Body	0.984 78.75	0.5	1.25	40	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	12.35	414.68	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities.
25.6	CT CHST LO DOSE Assessment	Advanced Lung Analysis	Helical	Large Body	0.969 38.75	0.5	1.25	20	120	120	BONE	50	5.45	119.3	201.25	Body 32	Acquisition of data for Advanced Lung Analysis (ALA) software for lung nodule assessment

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.7	CT CHST Hi Res		Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode
			Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode
			Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode
25.8**	CORARTSCALC SCORE	SmartScore	Cardiac SmartScore	Cardiac Large		0.35	2.5	40	120	SmartmA 50-400 mA NI=20 Avg mA 215	STD	50	4.85	67.88	140	Body 32	Prospectively gated Cardiac Cine scan for acquisition of data for coronary artery calcification analysis
25.9**	CORARTS CCTA SmartPrep		Cardiac SSSeg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	STD	50	22.55	393.13	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.10**	COR ARTS CCTA	MIROI	Axial	Large Body		1	50	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
			Cardiac SSSeg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	STD	50	22.55	393.13	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
25.11**	COR ARTS CCTA Low Dose	MIROI	Axial	Large Body		1	50	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Prospectively gated Cardiac Cine scan for evaluation of coronary arteries
			Cardiac SSP	Cardiac Small		0.35	0.625	40	120	SmartmA 50-500mA NI=30 Avg mA 275 Phase 70-80	STD	50	5.42	75.95	140	Body 32	Prospectively gated Cardiac Cine scan for evaluation of coronary function
25.12**	COR ARTS CCTA Hi Res	MIROI	Axial	Large Body		1	50	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Cardiac SSseg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310mA	DTL	50	22.55	393.13	140	Body 32	Retrospectively gated Cardiac Helical scan using Detail for evaluation of coronary arteries
25.13**	COR ARTS CCTA Function	MIROI	Axial	Large Body		1	5 0	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary function
			Cardiac SSseg	Cardiac Small	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500 mA NI=30 Avg mA 310	STD	50	36.17	630.77	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function
25.14**	ANGIO HEART TAVI TAVR		Cardiac SSseg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500mA NI=30 Avg mA 285 ECG mA Phase 25-80 62-310 mA	STD	50	38.02	665.35	140.625	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function, valve implantation planning and valve replacement planning
	Group 2		Helical	Large Body	0.984 112.5	0.35	0.625	40	120	SmartmA 50-500mA NI=30 Avg mA 125	STD	50	3.73	199.5	500.625	Body 32	Helical scan for valve planning

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.15	CT CHEST for Advantage 4D	Advantage 4D	Cine	Large Body		0.5	2.5 0	40	120	160	STD	50	72.75	2327.93	320	Body 32	Cine scan mode for acquisition data for Advantage 4D for retrospective gating
25.16**	CT CHEST SmartPrep MAR	DMPR	Helical	Large Body	1.375 110.00	0.5	0.625	40	120	SmartmA 50-500 mA NI=22 Avg mA 125	STD	50	3.81	139.94	320.625	Body 32	Evaluation of Neck region for abnormalities with SmartPrep and DMPR with Metal Artifact reduction reconstructions included
25.17**	CT CHSTANGIO PULM ARTS SmartPrep MAR		Helical	Large Body	0.984 78.75	0.5	1.25	40	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	12.35	414.68	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities.
25.18**	CT Low Dose Lung Cancer Screening 50-70 kg (110-155 lbs)		Helical	Large Body	0.984 78.75	0.5	2.5 2.0	40	120	30	STD	0 Optional	1.28	36.43	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening
25.19**	CT Low Dose Lung Cancer Screening 70-90 kg (155-200 lbs)		Helical	Large Body	0.984 78.75	0.5	2.5 2.0	40	120	50	STD	0 Optional	2.13	60.72	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening
25.20**	CT Low Dose Lung Cancer Screening 90-120 kg (200-265 lbs)		Helical	Large Body	0.984 78.75	0.5	2.5 2.0	40	120	80	STD	0 Optional	3.41	97.16	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.21**	CT CHEST SmartPrep Auto Prescription	DMPR	Helical	Large Body	1.375 110.00	0.5	2.5	40	100	SmartmA 70-480 mA NI=19.4 Avg mA 170	STD	50	3.21	117.84	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR
25.22**	CT CHST ANGIO Auto Prescription		Helical	Large Body	0.984 78.75	0.5	0.625	40	100	SmartmA 70-480 mA NI=23.8 Avg mA 245	STD	50	6.46	216.92	300.625	Body 32	Evaluation of thoracic aortic aneurysm
25.23**	CORARTS CCTA SmartPrep Auto Prescription		Cardiac SSSEG	Cardiac Large	0.22 25.14	0.35	0.625	40	100	SmartmA 50-480 mA NI=32.4 Avg mA 230 ECG mA Phase 70-80 84-420 mA	STD	50	19.0	331.29	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
25.24**	CT CHEST SmartPrep True Enhance DL	DMPR	Helical	Large Body	1.375 110	0.5	2.5	40	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	3.81	139.94	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR with True Enhance DL
25.25**	CT CHST ANGIO True Enhance DL		Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI=22.1 Avg mA 180	STD	50	7.67	256.94	300.625	Body 32	Evaluation of thoracic aortic aneurysm with True Enhance DL
25.26**	CT CHST ANGIO PULM ARTS SmartPrep True Enhance DL		Helical	Large Body	0.984 78.75	0.5	1.25	40	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	12.35	414.68	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities with True Enhance DL

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.27**	CT CHEST SmartPrep DLIR	DMPR	Helical	Large Body	1.375 110	0.5	2.5	40	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	3.81	139.94	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR with DLIR
25.28**	CT CHST ANGIO PULM ARTS SmartPrep DLIR		Helical	Large Body	0.984 78.75	0.5	1.25	40	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	12.35	414.68	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities with DLIR
25.29**	COR ARTS CCTA SmartPrep DLIR		Cardiac SSSeg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	STD	50	22.55	393.13	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries with DLIR
25.30**	COR ARTS CCTA Hi Res DLIR	MIROI	Axial	Large Body		1	5 0	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
			Cardiac SSSeg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	DTL	50	22.55	393.13	140	Body 32	Retrospectively gated Cardiac Helical scan using Detail for evaluation of coronary arteries with DLIR

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.31**	ANGIO HEART TAVI TAVR DLIR		Cardiac SSSeg	Cardiac Large	0.22 25.14	0.35	0.625	40	120	SmartmA 50–500 mA NI=30 Avg mA 285 ECG mA Phase 25-80 62-310 mA	STD	50	38.02	665.35	140.625	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function, valve implantation planning and valve replacement planning with DLIR
	Group 2		Helical	Large Body	0.984 112.5	0.35	0.625	40	120	SmartmA 50–500 mA NI=30 Avg mA 125	STD	50	3.73	199.5	500.625	Body 32	Helical scan for valve planning with DLIR

3.6 Adult Abdomen

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.1	CTABD PELVIS SmartPrep DMPR	DMPR	Helical	Large Body	0.984 49.22	0.8	0.625	40	120	SmartmA 50-500 mA NI=18 Avg mA 195	STD	50	13.29	710.97	500.625	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures
26.2	CTABD PELVIS 5mm SmartPrep DMPR	DMPR	Helical	Large Body	0.984 49.22	0.8	5	40	120	SmartmA 50-500 mA NI=12 Avg mA 110	STD	50	7.5	401.06	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR
26.3	CTABD PELVIS URO DMPR Helical	DMPR	Helical	Large Body	0.984 49.22	0.8	0.625	40	120	SmartmA 50-500 mA NI=18 Avg mA 195	STD	50	13.29	710.97	500.625	Body 32	Helical scan for evaluation of kidney, ureters and bladder for renal stone
26.4	CTABD MULTIPH LIVER	MIROI	Axial	Large Body		1	5 0	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.39	137.45	185	Body 32	Acquisition for early arterial, phase of the liver

