

GE Healthcare

Reference Protocol Guide

5611412-1EN

Revision: 4

GE Hangwei Medical Systems does business as GE
Healthcare

This Manual Supports the Following Product Names:

Optima CT540



Optima CT540

Reference Protocols, English

5611412-1EN

Revision: 4

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Revision History	i-1
Revision History	i-2

Purpose	1-1
Purpose	1-2

Optima CT540	2-1
Head	2-2
Orbit	2-3
Neck	2-5
Shoulder	2-6
Chest	2-6
Abdomen	2-12
L-Spine	2-17
Pelvis	2-18
Lower Extremity	2-18
Pediatric Head	2-19
Pediatric Chest	2-20
Pediatric Abdomen	2-21

Optima CT540 with ASiR	3-1
Head	3-2
Orbit	3-4
Neck	3-5
Shoulder	3-6
Chest	3-7
Abdomen	3-15
L-Spine	3-20
Pelvis	3-21
Lower Extremity	3-22
Pediatric Head	3-23
Pediatric Chest	3-23
Pediatric Abodmen	3-25

Lexicon	A-1
Lexicon	A-2
Scan Acquisition and User Interface Basics	A-2
Dose Modulation and Reduction Tools	A-3
Multi-slice Detector Geometry	A-3
Image Reconstruction and Display	A-4
Contrast Media Tools	A-4
Multi-planar Formats and 3D Processing	A-5
Service and Application Tools	A-5
Workflow	A-5
References	A-6

Revision History

Revision History

REV	DATE	REASON FOR CHANGE
1	December, 2014	Initial Release
2	April, 2015	Information update
3	August, 2016	Information update
4	March, 2017	Information update

Purpose

Purpose

This document provides a listing of the parameters provided in the reference protocols contained under the GE tab selector. The protocols in Adult are based on parameters needed to scan an average sized adult and take the clinical aim of the protocol into consideration. The protocols in Pediatric are based on age in the Head and Orbit area, and in the rest of the body, use Color Coding for Kids or the Feather Light patient sizing scheme. 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. Each table lists the Protocol Number, Protocol Name, Post Processing software associated with, Scan Type, SFOV, Pitch/Table Speed/Row, Gantry Rotation Time, Slice Thickness, Beam Collimation, kV, mA/AVG mA/Min-Max mA/Noise Index, CTDIvol, Recon Algorithm Type used, Scan Length, DLP (mGy-cm) and Phantom type used.

If the ASiR option is installed on the system, then there will be a % ASiR column listed in the table indicating the ASiR value in the reference protocol.

Manual mA mode allows you to scan without enabling AutomA mode. When building protocols, make sure the mA value field contains a reasonable mA value in the event that AutomA is turned off. In the GE reference 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 AutomA or SmartmA. The Avg mA value provided in the table is an estimate based on an average patient size (32- 36 cm). The actual average mA for each image is calculated by using all of the mA values for each scan rotation, as determined by AutomA for the patient. The AutomA Theory section in the Learning and Reference Guide, Building Protocols Chapter and in the Technical Reference Manual, General Information Chapter details how AutomA does this calculation.

Only protocols 25.34 is appropriate for Radiation Treatment Planning.

Optima CT540

Head

Table 2-1 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness (mm)	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
21.1	Routine Head		Axial	Head	4i	2.00	2.5	10.00	140	160	Std	89.62	358.47	37.50	Head 16	Routine Head protocol for the brain abnormalities evaluation
21.1	Routine Head		Axial	Head	2i	2.00	5	10.00	140	140	Std	78.42	627.33	75.00	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.2	Routine Head Smart mA		Axial	Head	4i	2.00	2.5	10.00	140	SmartmA 50-200mA NI=2.80 Avg mA= 160	Std	89.62	358.47	37.50	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.2	Routine Head Smart mA		Axial	Head	2i	2.00	5	10.00	140	SmartmA 50-200mA NI=2.80 Avg mA= 140	Std	78.42	627.33	75.00	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.3	Trauma Head		Axial	Head	2i	1.00	5	10.00	140	180	Std	54.36	652.27	115.00	Head 16	Emergency head protocol for the brain and cranium abnormalities evaluation.
21.4	Trauma Head SmartmA		Axial	Head	2i	1.00	5	10.00	140	SmartmA 100-380mA NI=2.80 Avg mA= 180	Std	54.36	652.27	115.00	Head 16	Emergency head protocol for the brain and cranium abnormalities evaluation.
21.5	Circle of Willis 0.8 sec.		Helical	Head	0.562 5.625	0.80	0.625	10.00	120	160	Std	45.63	420.80	80.00	Head 16	CT angiography of the Circle of Willis for cerebral vascular evaluation.
21.6	Circle of Willis 0.6 sec.		Helical	Head	0.562 5.625	0.60	0.625	10.00	120	210	Std	48.43	446.73	80.00	Head 16	CT angiography of the Circle of Willis for cerebral vascular evaluation.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness (mm)	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
21.7	CT Perfusion 300 Strength	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	140	Std	56.47	282.34	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for hemorrhage or infarction
21.7	CT Perfusion 300 Strength	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	200	Std	597.64	1195.27	15.00	Head 16	Cerebral blood flow perfusion evaluation.
21.8	CT Perfusion 370 Strength	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	140	Std	56.47	282.34	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for hemorrhage or infarction
21.8	CT Perfusion 370 Strength	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	200	Std	537.88	1075.77	15.00	Head 16	Cerebral blood flow perfusion evaluation.
21.9	CT Perfusion Brain Tumor	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	140	Std	56.47	282.34	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for tumor.
21.9	CT Perfusion Brain Tumor	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	200	Std	597.64	1195.27	15.00	Head 16	Cerebral blood flow perfusion evaluation for tumor.
21.10	Helical Head		Helical	Head	0.562 5.625	1.00	5	10.00	120	260	Std	99.93	636.83	45.00	Head 16	Helical scan mode protocol for the brain abnormalities evaluation