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
	Group 2		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.39	137.45	185	Body 32	Acquisition for late arterial phase of the liver
	Group 3		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.39	278.0	405	Body 32	Acquisition for portal venous phase of the liver
26.5	CT ABD PELVIS ANGIO SmartPrep	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI=22.1 Avg mA 205	STD	50	8.73	380.45	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm
26.6	CT ABD PEL LE ANGIO	MIROI	Axial	Large Body		1	5 0	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	0.984 65.63	0.6	0.625	40	120	SmartmA 50-500 mA NI=22.1 Avg mA 255	STD	50	13.03	1349.8	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs and lower extremities (Runoff)
26.7	CT ABD PELVIS COLONOGRAPHY	CT Colon Pro 3D	Helical	Large Body	0.984 78.75	0.5	1.25 0.625	40	120	75	STD	50	3.19	139.00	401.25	Body 32	Helical scan mode Supine acquisition for using Advantage CTC Pro for evaluation of the colon
		CT Colon Pro 3D	Helical	Large Body	0.984 78.75	0.5	1.25 0.625	40	120	75	STD	50	3.19	139.00	401.25	Body 32	Helical scan mode Prone acquisition for using Advantage CTC Pro for evaluation of the colon

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.8	Trauma Full Body DMPR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
		DMPR	Helical	Large Body	0.969 38.75	0.5	2.5	20	120	SmartmA 80-500 mA NI=9.1 Avg mA 125	STD	50	5.68	152.68	252.5	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone abnormalities
	Group 1	DMPR	Helical	Large Body	1.531 122.50	0.5	5	40	120	SmartmA 80-500 mA NI=13 Avg mA 140	STD	50	3.83	133.68	300	Body 32	Evaluation of chest region for abnormalities.
	Group 2	DMPR	Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 80-500 mA NI=12 Avg mA 175	STD	50	7.45	320.61	400	Body 32	Evaluation of abdominal and pelvic region for abnormalities.
26.9**	CT ABD PELVIS XXL Pt. 5mm Smart Prep	DMPR	Helical	Large Body	0.516 25.78	0.8	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 210	STD	50	27.32	1460.18	505	Body32	Evaluation of abdominal and pelvic region for abnormalities.
26.10**	CT GUIDE BX DRAIN 5mm		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 110	STD	50	4.69	250.72	505	Body32	Localization scan for CT interventional scan
			Smart Step	Large Body		0.8	5	10	120	60	STD	0	364.66	364.66	10	Body32	Step and Shoot scan for interventional scan

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.11**	CT GUIDE BX DRAIN 3D Guidance 2.5mm/17i		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 110	STD	50	4.69	250.72	505	Body32	Localization scan for CT interventional scan
			3D Guidance	Large Body		0.8	2.5	40	120	60	STD	0	296.74	1186.97	40	Body32	Step and Shoot scan for interventional scan
26.12**	CT GUIDE BX DRAIN 3D Guidance 2.5mm/9i		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 110	STD	50	4.69	250.72	505	Body32	Localization scan for CT interventional scan
			3D Guidance	Large Body		0.8	2.5	20	120	60	STD	0	311.58	623.16	20	Body32	Step and Shoot scan for interventional scan
26.13**	CT ABD PELVIS 5mm SmartPrep DMPR MAR	DMPR	Helical	Large Body	0.984 49.22	0.8	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 110	STD	50	7.5	401.06	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures with MAR reconstructions included
26.14**	CT ABD PELVIS ANGIO SmartPrep MAR	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI= 22.1 Avg mA 205	STD	50	8.73	380.45	400.625	Body 32	Axial scan with DMPR and Smart- Prep Evaluation for abdominal aortic aneurysm with MAR reconstructions
26.15**	CT ABD PELVIS 5mm SmartPrep DMPR Auto Prescription	DMPR	Helical	Large Body	0.984 49.22	0.8	5	40	120	SmartmA 50-500 mA NI=12 Avg mA 110	STD	50	7.5	401.06	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.16**	CT ABD PELVIS ANGIO SmartPrep Auto Prescription	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	100	SmartmA 70-480 mA NI=25.8 Avg mA 235	STD	50	6.2	269.68	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm
26.17**	CT ABD PEL LE ANGIO Auto Prescription	MIROI	Axial	Large Body		1	5 0	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	0.984 65.63	0.6	0.625	40	120	SmartmA 50-500 mA NI=22.1 Avg mA 255	STD	50	13.03	1349.8	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs and lower extremities (Runoff)
26.18**	CT ABD PELVIS SmartPrep DMPR True Enhance DL	DMPR	Helical	Large Body	0.984 49.22	0.8	0.625	40	120	SmartmA 50-500 mA NI= 18 Avg mA 195	STD	50	13.29	710.97	500.625	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures with True Enhance DL
26.19**	CT ABD PELVIS 5mm SmartPrep DMPR True Enhance DL	DMPR	Helical	Large Body	0.984 49.22	0.8	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 110	STD	50	7.5	401.06	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR with True Enhance DL
26.20**	CT ABD PELVIS URO DMPR Helical True Enhance DL	DMPR	Helical	Large Body	0.984 49.22	0.8	0.625	40	120	SmartmA 50-500 mA NI= 18 Avg mA 195	STD	50	13.29	710.97	500.625	Body 32	Helical scan for evaluation of kidney, ureters and bladder for renal stone with True Enhance DL

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.21**	CT ABD MULTIPH LIVER True Enhance DL	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	137.45	185	Body32	Acquisition for early arterial, phase of the liver with True Enhance DL
	Group 2		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	137.45	185	Body32	Acquisition for late arterial phase of the liver with True Enhance DL
	Group 3		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	278.0	405	Body32	Acquisition for portal venous phase of the liver with True Enhance DL
26.22**	CT ABD PELVIS ANGIO SmartPrep True Enhance DL	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI= 22.1 Avg mA 205	STD	50	8.73	380.45	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm with True Enhance DL
26.23**	CT ABD PELVIS ANGIO True Enhance DL	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	0.984 65.63	0.6	0.625	40	120	SmartmA 50-500 mA NI= 22.1 Avg mA 255	STD	50	13.03	1349.8	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs and lower extremities (Runoff) with True Enhance DL

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.24**	CT ABD MULTIPH LIVER DLIR	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	137.45	185	Body32	Acquisition for early arterial, phase of the liver with DLIR
	Group 2		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	137.45	185	Body32	Acquisition for late arterial phase of the liver with DLIR
	Group 3		Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 50-500 mA NI= 12 Avg mA 150	STD	50	6.39	278.0	405	Body32	Acquisition for portal venous phase of the liver with DLIR
26.25**	CT ABD PELVIS ANGIO SmartPrep DLIR	DMPR	Helical	Large Body	0.984 78.75	0.5	0.625	40	120	SmartmA 50-500 mA NI= 22.1 Avg mA 205	STD	50	8.73	380.45	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm with DLIR
26.26**	Trauma Full Body DMPR DLIR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
		DMPR	Helical	Large Body	0.969 38.75	0.5	2.5	20	120	SmartmA 80-500 mA NI=9.1 Avg mA 125	STD	50	5.68	152.68	252.5	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone abnormalities with DLIR
	Group 1	DMPR	Helical	Large Body	1.531 122.50	0.5	5	40	120	SmartmA 80-500 mA NI= 13 Avg mA 140	STD	50	3.83	133.68	300	Body 32	Evaluation of chest region for abnormalities with DLIR
	Group 2	DMPR	Helical	Large Body	0.984 78.75	0.5	5	40	120	SmartmA 80-500 mA NI= 12 Avg mA 175	STD	50	7.45	320.61	400	Body 32	Evaluation of abdominal and pelvic region for abnormalities with DLIR