Orbit

Table 2-2 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness (mm)	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
22.1	Sinus Supine		Helical	Head	0.562 5.625	1.00	2.5	10.00	120	150	Bone	53.47	694.03	115.00	Head 16	Evaluation for abnormality of paranasal sinus soft tissues and bone structures, Supine scan.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
22.2	Sinus Prone		Helical	Head	0.562 11.25	0.60	2.5	20.00	120	250	Std	46.50	573.87	97.50	Head 16	Evaluation for abnormality of paranasal sinus soft tissues and bone structures, Prone scan
22.3	Orbits Helical		Helical	Head	0.562 5.625	0.80	2.5	10.00	120	160	Std	45.63	432.62	80.00	Head 16	Evaluation for abnormality of orbit soft tissues and bone structures
22.4	Axial IAC 0.625mm (Cor & Axial Planes)		Axial	Head	16i	2.00	0.625	10.00	120	150	Std	60.15	240.62	39.38	Head 16	Evaluation for Inner Auditory Canal abnormalities.
22.5	Helical IAC 0.625mm (Cor & Axial Planes)		Helical	Head	0.562 5.625	1.00	0.625	10.00	140	260	Std	139.58	711.26	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.
22.6	Helical IAC 0.625mm Axial only use Reformat for Coronal		Helical	Head	0.562 5.625	1.00	0.625	10.00	140	260	Std	139.58	711.26	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.
22.7	Helical IAC 1.25mm Axial only use Reformat for Coronal		Helical	Head	0.562 5.625	1.00	1.25	10.00	140	120	Std	59.75	311.01	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.

Neck

Table 2-3 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
23.1	C-Spine C5-C7		Axial	Large	8i	2.00	2.5	20.00	140	170	Std	43.47	608.62	137.50	Body 32	Evaluation for C5-C7 Cervical Spine area soft tissue, intervertebral disc and bone abnormalities .
23.2	C-Spine C1-C4		Axial	Large	8i	2.00	2.5	20.00	120	120	Std	21.25	170.01	77.50	Body 32	Evaluation for C1-C4 Cervical Spine area soft tissue, intervertebral disc and bone abnormalities
23.3	C-Spine C1-C4 SmartmA		Axial	Large	8i	2.00	2.5	20.00	120	SmartmA 50-200mA NI=11.52 Avg mA= 120	Std	21.25	170.01	77.50	Body 32	Evaluation for C1-C4 Cervical Spine area soft tissue, intervertebral disc and bone abnormalities with SmartmA.
23.4	Carotid/CoW 0.8 sec.		Helical	Large	1.375 13.75	0.80	1.25	10.00	120	245	Std	15.78	292.12	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.
23.5	Carotid/CoW 0.6 sec.		Helical	Large	1.375 13.75	0.60	1.25	10.00	120	325	Std	15.70	290.69	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.
23.6	Carotid/CoW 0.625mm 0.6 sec.		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	380	Std	26.50	487.92	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.
23.7	Soft Tissue Neck Plus Mode		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	290	Std	18.67	316.96	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
23.8	Soft Tissue Neck Plus Mode 0.6 SmartmA		Helical	Large	1.375 13.75	0.60	3.75	10.00	120	SmartmA 100-440mA NI=7.02 Avg mA= 380	Std	18.35	311.57	150.00	Body 32	Evaluation of the cervical soft tissue abnormality with AutomA.
23.9	Soft Tissue Neck 0.8 sec. Full Mode		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	300	Std	19.32	325.62	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.
23.10	Soft Tissue Neck 0.6 sec. Full Mode		Helical	Large	1.375 13.75	0.60	3.75	10.00	120	390	Std	18.84	317.56	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.

Shoulder

Table 2-4 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
24.1	Shoulder Plus Mode		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	280	Std	44.08	558.60	100.00	Body 32	Evaluation of soft tissue and bone structure of shoulder .