3.7 Adult Spine

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
27.1	CT L SPINE DMPR	DMPR	Helical	Large Body	0.516 20.63	1	0.625	40	120	Smart-mA 50-500 mA NI=20 Avg mA 265	BONE PLUS	50	43.1	902.51	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR
27.2**	CT L SPINE DMPR MAR	DMPR	Helical	Large Body	0.516 20.63	1	0.625	40	120	Smart-mA 50-500 mA NI=20 Avg mA 265	BONE PLUS	50	43.1	902.51	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR with metal artifact reductions reconstructions included
27.3**	CT L SPINE DMPR Auto Prescription	DMPR	Helical	Large Body	0.516 20.63	1	0.625	40	120	Smart-mA 50-500 mA NI=18 Avg mA 265	BONE PLUS	50	43.1	902.51	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR
27.4**	CT L SPINE DLIR	DMPR	Helical	Large Body	0.516 20.63	1	0.625	40	120	Smart-mA 50-500 mA NI=20 Avg mA 265	BONE PLUS	50	43.1	902.51	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR
27.5**	CT L SPINE DMPR MAR DLIR	DMPR	Helical	Large Body	0.516 20.63	1	0.625	40	120	Smart-mA 50-500 mA NI=20 Avg mA 265	BONE PLUS	50	43.1	902.51	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR with metal artifact reductions reconstructions Included with DLIR

3.8 Adult Pelvis

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy - cm)	Recon Range (mm)	Phantom (cm)	Description
28.1	CT PELVIS DMPR	DMPR	Helical	Large Body	0.984 39.38	1	1.25	40	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	14.06	400.51	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR
28.2**	CT PELVIS DMPR MAR	DMPR	Helical	Large Body	0.984 39.38	1	1.25	40	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	14.06	400.51	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR with metal artifact reductions reconstructions included
28.3**	CT PELVIS DMPR DLIR	DMPR	Helical	Large Body	0.984 39.38	1	1.25	40	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	14.06	400.51	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR with DLIR

3.9 Adult Lower Extremity

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR- V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
29.1	CT LE ANKLE		Helical	Large Body	0.531 10.63	1	0.625	20	120	SmartmA 50–200 mA NI=22.1 Avg mA 60	STD	50	9.94	136.54	120.625	Body 32	Evaluation of soft tissue and bony anatomy of ankle area
29.2**	CT LE ANKLE MAR		Helical	Large Body	0.531 10.63	1	0.625	20	120	SmartmA 50–200 mA NI=22.1 Avg mA 60	STD	50	9.94	136.54	120.625	Body 32	Evaluation of soft tissue and bony anatomy of ankle area with metal artifact reductions reconstructions included

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Chapter 4 Reference Pediatric Protocols for 40mm detector configuration system

4.1 Pediatric Head

*Interval**

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
31.1	CT HEAD Ped 5 years to 18 years		Axial	Head		1	5	20	120	110	STD	50	18.61	223.33	120	Head 16	Routine head for children (5 years to 18 years)
31.2	CT HEAD Ped 18 months to 5 years		Axial	Head		0.5	5	20	120	200	STD	50	16.92	203.03	120	Head 16	Routine head for children (18 months to 5 years)
31.3	CT HEAD Ped to 18 months		Axial	Ped Head		0.5	5	20	120	145	STD	50	12.27	147.2	120	Head 16	Routine head for infant (up to 18 months)

4.2 Pediatric Chest

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.1.1	CT CHEST 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	50	STD	50	1.12	11.25	78.75	Body 32	Weight and height based routine chest protocol
35.1.2**	CT CHST HEART Vascular Assessment 6.0-7.5 kg (13.2-16.5 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG mA 34-170 mA Phase 40-80 Avg mA 140	STD	50	5.39	59.3	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.2.1	CT CHEST 7.5-9.5kg (16.5-20.9 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	70	STD	50	1.57	15.76	78.75	Body 32	Weight and height based routine chest protocol
35.2.2**	CT CHST HEART Vascular Assessment 7.5-9.5 kg (16.5-20.9 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG 36-180 mA Phase 40-80 Avg mA=148	STD	50	5.7	62.68	75.625	Body 32	Weight and height based cardiac vascular assessment protocol

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval*	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.3.1	CT CHEST 9.5-11.5 kg (20.9-25.4 lbs)		Helical	Small Body	1.375 55.00	0.5	3.75	20	120	75	STD	50	2.1	21.87	82.5	Body 32	Weight and height based routine chest protocol
35.3.2**	CT CHST HEART Vascular Assessment 9.5-11.5 kg (20.9-25.4 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG 38-190 mA Phase 40-80 Avg mA 156	STD	50	6.01	66.07	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.4.1	CT CHEST 11.5-14.5 kg (25.4-32.0 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	70	STD	50	1.96	22.62	95.0	Body 32	Weight and height based routine chest protocol
35.4.2**	CT CHST HEART Vascular Assessment 11.5-14.5 kg (25.4-32.0 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG 41-205 mA Phase 40-80 Avg mA 168	STD	50	6.47	71.15	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.5.1	CT CHEST 14.5-18.5 kg (32.0-40.8 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	75	STD	50	2.1	24.24	95.0	Body 32	Weight and height based routine chest protocol
35.5.2**	CT CHST HEART Vascular Assessment 14.5-18.5 kg (32.0-40.8 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Cardiac SSSEG	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG 46-230 mA Phase 40-80 Avg mA 186	STD	50	7.16	78.78	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.6.1	CT CHEST 18.5-22.5 kg (40.8-49.6 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	80	STD	50	2.24	25.85	95.0	Body 32	Weight and height based routine chest protocol
35.6.2**	CT CHST HEART Vascular Assessment 18.5-22.5 kg (40.8-49.6 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSEG	Cardiac Small	0.22 25.14	0.35	0.625	40	80	ECG 48-240 mA Phase 40-80 Avg mA 194	STD	50	7.47	82.17	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.7.1	CT CHEST 22.5-31.5kg (49.6-69.5 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	80	STD	50	2.44	35.89	105.0	Body 32	Weight and height based routine chest protocol
35.7.2**	CT CHST HEART Vascular Assessment 22.5-31.5 kg (49.6-69.5 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSEG	Cardiac Small	0.22 25.14	0.35	0.625	40	100	ECG 42-210 mA Phase 40-80 Avg mA 171	STD	50	12.54	137.9	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.8.1	CT CHEST 31.5-40.5 kg (69.5-89.3 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	85	STD	50	2.59	43.32	125.00	Body 32	Weight and height based routine chest protocol

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.8.2**	CT CHST HEART Vascular Assessment 31.5-40.5 kg (69.5-89.3 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	100	ECG 46-230 mA Phase 40-80 Avg mA 186	STD	50	13.64	149.99	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.9.1	CT CHEST 40.5-55.0 kg (89.3-121.3 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	95	STD	50	2.9	57.11	155.0	Body 32	Weight and height based routine chest protocol
35.9.2**	CT CHST HEART Vascular Assessment 40.5-55.0 kg (89.3-121.3 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 25.14	0.35	0.625	40	100	ECG 50-250 mA Phase 40-80 Avg mA 197	STD	50	14.44	158.86	75.625	Body 32	Weight and height based cardiac vascular assessment protocol

4.3 Pediatric Abdomen

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
36.1.1	CT ABDOMEN 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	60	STD	50	1.34	14.01	82.5	Body 32	Weight and height based routine abdomen protocol
36.2.1	CT ABDOMEN 7.5-9.5 kg (16.5-20.9 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	95	STD	50	2.13	24.58	93.75	Body 32	Weight and height based routine abdomen protocol
36.3.1	CT ABDOMEN 9.5-11.5 kg (20.9-25.4 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	110	STD	50	2.46	31.23	105	Body 32	Weight and height based routine abdomen protocol
36.4.1	CT ABDOMEN 11.5-14.5 kg (25.4-32.0 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	75	STD	50	2.1	28.44	115	Body 32	Weight and height based routine abdomen protocol
36.5.1	CT ABDOMEN 14.5-18.5 kg (32.0-40.8 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	80	STD	50	2.24	30.33	115	Body 32	Weight and height based routine abdomen protocol
36.6.1	CT ABDOMEN 18.5-22.5 kg (40.8-49.6 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	70	STD	50	2.24	34.83	135	Body 32	Weight and height based routine abdomen protocol
36.7.1	CT ABDOMEN 22.5-31.5 kg (49.6-69.5 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	90	STD	50	2.74	54.1	155	Body 32	Weight and height based routine abdomen protocol
36.8.1	CT ABDOMEN 31.5-40.5 kg (69.5-89.3 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	100	STD	50	3.05	60.11	155	Body 32	Weight and height based routine abdomen protocol
36.9.1	CT ABDOMEN 40.5-55.0 kg (89.3-121.3 lbs)		Helical	Large Body	1.375 110.00	0.5	5	40	120	120	STD	50	3.66	90.43	205	Body 32	Weight and height based routine abdomen protocol

Chapter 5 Quality Assurance Protocols for 20mm detector configuration system

5.1 Quality Assurance

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
30.1	Example ACR Protocols		Axial	Large Body		0.5	5	20	120	270	STD	50	12.47	174.65	140	Body 32	Example protocols for ACR accreditation scans
			Axial	Head		1	5	20	120	170	STD	50	28.76	402.67	140	Head 16	Example protocols for ACR accreditation scans
			Helical	Large Body	0.969 38.75	0.5	5	20	120	220	STD	50	10.49	182.52	160	Body 32	Example protocols for ACR accreditation scans
			Axial	Ped Body		0.35	5	20	120	90	STD	50	2.43	33.96	140	Body 32	Example protocols for ACR accreditation scans
			Axial	Ped Head		0.5	5	20	120	190	STD	50	16.07	225.02	140	Head 16	Example protocols for ACR accreditation scans

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Ped Body	0.969 55.36	0.35	5	20	120	80	STD	50	2.23	38.7	160	Body 32	Example protocols for ACR accreditation scans

Chapter 6 Reference Adult Protocols for 20mm detector configuration system

6.1 Adult Head

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
21.1	CT HEAD		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
21.2	CT HEAD with ODM		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
21.3	CT HEAD Helical		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD#	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities
21.4	CT HEAD ANGIO CIRC WILLIS	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature
21.5	CT HEAD ANGIO CIRC WILLIS with ODM	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 50–400 mA NI=7 Avg mA 120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature
21.6	CT HEAD PERFUS WO & W PREFUS Cine		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
		Perfusion	Cine	Head		1	5 0	20	80	SmartmA & ODM 100–200 mA NI=8.0 Avg mA 100	STD	50	267.91	535.81	20	Head 16	CT Perfusion using Cine scan mode for evaluation of cerebral perfusion over time
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement
21.7	CT HEAD PERFUS WO & W PREFUS Axial		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
		Perfusion	Axial	Head		1	5 0	20	80	SmartmA & ODM 100–200 mA NI=8.0 Avg mA 100	STD	50	132.0	263.99	20	Head 16	CT Perfusion using Axial scan mode for evaluation of cerebral perfusion over time
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement
21.9**	CT HEAD Helical MAR		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD #	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities with Metal Artifact Reduction Reconstructions included
21.10**	CT HEAD ANGIO CIRC WILLIS MAR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with Metal Artifact Reduction Reconstructions included
21.11**	CT HEAD PERFUS WO & W PREFUS Axial Shuttle		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Routine head for evaluation of brain for abnormalities
		Perfusion	Axial	Head	17 pass 2 positions	0.5	5	20	80	SmartmA 100–400 mA NI=8.0 Avg mA 200	STD	50	102.0	407.99	40	Head 16	CT Perfusion using Axial Shuttle scan mode for evaluation of cerebral perfusion over time

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 170	STD#	50	28.76	402.67	140	Head 16	Post Contrast Brain, Evaluation for residual tissue enhancement
21.12**	CT HEAD DLIR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.13**	CT HEAD with ODM DLIR		Axial	Head		1	5	20	120	SmartmA & ODM 100–340 mA NI=2.8 Avg mA 200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.14**	CT HEAD Helical DLIR		Helical	Head	0.531 13.28	0.8	0.625	20	120	90	STD#	50	22.93	223.08	80.625	Head 16	Routine head for evaluation of brain for abnormalities with DLIR
21.15**	CT HEAD ANGIO CIRC WILLIS DLIR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with DLIR
21.16**	CT HEAD ANGIO CIRC WILLIS with ODM DLIR	MIROI	Axial	Head		1	5 0	5	120	50	STD	0	117.09	58.54	5	Head 16	Test bolus for determining prep delay
			Helical	Head	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 50–400 mA NI=7 Avg mA 120	STD	50	19.11	185.97	80.625	Head 16	CT angiography of the head for evaluation of cerebral vasculature with DLIR

6.2 Adult Orbit

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
22.1	CT HEAD SINUSES Supine		Helical	Head	0.531 10.63	1	0.625	20	120	75	BONE	50	23.89	232.33	80.625	Head 16	Axial Sinus protocol, Evaluation for any abnormality
22.2	CT HEAD ORBITS		Helical	Head	0.969 38.75	0.5	0.625	20	120	110	STD	50	9.61	36.01	19.375	Head 16	Axial Orbit protocol, Evaluation for abnormality soft tissues and bone structures of the orbit and face
22.3	CT HEAD FACIL BNS		Helical	Head	0.969 19.38	1	0.625	20	120	80	BONE PLUS	50	13.97	129.96	75	Head 16	Axial Facial Bone protocol, Evaluation for soft tissue and bone structures of the face
22.4	CT HEAD IAC 140 kV		Axial	Head		2	1.25	20	140	80	BONE PLUS	50	38.08	152.32	40	Head 16	Axial scan mode, Evaluation for inner ear abnormalities
22.5	CT HEAD IAC Helical 140 kV		Helical	Head	0.531 10.63	1	0.625	20	140	85	BONE PLUS	50	38.08	213.35	39.375	Head 16	Helical scan mode, Evaluation for inner ear abnormalities