Chest

Table 2-5 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.1	Routine Chest 0.8 sec.		Helical	Large	1.375 27.5	0.80	5	20.00	120	170	Std	8.76	204.52	200.00	Body 32	Routine Evaluation of mediastinum and lungs
25.2	Routine Chest 0.5 sec.		Helical	Large	1.375 27.5	0.50	5	20.00	120	270	Std	8.69	203.16	200.00	Body 32	Routine Evaluation of mediastinum and lungs.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.3	Routine Chest 0.5 sec. Smart mA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 270	Std	8.69	203.16	200.00	Body 32	Routine Evaluation of mediastinum and lungs with SmartmA.
25.4	Chest with HiRes 0.8 sec.		Helical	Large	1.375 13.75	0.80	5	10.00	120	200	Chest/ bone plus	11.93	263.16	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode.
25.5	Chest with HiRes 0.5 sec.		Helical	Large	1.375 13.75	0.50	5	10.00	120	320	Chest/ bone plus	12.88	284.17	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode.
25.6	Chest with HiRes 0.5 sec. Smart mA		Helical	Large	1.375 13.75	0.50	5	10.00	120	SmartmA 100-440mA NI=13.01 Avg mA= 320	Chest/ bone plus	12.88	284.17	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode with SmartmA.
25.7	Hi Res Chest 1.0 Sec.		Axial	Large	1i	1.00	1.25	1.25	120	200	BonePlus	2.95	73.71	240.00	Body 32	Evaluation of lung tissue in high resolution mode, 1.0sec 1.25mm AutomA.
25.8	Chest Abd Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	170	Chest	8.76	160.73	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.8	Chest Abd Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	225	Std	11.59	380.80	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.9	Chest Abd Pelvis 0.5 sec. Full Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	270	Chest	8.69	159.69	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.9	Chest Abd Pelvis 0.5 sec. Full Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	360	Std	11.59	381.00	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.10	Chest Abd Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 170	Chest	8.76	160.73	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.10	Chest Abd Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 225	Std	11.59	380.80	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.11	Chest Abd Pelvis 0.5 sec. SmartmA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 270	Chest	8.69	159.69	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.11	Chest Abd Pelvis 0.5 sec. SmartmA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 360	Std	11.59	381.00	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.12	Chest Abd Pelvis 0.8 sec.SmartmA 1.25mm IQE/ DMPR		Helical	Large	1.75 35	0.80	1.25	20.00	120	SmartmA 50-440mA NI=23.14 Avg mA= 230	Std	9.31	448.23	450.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.13	Chest Abd Pelvis 0.5 sec.SmartmA 1.25mm IQE/ DMPR		Helical	Large	1.75 35	0.50	1.25	20.00	120	SmartmA 50-440mA NI=23.14 Avg mA= 360	Std	9.11	438.68	450.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.14	Chest Abd Pelvis 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	130	Chest	6.70	123.83	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.14	Chest Abd Pelvis 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	175	Std	9.02	297.41	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.15	Chest Abd Pelvis 0.5 sec. Plus Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	210	Chest	6.76	125.13	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.15	Chest Abd Pelvis 0.5 sec. Plus Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	280	Std	9.02	297.56	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.16	Chest Abd Pelvis 0.625mm Retro 0.5 sec. Full Mode		Helical	Large	1.375 13.75	0.50	5	10.00	120	270	CHEST	10.87	185.44	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.16	Chest Abd Pelvis 0.625mm Retro 0.5 sec. Full Mode		Helical	Large	1.375 13.75	0.50	5	10.00	120	360	Std	14.49	457.34	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.17	Pulmonary Embolis 0.8 sec		Helical	Large	1.375 13.75	0.80	1.25	10.00	120	340	Std	21.89	426.18	180.00	Body 32	Evaluation Chest for pulmonary embolism, 0.8sec.
25.18	Pulmonary Embolis 0.5 sec. Plus Mode		Helical	Large	1.375 13.75	0.50	1.25	10.00	120	420	Std	16.90	330.03	180.00	Body 32	Evaluation Chest for pulmonary embolism, 0.5sec.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.19	Aortic Dissection 0.625mm Full Mode		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	360	Std	25.11	657.78	248.62	Body 32	Evaluation Chest for Aortic Dissection.
25.20	Aortic Dissection 1.25mm Full Mode		Helical	Large	1.375 13.75	0.60	1.25	10.00	140	200	Std	13.95	367.46	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.21	Aortic Dissection 1.25mm Fast Full Mode		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	165	Std	9.21	253.61	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.22	Aortic Dissection 0.625mm Plus Mode		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	295	Std	20.57	540.53	248.62	Body 32	Evaluation Chest for Aortic Dissection.
25.23	Aortic Dissection 1.25mm Plus Mode		Helical	Large	1.375 13.75	0.60	1.25	10.00	140	170	Std	10.98	289.89	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.24	Aortic Dissection 1.25mm Fast Plus Mode		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	135	Std	7.53	208.61	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.25	Lung Assessment		Helical	Large	0.562 5.625	0.50	0.625	10.00	120	155	Bone	14.13	298.42	200.00	Body 32	Helical scan mode for acquisition of data for lung nodule assessment with Advanced Lung Analysis (ALA).
25.26	SmartScore Gated 0.5 Sec		Cine	Large	8i	0.50	2.5	20.00	120	300	Std	9.03	108.38	117.50	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.27	SnapShot Segment 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	95.84	198.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.27	SnapShot Segment 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregrouop delay time for coronary scan.
25.27	SnapShot Segment 0.625mm		Cardiac Segment	Large	0.25 2.5	0.50	0.625	10.00	120	370	Std	81.90	890.70	100.00	Body 32	ECG gated scan for Cariatc Coronary evaluation.
25.28	SnapShot Segment 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	23.34	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.28	SnapShot Segment 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.28	SnapShot Segment 1.25mm		Cardiac Segment	Large	0.25 5.0	0.50	1.25	20	120	300	Std	53.13	624.24	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.29	SnapShot Burst 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	23.34	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.29	SnapShot Burst 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.29	SnapShot Burst 0.625mm		Cardiac Burst	Large	0.3 3	0.50	0.625	10.00	120	370	Std	68.25	742.25	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.30	SnapShot Burst 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	23.34	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.30	SnapShot Burst 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.30	SnapShot Burst 1.25mm		Cardiac Burst	Large	0.3 6	0.50	1.25	20.00	120	300	Std	44.27	520.20	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.31	SnapShot Burst Plus 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	23.34	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.31	SnapShot Burst Plus 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.31	SnapShot Burst Plus 0.625mm		Cardiac Burst +	Large	0.3 3	0.50	0.625	10.00	120	370	Std	68.25	1083.52	150.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.32	SnapShot Burst Plus 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	150	Std	4.39	23.34	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
25.32	SnapShot Burst Plus 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.32	SnapShot Burst Plus 1.25mm		Cardiac Burst +	Large	0.36	0.50	1.25	20.00	120	300	Std	44.27	741.56	150.00	Body 32	ECG gated scan for Cardiac Coronary evaluation.
25.33	SmartScore Ungated 0.5sec	SmartScore	Cine Segment	Large	8i	0.50	2.5	20.00	120	300	Std	27.63	331.51	117.50	Body 32	un gated scan for cardiovascular calcification evaluation.
25.34	Advantage 4D	Advantage 4D	Helical	Large	1.375 27.5	1.00	5	20.00	120	170	Std	10.95	255.55	200.00		helical scan of lesion localization for radiology therapy plan.
25.34	Advantage 4D	Advantage 4D	Cine Full	Large	4i	1.00	2.5	10.00	120	100	Std	20.61	309.14	147.50		cine scan of lesion localization for radiology therapy plan.