6.3 Adult Neck

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
23.1	CT CERVICAL SPINE DMPR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.55	261.66	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for bone, disc and soft tissue abnormalities
23.2	CT NECK SFT TISS NECK DMPR	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 200	STD	50	9.09	153.4	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality
23.3	CT NECK ANGIO SmartPrep DMPR	DMPR	Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.43	232.89	170.625	Body 32	Carotid CTA Evaluation of carotid vasculature
23.4	CT HEAD NECK CIRC WILLIS CAR ART	MIROI	Axial	Head		1	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.43	232.89	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
23.5	CT HEAD NECK CIRC WILLIS CAR ART Hi Res	MIROI	Axial	Head		1	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	DTL	50	12.43	232.89	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature
23.6**	CT CERVICAL SPINE DMPR MAR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	SmartmA 50–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.55	261.66	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone abnormalities with Metal artifact reduction reconstruction
23.7**	CT NECKSFT TISS NECK DMPR MAR	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50–500 mA NI=12.6 Avg mA 200	STD	50	9.09	153.4	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality with metal artifact reductions.
23.8**	CT HEAD NECK CIRC WILLIS CAR ART MAR	MIROI	Axial	Head		1	5 0	5	120	60	STD	0	140.5	70.25	5.0	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.43	232.89	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature with metal artifact reduction reconstructions included

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
23.9**	CT CERVICAL SPINE DMPR DLIR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	SmartmA & ODM 80–500 mA NI=12.6 Avg mA 155	BONE PLUS	50	20.55	261.66	110.625	Body 32	C-Spine Helical mode with DMPR, Evaluation for bone, disc and soft tissue abnormalities with DLIR
23.10**	CT NECK SFT TISS NECK DMPR DLIR	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA & ODM 50–500 mA NI=12.6 Avg mA 200	STD	50	9.09	153.4	150.625	Body 32	Soft Tissue Neck Evaluation of soft tissue structures for abnormality with DLIR
23.11**	CT NECK ANGIO SmartPrep DMPR DLIR	DMPR	Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.43	232.89	170.625	Body 32	Carotid CTA Evaluation of carotid vasculature with DLIR
23.12**	CT HEAD NECK CIRC WILLIS CAR ART DLIR	MIROI	Axial	Head		1	5 0	5	120	60	STD	0	140.5	70.25	5	Head 16	Test bolus for determining prep delay
			Helical	Large Body	0.531 21.25	0.5	0.625	20	120	SmartmA & ODM 80–500 mA NI=11 Avg mA 150	STD	50	12.43	232.89	170.625	Body 32	CT angiography of the neck and head evaluation of carotid and cerebral vasculature with DLIR

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6.4 Adult Upper Extremities

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
24.1	CT UPPER EXTREMITY SHOULDER	DMPR	Helical	Large Body	0.531 10.63	1	1.25 0.625	20	140	SmartmA 80–500 mA NI=21.4 Avg mA 115	STD	50	27.56	323.31	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area
24.2**	CT UPPER EXTREMITY SHOULDER MAR	DMPR	Helical	Large Body	0.531 10.63	1	1.25 0.625	20	140	SmartmA 80–500 mA NI=21.4 Avg mA 115	STD	50	27.56	323.31	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area with Metal Artifact reduction reconstructions included
24.3**	CT UPPER EXTREMITY SHOULDER DLIR	DMPR	Helical	Large Body	0.531 10.63	1	1.25 0.625	20	140	SmartmA 80–500 mA NI=21.4 Avg mA 110	STD	50	26.36	309.26	101.25	Body 32	Shoulder with DMPR, Evaluation of soft tissue and bone of shoulder area with DLIR

6.5 Adult Chest

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.1	CT CHEST SmartPrep	DMPR	Helical	Large Body	1.375 55.00	0.5	2.5	20	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	4.0	138.23	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR
25.2	CT CHST ABD PEL		Helical	Large Body	1.375 55.00	0.5	5.0	20	120	SmartmA 50-500 mA NI=13 Avg mA 125	STD	50	4.0	111.97	255.00	Body 32	Evaluation of chest region for abnormalities
	Group 2		Helical	Large Body	0.969 38.75	0.5	5.0	20	120	SmartmA 50-500 mA NI=12 Avg mA 135	STD	50	6.13	167.58	255.00	Body 32	Evaluation of abdominal pelvic region for abnormalities
25.3	CT NECK CHST ABD PEL	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=12.6 Avg mA 200	STD	50	9.09	220.99	225	Body 32	Evaluation of Neck region for abnormalities
	Group 2	DMPR	Helical	Large Body	1.531 61.25	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.0 Avg mA 200	STD	50	5.75	188.19	300	Body 32	Evaluation of Chest region for abnormalities

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
	Group 3	DMPR	Helical	Large Body	0.969 24.22	0.8	0.625	20	120	SmartmA 50-500 mA NI=18 Avg mA 200	STD	50	14.54	615.25	405	Body 32	Evaluation of abdominal and pelvic region for abnormalities
25.4	CT CHST ANGIO		Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 180	STD	50	8.18	260.75	300.625	Body 32	Evaluation of thoracic aortic aneurysm
25.5	CT CHST ANGIO PULMARTS SmartPrep		Helical	Large Body	0.969 38.75	0.5	1.25	20	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	13.83	441.15	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities.
25.6	CT CHST LO DOSE Assessment	Advanced Lung Analysis	Helical	Large Body	0.969 38.75	0.5	1.25	20	120	120	BONE	50	5.45	119.3	201.25	Body 32	Acquisition of data for Advanced Lung Analysis (ALA) software for lung nodule assessment
25.7	CT CHST Hi Res		Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode
			Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode
			Axial	Large Body		0.5	1.25 10	1.25	120	190	Bone Plus	50	2.65	13.26	41.25	Body 32	Axial scan mode, Evaluation of lung fields in high resolution mode

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{Vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.8**	CORARTS CALC SCORE	SmartScore	Cardiac SmartScore	Cardiac Large		0.35	2.5	20	120	SmartmA 50-400 mA NI=20 Avg mA 215	STD	50	4.68	65.46	140	Body 32	Prospectively gated Cardiac Cine scan for acquisition of data for coronary artery calcification analysis
25.9**	CORARTS CCTA SmartPrep		Cardiac SS Seg	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	STD	50	24.84	389.75	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
25.10**	CORARTS CCTA	MIROI	Axial	Large Body		1	50	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
			Cardiac SS Seg	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	STD	50	24.84	389.75	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
25.12**	CORARTS CCTA Hi Res	MIROI	Axial	Large Body		1	50	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Cardiac SSSEG	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase 70-80 62-310 mA	DTL	50	24.84	389.75	140	Body 32	Retrospectively gated Cardiac Helical scan using Detail for evaluation of coronary arteries
25.13**	CORARTS CCTA Function	MIROI	Axial	Large Body		1	5 0	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary function
			Cardiac SSSEG	Cardiac Small	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 310	STD	50	39.87	625.46	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function
25.14**	ANGIO HEART TAVI TAVR		Cardiac SSSEG	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 285 ECG mA Phase 25-80 62-310mA	STD	50	41.9	659.89	140.625	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function, valve implantation planning and valve replacement planning
	Group 2		Helical	Large Body	1.531 87.5	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 195	STD	50	3.92	207.23	500.625	Body 32	Helical scan for valve planning
25.15	CT CHEST for Advantage 4D	Advantage 4D	Cine	Large Body		0.5	2.5	20	120	160	STD	50	76.39	2444.33	320	Body 32	Cine scan mode for acquisition data for Advantage 4D for retrospective gating

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.16**	CT CHEST SmartPrep MAR	DMPR	Helical	Large Body	1.375 55.00	0.5	0.625	20	120	SmartmA 50-500 mA NI=22 Avg mA 125	STD	50	4	138.23	320.625	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR with Metal Artifact reduction reconstructions included
25.17**	CT CHST ANGIO PULM ARTS SmartPrep MAR		Helical	Large Body	0.969 38.75	0.5	1.25	20	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	13.83	441.15	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities.
25.18**	CT Low Dose Lung Cancer Screening 50-70 kg (110-155 lbs)		Helical	Large Body	0.969 38.75	0.5	2.5 2.0	20	120	30	STD	0 Optional	1.36	36.64	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening
25.19**	CT Low Dose Lung Cancer Screening 70-90 kg (155-200 lbs)		Helical	Large Body	0.969 38.75	0.5	2.5 2.0	20	120	50	STD	0 Optional	2.27	61.07	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening
25.20**	CT Low Dose Lung Cancer Screening 90-120 kg (200-265 lbs)		Helical	Large Body	0.969 38.75	0.5	2.5 2.0	20	120	80	STD	0 Optional	3.64	97.71	252.5	Body 32	Low dose helical scan for evaluation of Lung Cancer Screening

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.21**	CT CHEST SmartPrep Auto Prescription	DMPR	Helical	Large Body	1.375 55.00	0.5	2.5	20	100	SmartmA 70-480 mA NI=19.4 Avg mA 170	STD	50	3.37	116.4	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR
25.22**	CT CHST ANGIO Auto Prescription		Helical	Large Body	0.969 38.75	0.5	0.625	20	100	SmartmA 70-480 mA NI=23.8 Avg mA 245	STD	50	7.23	230.74	300.625	Body 32	Evaluation of thoracic aortic aneurysm
25.23**	CORARTS CCTA SmartPrep Auto Prescription		Cardiac SS Seg	Cardiac Large	0.22 12.57	0.35	0.625	20	100	SmartmA 50-480 mA NI=32.4 Avg mA 230 ECG mA Phase 70-80 84-420 mA	STD	50	20.93	328.4	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
25.24**	CT CHEST SmartPrep True Enhance DL	DMPR	Helical	Large Body	1.375 55.00	0.5	2.5	20	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	4.0	138.23	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR with True Enhance DL
25.25**	CT CHST ANGIO True Enhance DL		Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 180	STD	50	8.18	260.75	300.625	Body 32	Evaluation of thoracic aortic aneurysm with True Enhance DL
25.26**	CT CHST ANGIO PULM ARTS SmartPrep True Enhance DL		Helical	Large Body	0.969 38.75	0.5	1.25	20	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	13.83	441.15	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities with True Enhance DL
25.27**	CT CHEST SmartPrep DLIR	DMPR	Helical	Large Body	1.375 55.00	0.5	2.5	20	120	SmartmA 50-500 mA NI=18 Avg mA 125	STD	50	4.0	138.23	322.5	Body 32	Evaluation of chest region for abnormalities with SmartPrep and DMPR with DLIR

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
25.28**	CT CHST ANGIO PULM ARTS SmartPrep DLIR		Helical	Large Body	0.969 38.75	0.5	1.25	20	120	SmartmA 50-500 mA NI=21.4 Avg mA 290	STD	50	13.83	441.15	301.25	Body 32	Evaluation of thoracic vasculature for abnormalities with DLIR
25.29**	COR ARTS CCTA SmartPrep DLIR		Cardiac SSSEG	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase70-80 62-310 mA	STD	50	24.84	389.75	140	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries with DLIR
25.30**	COR ARTS CCTA Hi Res DLIR	MIROI	Axial	Large Body		1	5 0	5	120	40	STD	0	49.17	24.59	5	Body 32	Timing bolus scan for Retrospectively gated Cardiac Helical scan for evaluation of coronary arteries
			Cardiac SSSEG	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 169 ECG mA Phase70-80 62-310 mA	DTL	50	24.84	389.75	140	Body 32	Retrospectively gated Cardiac evaluation of coronary arteries with DLIR
25.31**	ANGIO HEART TAVI TAVR DLIR		Cardiac SSSEG	Cardiac Large	0.22 12.57	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 285 ECG mA Phase25-80 62-310 mA	STD	50	41.9	659.89	140.625	Body 32	Retrospectively gated Cardiac Helical scan for evaluation of coronary function, valve implantation planning and valve replacement planning with DLIR
	Group 2		Helical	Large Body	1.531 87.5	0.35	0.625	20	120	SmartmA 50-500 mA NI=30 Avg mA 195	STD	50	3.92	207.23	500.625	Body 32	Helical scan for valve planning with DLIR

6.6 Adult Abdomen

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.1	CT ABD PELVIS SmartPrep DMPR	DMPR	Helical	Large Body	0.969 24.22	0.8	0.625	20	120	SmartmA 50-500 mA NI=18 Avg mA 190	STD	50	13.81	716.59	500.625	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures
26.2	CT ABD PELVIS 5mm SmartPrep DMPR	DMPR	Helical	Large Body	0.969 24.22	0.8	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 110	STD	50	8.0	414.87	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR
26.3	CT ABD PELVIS URO DMPR Helical	DMPR	Helical	Large Body	0.969 24.22	0.8	0.625	20	120	SmartmA 50-500 mA NI=18 Avg mA 190	STD	50	13.81	716.59	500.625	Body 32	Helical scan for evaluation of kidney, ureters and bladder for renal stone
26.4	CT ABD MULTIPH LIVER	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for early arterial, phase of the liver
	Group 2		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for late arterial phase of the liver

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Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASIR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
	Group 3		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.82	285.46	405	Body 32	Acquisition for portal venous phase of the liver
26.5	CT ABD PELVIS ANGIO SmartPrep	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 200	STD	50	9.09	380.61	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm
26.6	CT ABD PELVIS ANGIO	MIROI	Axial	Large Body		1	5 0	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	1.375 45.83	0.6	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 355	STD	50	14.31	1468.17	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs and lower extremities (Runoff)
26.7	CT ABD PELVIS COLONOGRAPHY	CT Colon Pro 3D	Helical	Large Body	0.969 38.75	0.5	1.25 0.625	20	120	75	STD	50	3.41	142.73	401.25	Body 32	Helical scan mode Supine acquisition for using Advantage CTC Pro for evaluation of the colon
		CT Colon Pro 3D	Helical	Large Body	0.969 38.75	0.5	1.25 0.625	20	120	75	STD	50	3.41	142.73	401.25	Body 32	Helical scan mode Prone acquisition for using Advantage CTC Pro for evaluation of the colon
26.8	Trauma Full Body DMPR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities
		DMPR	Helical	Large Body	0.969 38.75	0.5	2.5	20	120	SmartmA 80–500 mA NI=9.1 Avg mA 125	STD	50	5.68	152.68	252.5	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone abnormalities

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
	Group 1	DMPR	Helical	Large Body	1.531 61.25	0.5	5	20	120	SmartmA 80-500 mA NI=13 Avg mA 140	STD	50	4.02	129.97	300	Body 32	Evaluation of chest region for abnormalities.
	Group 2	DMPR	Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 80-500 mA NI=12 Avg mA 170	STD	50	7.73	319.66	400	Body 32	Evaluation of abdominal and pelvic region for abnormalities.
26.10**	CT GUIDE BX DRAIN 5mm		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 NI= 12 Avg mA 110	STD	50	5.0	259.32	505	Body32	Localization scan for CT interventional scan
			Smart Step	Large Body		0.8	5	10	120	60	STD	0	364.66	364.66	10	Body32	Step and Shoot scan for interventional scan
26.12**	CT GUIDE BX DRAIN 3D Guidance 2.5mm/9i		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 NI= 12 Avg mA 110	STD	50	5.0	259.32	505	Body32	Localization scan for CT interventional scan
			3D Guidance	Large Body		0.8	2.5	20	120	60	STD	0	311.58	623.16	20	Body32	Step and Shoot scan for interventional scan
26.13**	CT ABD PELVIS 5mm SmartPrep DMPR MAR	DMPR	Helical	Large Body	0.969 24.22	0.8	5	20	120	SmartmA 50-500 NI= 12 Avg mA 110	STD	50	8.0	414.87	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures with MAR reconstructions included
26.14**	CT ABD PELVIS ANGIO SmartPrep MAR	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 NI= 22.1 Avg mA 200	STD	50	9.09	380.61	400.625	Body 32	Axial scan with DMPR and Smart- Prep Evaluation for abdominal aortic aneurysm with MAR reconstructions