Abdomen

Table 2-6 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
26.1	Abdomen Pelvis 0.8sec.		Helical	Large	1.375 27.5	0.8	5	20.00	120	225	Std	11.59	502.51	400.00	Body 32	Evaluation for abdominal abnormalities.
26.2	Abdomen Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.8	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 225	Std	11.59	502.51	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.3	Abdomen Pelvis 0.6sec.		Helical	Large	1.375 27.5	0.6	5	20.00	120	300	Std	11.59	502.61	400.00	Body 32	Evaluation for abdominal abnormalities.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy)w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
26.4	Abdomen Pelvis 0.6 sec. SmartmA		Helical	Large	1.375 27.5	0.6	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 300	Std	11.59	502.61	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.5	Abdomen Pelvis 0.8sec. SmartmA 1.25mm IQE/DMPR		Helical	Large	1.75 35	0.8	1.25	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=225	Std	9.11	389.91	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.6	Abdomen Pelvis 0.6sec. SmartmA 1.25mm IQE/DMPR		Helical	Large	1.75 35	0.6	1.25	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 300	Std	9.11	390.00	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.7	Abdomen Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.8	5	20.00	120	225	Std	11.59	502.51	400.00	Body 32	Evaluation for abdominal abnormalities.
26.8	Abdomen Pelvis 0.8 sec. Full Mode SmartmA		Helical	Large	1.375 27.5	0.8	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=225	Std	11.59	502.51	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.9	Abdomen Pelvis 0.6 sec. Full Mode		Helical	Large	1.375 27.5	0.6	5	20.00	120	300	Std	11.59	502.61	400.00	Body 32	Evaluation for abdominal abnormalities.
26.10	Abdomen Pelvis 0.6 sec. Full Mode SmartmA		Helical	Large	1.375 27.5	0.6	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=300	Std	11.59	502.61	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.11	Abdomen Pelvis 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.8	5	20.00	120	175	Std	9.02	392.08	400.00	Body 32	Evaluation for abdominal abnormalities.
26.12	Abdomen Pelvis 0.8 sec. Plus Mode SmartmA		Helical	Large	1.375 27.5	0.8	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=175	Std	9.02	392.08	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.13	Abdomen Pelvis 0.6 sec. Plus Mode		Helical	Large	1.375 27.5	0.6	5	20.00	120	230	Std	8.89	386.55	400.00	Body 32	Evaluation for abdominal abnormalities.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy)w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
26.14	Abdomen Pelvis 0.6 sec. Plus Mode SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=230	Std	8.89	386.55	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.15	Renal Stone 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 220	Std	11.33	491.34	400.00	Body 32	Evaluation of kidney for renal stones with SmartmA.
26.16	Renal Stone 0.6 sec. SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 300	Std	11.59	502.61	400.00	Body 32	Evaluation of kidney for renal stones with SmartmA.
26.17	Renal Stone 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	220	Std	11.33	491.34	400.00	Body 32	Evaluation of kidney for renal stones .
26.18	Renal Stone 0.6 sec. Full Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	300	Std	11.59	502.61	400.00	Body 32	Evaluation of kidney for renal stones .
26.19	Renal Stone 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	170	Std	8.76	380.87	400.00	Body 32	Evaluation of kidney for renal stones .
26.20	Renal Stone 0.6 sec. Plus Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	225	Std	8.69	378.15	400.00	Body 32	Evaluation of kidney for renal stones .
26.21	Grand Trauma SmartmA Plus Mode		Helical	Large	1.375 27.5	0.60	3.75	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 270	Std	10.43	609.20	551.25	Body 32	Emergency protocol for the abdominal trauma abnormalities evaluation with Smart mA.
26.22	Grand Trauma Plus Mode		Helical	Large	1.375 27.5	0.60	3.75	20.00	120	270	Std	10.43	609.20	551.25	Body 32	Emergency protocol for the abdominal trauma abnormalities evaluation.
26.23	AAA 0.625mm D3D		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	380	Std	26.50	855.33	309.38	Body 32	Evaluation for abdominal aortic aneurysm.
26.24	AAA 1.25mm D3D		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	175	Std	9.76	416.66	400.00	Body 32	Evaluation for abdominal aortic aneurysm.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy)w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
26.25	AAA 1.25mm Fast IQE/D3D		Helical	Large	1.75 35	0.60	1.25	20.00	140	200	Std	8.77	375.45	400.00	Body 32	Evaluation for abdominal aortic aneurysm.
26.26	Dual Liver		Helical	Large	1.375 27.5	0.80	5	20.00	120	200	Std	10.30	169.89	130.00	Body 32	Non contrast of upper abdominal structures for liver.
26.26	Dual Liver		Helical	Large	1.375 13.75	0.60	2.5	10.00	120	330	Std	15.94	233.73	130.00	Body 32	Arterial phase for the evaluation of liver with contrast medium enhancement.
26.26	Dual Liver		Helical	Large	1.375 13.75	0.60	5	10.00	120	250	Std	12.07	507.85	400.00	Body 32	Venous phase for the evaluation of liver with contrast medium enhancement.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	5	10.00	120	220	Std	14.17	129.96	70.00	Body 32	Non contrast of upper abdominal structures for pancreas.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	2.5	10.00	120	330	Std	21.25	354.05	150.00	Body 32	Arterial phase for the evaluation of pancreas with contrast medium enhancement.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	5	10.00	120	260	Std	16.74	570.20	320.00	Body 32	Venous phase for the evaluation of pancreas with contrast medium enhancement.
26.28	CT Perfusion Body Tumor	CT Perfusion	Helical	Large	1.35 13.5	0.80	5	10.00	120	140	Std	8.58	104.55	100.00	Body 32	Non-Enhance abdominal scan.
26.28	CT Perfusion Body Tumor	CT Perfusion	Cine	Large	4i	1.00	5	20.00	120	200	Std	866.14	1732.27	15.00	Body 32	CT Perfusion using Cine scan mode, Evaluation of abdominal tumor.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy)w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
26.29	CT Colonography	Advantage CTC	Helical	Large	1.375 13.75	0.50	1.25	10.00	120	120	Std	4.47	185.56	400.00	Body 32	Helical scan mode, Supine acquisition for evaluation of the colon with colonography
26.29	CT Colonography	Advantage CTC	Helical	Large	1.375 13.75	0.50	1.25	10.00	120	120	Std	4.47	185.56	400.00	Body 32	Helical scan mode, prone acquisition for evaluation of the colon with colonography.
26.30	Runoff 2.5mm		Helical	Large	1.375 27.5	0.60	2.5	20.00	140	290	Std	16.18	1665.89	1000.00	Body 32	Helical scan mode 2.5mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities
26.31	Runoff 1.25mm		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	350	Std	19.53	2005.44	998.75	Body 32	Helical scan mode 1.25mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities
26.32	Runoff SmartmA 1.25mm IQE		Helical	Large	1.375 35	0.60	1.25	20.00	140	SmartmA 50-380mA NI=23.14 Avg mA= 350	Std	15.34	1575.72	998.75	Body 32	Helical scan mode 1.25mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities with SmartmA.