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.15**	CT ABD PELVIS 5mm SmartPrep DMPR Auto Prescription	DMPR	Helical	Large Body	0.969 24.22	0.8	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 110	STD	50	8.0	414.87	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR
26.16**	CT ABD PELVIS ANGIO SmartPrep Auto Prescription	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	100	SmartmA 70-480 mA NI=25.8 Avg mA 235	STD	50	6.61	276.91	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm
26.17**	CT ABD PEL ANGIO Auto Prescription	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	0.969 32.29	0.6	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 255	STD	50	14.59	1487.04	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs, and lower extremities (Runoff)
26.18**	CT ABD PELVIS SmartPrep DMPR True Enhance DL	DMPR	Helical	Large Body	0.969 24.22	0.8	0.625	20	120	SmartmA 50-500 mA NI=18 Avg mA 190	STD	50	13.81	716.59	500.625	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures with True Enhance DL
26.19**	CT ABD PELVIS 5mm SmartPrep DMPR True Enhance DL	DMPR	Helical	Large Body	0.969 24.22	0.8	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 110	STD	50	8.0	414.87	505	Body 32	Basic Abdomen Pelvis and SmartPrep Evaluation for abnormalities of abdominal and pelvic structures and DMPR with True Enhance DL
26.20**	CT ABD PELVIS URO DMPR Helical True Enhance DL	DMPR	Helical	Large Body	0.969 24.22	0.8	0.625	20	120	SmartmA 50-500 mA NI=18 Avg mA 190	STD	50	13.81	716.59	500.625	Body 32	Helical scan for evaluation of kidney, ureters, and bladder for renal stone with True Enhance DL

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.21**	CT ABD MULTIPH LIVER True Enhance DL	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for early arterial, phase of the liver with True Enhance DL
	Group 2		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for late arterial phase of the liver with True Enhance DL
	Group 3		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50–500 mA NI=12 Avg mA 150	STD	50	6.82	285.46	405	Body 32	Acquisition for portal venous phase of the liver with True Enhance DL
26.22**	CTABD PELVIS ANGIO SmartPrep True Enhance DL	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 200	STD	50	9.09	380.61	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm with True Enhance DL
26.23**	CT ABD PEL LE ANGIO True Enhance DL	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation of vascular structures
			Helical	Large Body	1.375 45.83	0.6	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 355	STD	50	14.31	1468.17	1000.625	Body 32	Evaluation of vascular structures of abdomen, femurs and lower extremities (Runoff) with True Enhance DL

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
26.24**	CT ABD MULTIPH LIVER DLIR	MIROI	Axial	Large Body		1	50	5	120	80	STD	0	98.34	49.17	5	Body 32	Timing Bolus for Evaluation multi phase liver
	Group 1		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for early arterial, phase of the liver with DLIR
	Group 2		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.82	135.5	185	Body 32	Acquisition for late arterial phase of the liver with DLIR
	Group 3		Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 50-500 mA NI=12 Avg mA 150	STD	50	6.82	285.46	405	Body 32	Acquisition for portal venous phase of the liver with DLIR
26.25**	CTABD PELVIS ANGIO SmartPrep DLIR	DMPR	Helical	Large Body	0.969 38.75	0.5	0.625	20	120	SmartmA 50-500 mA NI=22.1 Avg mA 200	STD	50	9.09	380.61	400.625	Body 32	Axial scan with DMPR and SmartPrep Evaluation for abdominal aortic aneurysm with DLIR
26.26**	Trauma Full Body DMPR DLIR		Axial	Head		1	5	20	120	200	STD#	50	33.84	473.73	140	Head 16	Routine head for evaluation of brain for abnormalities DLIR
		DMPR	Helical	Large Body	0.969 38.75	0.5	2.5	20	120	SmartmA 80-500 mA NI=9.1 Avg mA 125	STD	50	5.68	152.68	252.5	Body 32	C-Spine Helical mode with DMPR, Evaluation for soft tissue, disc and bone Abnormalities with DLIR
	Group 1	DMPR	Helical	Large Body	1.531 61.25	0.5	5	20	120	SmartmA 80-500 mA NI=13 Avg mA 140	STD	50	4.02	129.97	300	Body 32	Evaluation of chest region for Abnormalities with DLIR
	Group 2	DMPR	Helical	Large Body	0.969 38.75	0.5	5	20	120	SmartmA 80-500 mA NI=12 Avg mA 170	STD	50	7.73	319.66	400	Body 32	Evaluation of abdominal and pelvic region for abnormalities with DLIR

6.7 Adult Spine

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min- Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
27.1	CT L SPINE DMPR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	Smart-mA 50-500 mA NI=20 Avg mA 330	BONE PLUS	50	45.92	883.92	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR
27.2**	CT L SPINE DMPR MAR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	Smart-mA 50-500 mA NI=20 Avg mA 330	BONE PLUS	50	45.92	883.92	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR with metal artifact reductions reconstructions included
27.3**	CT L SPINE DMPR Auto Prescription	DMPR	Helical	Large Body	0.531 10.63	1	0.625	20	120	Smart-mA 50-500 mA NI=18 Avg mA 265	BONE PLUS	50	46.09	887.18	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR
27.4**	CTLSPINE DMPR DLIR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	Smart-mA 50-500 mA NI=20 Avg mA 330	BONE PLUS	50	45.92	883.92	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR with DLIR
27.5**	CTLSPINE DMPR MAR DLIR	DMPR	Helical	Large Body	0.531 13.28	0.8	0.625	20	120	Smart-mA 50-500 mA NI=20 Avg mA 330	BONE PLUS	50	45.92	883.92	175.625	Body 32	Evaluation of soft tissue and bony structures of lumbar spine with DMPR with metal artifact reductions reconstructions included with DLIR

6.8 Adult Pelvis

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
28.1	CT PELVIS DMPR	DMPR	Helical	Large Body	0.969 19.38	1	1.25	20	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	15.00	402.92	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR
28.2**	CT PELVIS DMPR MAR	DMPR	Helical	Large Body	0.969 19.38	1	1.25	20	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	15.00	402.92	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR with metal artifact reductions reconstructions included
28.3**	CTPELVIS DMPR DLIR	DMPR	Helical	Large Body	0.969 19.38	1	1.25	20	120	SmartmA 50–500 mA NI=20 Avg mA 165	BONE PLUS	50	15.00	402.92	251.25	Body 32	Evaluation of pelvis bony structures for fracture with DMPR with DLIR

6.9 Adult Lower Extremity

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
29.1	CT LE ANKLE		Helical	Large Body	0.531 10.63	1	0.625	20	120	SmartmA 50–200 mA NI=22.1 Avg mA 60	STD	50	9.94	136.54	120.625	Body 32	Evaluation of soft tissue and bony anatomy of ankle area
29.2**	CT LE ANKLE MAR		Helical	Large Body	0.531 10.63	1	0.625	20	120	SmartmA 50–200 mA NI=22.1 Avg mA 60	STD	50	9.94	136.54	120.625	Body 32	Evaluation of soft tissue and bony anatomy of ankle area with metal artifact reductions reconstructions included