L-Spine

Table 2-7 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy)w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	120	160	Std	33.09	99.28	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	120	160	Std	33.09	99.28	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	140	180	Std	57.54	172.61	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	120	SmartmA 80-380mA NI=14.27 Avg mA= 320	Std	70.84	212.51	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	120	SmartmA 80-380mA NI=14.27 Avg mA= 320	Std	70.84	212.51	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	140	SmartmA 80-380mA NI=14.27 Avg mA= 360	Std	115.08	345.23	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.
27.3	L-Spine Survey		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	300	Std	47.22	948.52	175.00	Body 32	Helical scan mode 2.5mm (1sec), evaluation of lumbar spine.
27.4	L-Spine Survey SmartmA		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	SmartmA 100-440mA NI=14.27 Avg mA= 300	Std	47.22	948.52	175.00	Body 32	Helical scan mode 2.5mm (2sec) with SmartmA, evaluation of lumbar spine

Pelvis

Table 2-8 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
28.1	Pelvis for Fracture		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	350	Bone	22.54	268.77	100.70	Body 32	Evaluation of pelvis bone structures for fracture, 3.75mm.
28.2	Pelvis for Fracture Smart mA		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	SmartmA 100-440mA NI=12.35 Avg mA= 350	Bone	22.54	268.77	100.70	Body 32	Evaluation of pelvis bone structures for fracture with SmartmA, 3.75mm.

Lower Extremity

Table 2-9 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
29.1	Lower Extremity		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	240	Std	47.22	218.13	35.00	Body 32	Helical scan mode in 0.625mm, evaluation of lower extremity for abnormalities.
29.2	Ankle 1.25 mm		Helical	Large	0.562 5.625	0.80	1.25	10.00	120	60	Std	8.75	41.87	35.00	Body 32	Helical scan mode 1.25 mm, Evaluation of soft tissue and bone anatomy of the ankle.
29.3	Ankle 1.25 mm Smart mA		Helical	Large	0.562 5.625	0.80	1.25	10.00	120	SmartmA 50-200mA NI=19.30 Avg mA= 60	Std	8.75	41.87	35.00	Body 32	Helical scan mode 1.25 mm, Evaluation of soft tissue and bone anatomy of the ankle with SmartmA.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
29.4	Ankle 0.625 mm		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	165	Std	30.08	138.92	35.00	Body 32	Helical scan mode 0.625 mm, Evaluation of soft tissue and bone anatomy of the ankle.
29.5	Ankle 0.625 mm Smart mA		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	SmartmA 50-200mA NI=19.89 Avg mA=165	Std	30.08	138.92	35.00	Body 32	Helical scan mode 0.625 mm, Evaluation of soft tissue and bone anatomy of the ankle with SmartomA.

Pediatric Head

Table 2-10 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (cm)	Phantom (cm)	Description
31.1	PED HEAD TO 18 MONTHS		Axial	Ped	2i	1.00	5	10.00	120	120	Std	24.20	290.41	115.00	Head 16	Routine head for infant (up to 18 months) 5mm
31.2	PED HEAD 18 MOS TO 5YRS		Axial	Head	4i	1.00	3.75	15.00	120	170	Std	32.01	384.15	116.25	Head 16	Routine head (1.0sec) for children (18 months to 5 years) 3.75mm
31.3	PED HEAD TO 5YRS TO 18 YRS		Axial	Head	4i	1.00	2.5	10.00	120	330	Std	71.92	143.85	17.50	Head 16	Routine head (1.0sec) for children (5 years to 18 years) 2.5mm
31.3	PED HEAD TO 5YRS TO 18 YRS		Axial	Head	2i	1.00	5	10.00	120	160	Std	32.27	225.87	65.00	Head 16	Routine head (1.0sec) for children (5 years to 18 years) 7.5mm

Pediatric Chest

Table 2-11 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
35.1.1	RC 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	115	Std	3.17	34.14	75.00	Body 32	Weight and height based routine chest protocol.
35.2.1	RC 7.5-9.5 kg (16.5-20.9lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	125	Std	3.44	37.11	75.00	Body 32	Weight and height based routine chest protocol.
35.3.1	RC 9.5-11.5 kg (20.9-25.4lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	135	Std	3.72	41.47	78.75	Body 32	Weight and height based routine chest protocol.
35.4.1	RC 11.5- 14.5kg (25.4- 32.0lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	90	Std	2.90	36.24	90.00	Body 32	Weight and height based routine chest protocol.
35.5.1	RC 14.5- 18.5kg (32.0- 40.8lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	95	Std	3.06	38.25	90.00	Body 32	Weight and height based routine chest protocol.
35.6.1	RC 18.5- 22.5kg (40.8- 49.6lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	115	Std	3.70	46.31	90.00	Body 32	Weight and height based routine chest protocol.
35.7.1	RC 22.5- 31.5kg (49.6- 69.5lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	125	Std	4.02	48.32	85.00	Body 32	Weight and height based routine chest protocol.
35.8.1	RC 31.5- 40.5kg (69.5- 89.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	130	Std	4.19	64.90	120.00	Body 32	Weight and height based routine chest protocol.
35.9.1	RC 40.5- 55.0kg(89.3- 121.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	140	Std	4.51	83.42	150.00	Body 32	Weight and height based routine chest protocol.

Pediatric Abdomen

Table 2-12 Optima CT540

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	CTDIvol (mGy) w/o ASiR	DLP (mGy-cm) w/o ASiR	Scan Length (mm)	Phantom (cm)	Description
36.1.1	Abd 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	160	Std	4.41	49.15	78.75	Body 32	Weight and height based routine abdominal protocol.
36.2.1	Abd 7.5-9.5 kg (16.5-20.9lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	170	Std	4.68	57.48	90.00	Body 32	Weight and height based routine abdominal protocol.
36.3.1	Abd 9.5-11.5 kg (20.9-25.4lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	180	Std	4.96	66.44	101.25	Body 32	Weight and height based routine abdominal protocol.
36.4.1	Abd 11.5-14.5kg (25.4-32.0lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	120	Std	3.86	56.05	110.00	Body 32	Weight and height based routine abdominal protocol.
36.5.1	Abd 14.5-18.5kg (32.0-40.8lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	125	Std	4.02	58.38	110.00	Body 32	Weight and height based routine abdominal protocol.
36.6.1	Abd 18.5-22.5kg (40.8-49.6lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	130	Std	4.19	69.09	130.00	Body 32	Weight and height based routine abdominal protocol.
36.7.1	Abd 22.5-31.5kg (49.6-69.5lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	140	Std	4.51	83.42	150.00	Body 32	Weight and height based routine abdominal protocol.
36.8.1	Abd 31.5-40.5kg (69.5-89.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	150	Std	4.83	89.38	150.00	Body 32	Weight and height based routine abdominal protocol.
36.9.1	Abd 40.5-55.0kg(89.3-121.3lbs)		Helical	Large	1.375 27.5	0.5	5	20.00	120	160	Std	5.15	121.10	200.00	Body 32	Weight and height based routine abdominal protocol.

Optima CT540 with ASiR

Head

Table 3-1 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
21.1	Routine Head		Axial	Head	4i	2.00	2.5	10.00	140	95DR	Std	SS40: Slice	53.21	212.84	37.50	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.1	Routine Head		Axial	Head	2i	2.00	5	10.00	140	85DR	Std	SS40: Slice	47.61	380.88	75.00	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.2	Routine Head Smart mA		Axial	Head	4i	2.00	2.5	10.00	140	SmartmA 50-200mA NI=2.8 Avg mA=160 95DR	Std	SS40: Slice	53.21	212.84	37.50	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.2	Routine Head Smart mA		Axial	Head	2i	2.00	5	10.00	140	SmartmA 50-200mA NI=2.8 Avg mA=140 85DR	Std	SS40: Slice	47.61	380.88	75.00	Head 16	Routine Head protocol for the brain abnormalities evaluation.
21.3	Trauma Head		Axial	Head	2i	1.00	5	10.00	140	110DR	Std	SS40: Slice	30.81	369.68	115.00	Head 16	Emergency head protocol for the brain and cranium abnormalities evaluation.
21.4	Trauma Head Smart mA		Axial	Head	2i	1.00	5	10.00	140	SmartmA 100-380mA NI=2.8 Avg mA=180 110DR	Std	SS40: Slice	30.81	369.68	115.00	Head 16	Emergency head protocol for the brain and cranium abnormalities evaluation.
21.5	Circle of Willis 0.8 sec.		Helical	Head	0.562 5.625	0.80	0.625	10.00	120	95DR	Std	SS40: Slice	27.09	249.85	80.00	Head 16	CT angiography of the Circle of Willis for cerebral vascular evaluation.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
21.6	Circle of Willis 0.6 sec.		Helical	Head	0.562 5.625	0.60	0.625	10.00	120	125DR	Std	SS40: Slice	26.74	246.61	80.00	Head 16	CT angiography of the Circle of Willis for cerebral vascular evaluation
21.7	CT Perfusion 300 Strength	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	85DR	Std	SS40: Slice	34.28	171.42	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for hemorrhage or infarction
21.7	CT Perfusion 300 Strength	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	120DR	Std	SS40: Slice	358.58	717.16	15.00	Head 16	Cerebral blood flow perfusion evaluation.
21.8	CT Perfusion 370 Strength	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	85DR	Std	SS40: Slice	34.28	171.42	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for hemorrhage or infarction
21.8	CT Perfusion 370 Strength	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	120DR	Std	SS40: Slice	322.73	645.46	15.00	Head 16	Cerebral blood flow perfusion evaluation.
21.9	CT Perfusion Brain Tumor	CT Perfusion	Axial	Head	2i	2.00	5	10.00	120	85DR	Std	SS40: Slice	34.28	171.42	45.00	Head 16	Non-Enhance Skull Base region scan , Evaluation for tumor.
21.9	CT Perfusion Brain Tumor	CT Perfusion	Cine	Head	4i	1.00	5	20.00	80	120DR	Std	SS40: Slice	358.58	717.16	15.00	Head 16	Cerebral blood flow perfusion evaluation for tumor.
21.10	Helical Head		Helical	Head	0.562 5.625	1.00	5	10.00	120	155DR	Std	SS40: Slice	55.25	352.09	45.00	Head 16	Helical scan mode protocol for the brain abnormalities evaluation

Orbit

Table 3-2 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
22.1	Sinus Supine		Helical	Head	0.562 5.625	1.00	2.5	10.00	120	90DR	Bone	SS40: Slice	32.08	416.42	115.00	Head 16	Evaluation for abnormality of paranasal sinus soft tissues and bone structures, Supine scan
22.2	Sinus Prone		Helical	Head	0.562 11.25	0.60	2.5	20.00	120	150DR	Std	SS40: Slice	27.90	344.32	97.50	Head 16	Evaluation for abnormality of paranasal sinus soft tissues and bone structures, Prone scan
22.3	Orbits Helical		Helical	Head	0.562 5.625	0.80	2.5	10.00	120	95DR	Std	SS40: Slice	27.09	256.87	80.00	Head 16	Evaluation for abnormality of orbit soft tissues and bone structures
22.4	Axial IAC 0.625mm (Cor & Axial Planes)		Axial	Head	16i	2.00	0.625	10.00	120	90DR	Std	SS40: Slice	36.09	144.37	39.38	Head 16	Evaluation for Inner Auditory Canal abnormalities.
22.5	Helical IAC 0.625mm (Cor & Axial Planes)		Helical	Head	0.562 5.625	1.00	0.625	10.00	140	155DR	Std	SS40: Slice	77.17	393.25	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.
22.6	Helical IAC 0.625mm Axial only use Reformat for Coronal		Helical	Head	0.562 5.625	1.00	0.625	10.00	140	155DR	Std	SS40: Slice	77.17	393.25	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
22.7	Helical IAC 1.25mm Axial only use Reformat for Coronal		Helical	Head	0.562 5.625	1.00	1.25	10.00	140	70DR	Std	SS40: Slice	34.85	181.42	38.75	Head 16	Evaluation for Inner Auditory Canal abnormalities.