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Chapter 7 Reference Pediatric Protocols for 20mm detector configuration system

7.1 Pediatric Head

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
31.1	CT HEAD Ped 5 years to 18 years		Axial	Head		1	5	20	120	110	STD	50	18.61	223.33	120	Head 16	Routine head for children (5 years to 18 years)
31.2	CT HEAD Ped 18 months to 5 years		Axial	Head		0.5	5	20	120	200	STD	50	16.92	203.03	120	Head 16	Routine head for children (18 months to 5 years)
31.3	CT HEAD Ped to 18 months		Axial	Ped Head		0.5	5	20	120	145	STD	50	12.27	147.2	120	Head 16	Routine head for infant (up to 18 months)

7.2 Pediatric Chest

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

NOTE

** These protocols are installed options. As a result the numbering is a function of when and where the option is installed.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.1.1	CT CHEST 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	50	STD	50	1.12	11.25	78.75	Body 32	Weight and height based routine chest protocol
35.1.2**	CT CHST HEART Vascular Assessment 6.0-7.5 kg (13.2-16.5 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 34-170 mA Phase 40-80 Avg mA 140	STD	50	5.66	52.35	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.2.1	CT CHEST 7.5-9.5kg (16.5-20.9 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	70	STD	50	1.57	15.76	78.75	Body 32	Weight and height based routine chest protocol
35.2.2**	CT CHST HEART Vascular Assessment 7.5-9.5 kg (16.5-20.9 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 36-180 mA Phase 40-80 Avg mA=148	STD	50	5.98	55.35	75.625	Body 32	Weight and height based cardiac vascular assessment protocol

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.3.1	CT CHEST 9.5-11.5 kg (20.9-25.4 lbs)		Helical	Small Body	1.375 55.00	0.5	3.75	20	120	75	STD	50	2.1	21.87	82.5	Body 32	Weight and height based routine chest protocol
35.3.2**	CT CHST HEART Vascular Assessment 9.5-11.5 kg (20.9-25.4 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 38-190 mA Phase 40-80 Avg mA 156	STD	50	6.31	58.34	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.4.1	CT CHEST 11.5-14.5 kg (25.4-32.0 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	70	STD	50	1.96	22.62	95.0	Body 32	Weight and height based routine chest protocol
35.4.2**	CT CHST HEART Vascular Assessment 11.5-14.5 kg (25.4-32.0 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 41-205 mA Phase 40-80 Avg mA 168	STD	50	6.79	62.83	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.5.1	CT CHEST 14.5-18.5 kg (32.0-40.8 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	75	STD	50	2.1	24.24	95.0	Body 32	Weight and height based routine chest protocol
35.5.2**	CT CHST HEART Vascular Assessment 14.5-18.5 kg (32.0-40.8 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for weight and height based cardiac protocol

Reference Protocol Guide

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
			Cardiac SSseg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 46-230 mA Phase 40-80 Avg mA 186	STD	50	7.52	69.56	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.6.1	CT CHEST 18.5-22.5 kg (40.8-49.6 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	80	STD	50	2.24	25.85	95.0	Body 32	Weight and height based routine chest protocol
35.6.2**	CT CHST HEART Vascular Assessment 18.5-22.5 kg (40.8-49.6 lbs)	MIROI	Axial	Small Body		1	5 0	5	80	50	STD	0	21.29	10.65	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSseg	Cardiac Small	0.22 12.57	0.35	0.625	20	80	ECG 48-240 mA Phase 40-80 Avg mA 194	STD	50	7.84	72.55	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.7.1	CT CHEST 22.5-31.5 kg (49.6-69.5 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	80	STD	50	2.56	32.12	105.0	Body 32	Weight and height based routine chest protocol
35.7.2**	CT CHST HEART Vascular Assessment 22.5-31.5 kg (49.6-69.5 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSseg	Cardiac Small	0.22 12.57	0.35	0.625	20	100	ECG 42-210 mA Phase 40-80 Avg mA 171	STD	50	13.16	121.76	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.8.1	CT CHEST 31.5-40.5 kg (69.5-89.3 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	85	STD	50	2.72	39.57	125.00	Body 32	Weight and height based routine chest protocol

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR -V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
35.8.2**	CT CHST HEART Vascular Assessment 31.5-40.5 kg (69.5-89.3 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	100	ECG 46-230 mA Phase 40-80 Avg mA 186	STD	50	14.32	132.44	75.625	Body 32	Weight and height based cardiac vascular assessment protocol
35.9.1	CT CHEST 40.5-55.0 kg (89.3-121.3 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	95	STD	50	3.04	53.35	155.0	Body 32	Weight and height based routine chest protocol
35.9.2**	CT CHST HEART Vascular Assessment 40.5-55.0 kg (89.3-121.3 lbs)	MIROI	Axial	Small Body		1	5 0	5	100	50	STD	0	40.53	20.26	5	Body 32	Timing bolus for Weight and height based cardiac protocol
			Cardiac SSSeg	Cardiac Small	0.22 12.57	0.35	0.625	20	100	ECG 50-250 mA Phase 40-80 Avg mA 197	STD	50	15.92	147.22	75.625	Body 32	Weight and height based cardiac vascular assessment protocol

7.3 Pediatric Abdomen

Interval*

- For Helical acquisitions, Interval is equal to Slice Thickness, unless otherwise indicated.
- For Axial and Cine acquisitions, Interval is equal to Detector Coverage, unless otherwise indicated.

Protocol Number	Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed (mm/s)	Rotation Time (seconds)	Slice Thickness (mm) Interval* (mm)	Detector Coverage (mm)	kV	mA Min-Max NI	Recon Type	% ASiR-V	CTDI _{vol} (mGy)	DLP (mGy-cm)	Recon Range (mm)	Phantom (cm)	Description
36.1.1	CT ABDOMEN 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	60	STD	50	1.34	14.01	82.5	Body 32	Weight and height based routine abdomen protocol
36.2.1	CT ABDOMEN 7.5-9.5 kg (16.5-20.9 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	95	STD	50	2.13	24.58	93.75	Body 32	Weight and height based routine abdomen protocol
36.3.1	CT ABDOMEN 9.5-11.5 kg (20.9-25.4 lbs)		Helical	Ped Body	1.375 68.75	0.4	3.75	20	120	110	STD	50	2.46	31.23	105	Body 32	Weight and height based routine abdomen protocol
36.4.1	CT ABDOMEN 11.5-14.5 kg (25.4-32.0 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	75	STD	50	2.1	28.44	115	Body 32	Weight and height based routine abdomen protocol
36.5.1	CT ABDOMEN 14.5-18.5 kg (32.0-40.8 lbs)		Helical	Small Body	1.375 55.00	0.5	5	20	120	80	STD	50	2.24	30.33	115	Body 32	Weight and height based routine abdomen protocol
36.6.1	CT ABDOMEN 18.5-22.5 kg (40.8-49.6 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	70	STD	50	2.24	34.83	135	Body 32	Weight and height based routine abdomen protocol
36.7.1	CT ABDOMEN 22.5-31.5 kg (49.6-69.5 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	90	STD	50	2.88	50.54	155	Body 32	Weight and height based routine abdomen protocol
36.8.1	CT ABDOMEN 31.5-40.5 kg (69.5-89.3 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	100	STD	50	3.2	56.15	155	Body 32	Weight and height based routine abdomen protocol
36.9.1	CT ABDOMEN 40.5-55.0 kg (89.3-121.3 lbs)		Helical	Large Body	1.375 55.00	0.5	5	20	120	120	STD	50	3.84	86.6	205	Body 32	Weight and height based routine abdomen protocol

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