Neck

Table 3-3 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
23.1	C-Spine C5-C7		Axial	Large	8i	2.00	2.5	20.00	140	100DR	Std	SS40: Slice	25.57	358.01	137.50	Body 32	Evaluation for C5-C7Cervical Spine area soft tissue, intervertebral disc and bone abnormalities .
23.2	C-Spine C1-C4		Axial	Large	8i	2.00	2.5	20.00	120	70DR	Std	SS40: Slice	12.40	99.17	77.50	Body 32	Evaluation for C1-C4 Cervical Spine area soft tissue, intervertebral disc and bone abnormalities.
23.3	C-Spine C1-C4 Smart mA		Axial	Large	8i	2.00	2.5	20.00	120	SmartmA 50-200mA NI=11.52 Avg mA=120 70DR	Std	SS40: Slice	12.40	99.17	77.50	Body 32	Evaluation for C1-C4 Cervical Spine area soft tissue, intervertebral disc and bone abnormalities with SmartmA.
23.4	Carotid/CoW 0.8 sec.		Helical	Large	1.375 13.75	0.80	1.25	10.00	120	145DR	Std	SS40: Slice	8.65	160.16	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
23.5	Carotid/CoW 0.6 sec.		Helical	Large	1.375 13.75	0.6	1.25	10.00	120	195DR	Std	SS40: Slice	8.72	161.58	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.
23.6	Carotid/CoW 0.625mm 0.6 sec.		Helical	Large	1.375 13.75	0.6	0.625	10.00	140	230DR	Std	SS40: Slice	16.04	295.32	170.00	Body 32	CT angiography evaluation of Carotid Artery and the Circle of Willis.
23.7	Soft Tissue Neck Plus Mode		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	175DR	Std	SS40: Slice	10.44	177.19	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.
23.8	Soft Tissue Neck Plus Mode 0.6 Smart mA		Helical	Large	1.375 13.75	0.60	3.75	10.00	120	SmartmA 100-440mA NI=7.02 Avg mA= 230	Std	SS40: Slice	11.11	188.58	150.00	Body 32	Evaluation of the cervical soft tissue abnormality with AutomA.
23.9	Soft Tissue Neck 0.8 sec. Full Mode		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	180DR	Std	SS40: Slice	10.74	180.99	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.
23.10	Soft Tissue Neck 0.6 sec. Full Mode		Helical	Large	1.375 13.75	0.60	3.75	10.00	120	235DR	Std	SS40: Slice	11.35	191.35	150.00	Body 32	Evaluation of the cervical soft tissue abnormality.

Shoulder

Table 3-4 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
24.1	Shoulder Plus Mode		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	170DR	Std	SS40: Slice	26.76	339.15	100.00	Body 32	Evaluation of soft tissue and bone structure of shoulder .

Chest

Table 3-5 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm) w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.1	Routine Chest 0.8 sec.		Helical	Large	1.375 27.5	0.80	5	20.00	120	100DR	Std	SS40: Slice	5.15	120.30	200.00	Body 32	Routine Evaluation of mediastinum and lungs.
25.2	Routine Chest 0.5 sec.		Helical	Large	1.375 27.5	0.50	5	20.00	120	160DR	Std	SS40: Slice	5.15	120.39	200.00	Body 32	Routine Evaluation of mediastinum and lungs.
25.3	Routine Chest 0.5 sec. Smart mA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=270 160DR	Std	SS40: Slice	5.15	120.39	200.00	Body 32	Routine Evaluation of mediastinum and lungs with SmartmA.
25.4	Chest with HiRes 0.8 sec.		Helical	Large	1.375 13.75	0.80	5	10.00	120	120DR	Chest /bone plus	SS40: Slice	7.16	157.90	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode.
25.5	Chest with HiRes 0.5 sec.		Helical	Large	1.375 13.75	0.50	5	10.00	120	190DR	Chest /bone plus	SS40: Slice	7.08	156.31	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode.
25.6	Chest with HiRes 0.5 sec. SmartmA		Helical	Large	1.375 13.75	0.50	5	10.00	120	SmartmA 100-440mA NI=13.01 Avg mA=320 190DR	Chest /bone plus	SS40: Slice	7.08	156.31	200.00	Body 32	Evaluation of lung tissue with routine and high resolution mode with SmartmA.
25.7	Hi Res Chest 1.0 Sec.		Axial	Large	1i	1.00	1.25	1.25	120	120DR	BonePlus	SS40: Slice	1.77	44.23	240.00	Body 32	Evaluation of lung tissue in high resolution mode, 1.0sec 1.25mm AutomA.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.8	Chest Abd Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	100DR	Chest	SS40: Slice	5.15	94.55	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.8	Chest Abd Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	135DR	Std	SS40: Slice	6.95	228.48	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.9	Chest Abd Pelvis 0.5 sec. Full Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	160DR	Chest	SS40: Slice	5.15	94.63	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.9	Chest Abd Pelvis 0.5 sec. Full Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	215DR	Std	SS40: Slice	6.92	227.54	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.10	Chest Abd Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA= 100DR	Chest	SS40: Slice	5.15	94.55	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.10	Chest Abd Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=170 135DR	Std	SS40: Slice	6.95	228.48	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.11	Chest Abd Pelvis 0.5 sec. SmartmA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=270 160DR	Chest	SS40: Slice	5.15	94.63	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.11	Chest Abd Pelvis 0.5 sec. SmartmA		Helical	Large	1.375 27.5	0.50	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=360 215DR	Std	SS40: Slice	6.92	227.54	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.12	Chest Abd Pelvis 0.8 sec. SmartmA 1.25mm IQE/DMPR		Helical	Large	1.75 35	0.80	1.25	20.00	120	SmartmA 50-440mA NI=23.14 Avg mA=230 140DR	Std	SS40: Slice	5.67	272.84	450.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.13	Chest Abd Pelvis 0.5 sec. SmartmA 1.25mm IQE/DMPR		Helical	Large	1.75 35	0.50	1.25	20.00	120	SmartmA 50-440mA NI=23.14 Avg mA=360 215DR	Std	SS40: Slice	5.44	261.99	450.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis with SmartmA.
25.14	Chest Abd Pelvis 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	80DR	Chest	SS40: Slice	4.12	76.20	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.14	Chest Abd Pelvis 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	105DR	Std	SS40: Slice	5.41	178.45	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.15	Chest Abd Pelvis 0.5 sec. Plus Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	125DR	Chest	SS40: Slice	4.02	74.48	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.15	Chest Abd Pelvis 0.5 sec. Plus Mode		Helical	Large	1.375 27.5	0.50	5	20.00	120	170DR	Std	SS40: Slice	5.47	180.66	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.16	Chest Abd Pelvis 0.625mm Retro 0.5 sec. Full Mode		Helical	Large	1.375 13.75	0.50	5	10.00	120	160DR	chest	SS40: Slice	5.97	101.80	150.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.16	Chest Abd Pelvis 0.625mm Retro 0.5 sec. Full Mode		Helical	Large	1.375 13.75	0.50	5	10.00	120	215DR	Std	SS40: Slice	8.65	273.14	295.00	Body 32	Multigroup helical scan for Chest, Abdomen, Pelvis . Evaluation abnormalities of chest, abdomen and pelvis.
25.17	Pulmonary Embolis 0.8 sec		Helical	Large	1.375 13.75	0.80	1.25	10.00	120	205DR	Std	SS40: Slice	13.20	256.96	180.00	Body 32	Evaluation Chest for pulmonary embolism, 0.8sec.
25.18	Pulmonary Embolis 0.5 sec. Plus Mode		Helical	Large	1.375 13.75	0.50	1.25	10.00	120	250DR	Std	SS40: Slice	10.06	196.45	180.00	Body 32	Evaluation Chest for pulmonary embolism, 0.5sec.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.19	Aortic Dissection 0.625mm Full Mode		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	215DR	Std	SS40: Slice	14.99	392.84	248.62	Body 32	Evaluation Chest for Aortic Dissection.
25.20	Aortic Dissection 1.25mm Full Mode		Helical	Large	1.375 13.75	0.60	1.25	10.00	140	120DR	Std	SS40: Slice	7.75	204.24	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.21	Aortic Dissection 1.25mm Fast Full Mode		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	100DR	Std	SS40: Slice	5.58	153.70	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.22	Aortic Dissection 0.625mm Plus Mode		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	175DR	Std	SS40: Slice	12.20	320.66	248.62	Body 32	Evaluation Chest for Aortic Dissection.
25.23	Aortic Dissection 1.25mm Plus Mode		Helical	Large	1.375 13.75	0.60	1.25	10.00	140	100DR	Std	SS40: Slice	6.46	170.52	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.24	Aortic Dissection 1.25mm Fast Plus Mode		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	80DR	Std	SS40: Slice	4.46	123.62	248.75	Body 32	Evaluation Chest for Aortic Dissection.
25.25	Lung Assessment		Helical	Large	0.562 5.625	0.50	0.625	10.00	120	95DR	Bone	SS40: Slice	8.66	182.90	200.00	Body 32	Helical scan mode for acquisition of data for lung nodule assessment with Advanced Lung Analysis (ALA)
25.26	SmartScore Gated 0.5 Sec		Cine	Large	8i	0.50	2.5	20.00	120	180DR	Std	SS40: Slice	5.42	65.03	117.50	Body 32	ECG gated scan for cardiovascular calcification evaluation.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.27	SnapShot Segment 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	57.51	198.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.27	SnapShot Segment 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.27	SnapShot Segment 0.625mm		Cardiac Segment	Large	0.25 2.5	0.50	0.625	10.00	120	220DR	Std	SS40: Slice	48.70	529.61	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.28	SnapShot Segment 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	14.00	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.28	SnapShot Segment 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.28	SnapShot Segment 1.25mm		Cardiac Segment	Large	0.25 5.0	0.50	1.25	20.00	120	180DR	Std	SS40: Slice	31.88	374.54	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.29	SnapShot Burst 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	14.00	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.29	SnapShot Burst 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.29	SnapShot Burst 0.625mm		Cardiac Burst	Large	0.3 3	0.50	0.625	10.00	120	220DR	Std	SS40: Slice	40.58	441.34	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.30	SnapShot Burst 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	14.00	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.30	SnapShot Burst 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.30	SnapShot Burst 1.25mm		Cardiac Burst	Large	0.3 6	0.50	1.25	10.00 (20.00)	120	180DR	Std	SS40: Slice	26.56	312.12	100.00	Body 32	ECG gated scan for Celiac Coronary evaluation
25.31	SnapShot Burst Plus 0.625mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	14.00	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.31	SnapShot Burst Plus 0.625mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.31	SnapShot Burst Plus 0.625mm		Cardiac Burst +	Large	0.3 3	0.50	0.625	10.00	120	220DR	Std	SS40: Slice	40.58	644.25	150.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.32	SnapShot Burst Plus 1.25mm		Helical	Large	1.75 17.5	0.50	3.75	10.00	120	90DR	Std	SS40: Slice	2.64	14.00	33.75	Body 32	ECG gated scan for cardiovascular calcification evaluation.
25.32	SnapShot Burst Plus 1.25mm		Axial	Large	1i	0.80	10	10.00	120	40	Std	None	39.71	39.71	0.00	Body 32	axial scan to evaluate the pregroup delay time for coronary scan.
25.32	SnapShot Burst Plus 1.25mm		Cardiac Burst +	Large	0.3 6	0.50	1.25	20.00	120	180DR	Std	SS40: Slice	26.56	444.94	150.00	Body 32	ECG gated scan for Celiac Coronary evaluation.
25.33	SmartScore Ungated 0.5sec	SmartScore	Cine Segment	Large	8i	0.50	2.5	20.00	120	180DR	Std	SS40: Slice	16.58	198.91	117.50	Body 32	un gated scan for cardiovascular calcification evaluation.
25.34	Advantage 4D	Advantage 4D	Helical	Large	1.375 27.5	1.00	5	20.00	120	100DR	Std	SS40: Slice	6.44	150.33	200.00		helical scan of lesion localization for radiology therapy plan.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
25.34	Advantage 4D	Advantage 4D	Cine Full	Large	4i	1.00	2.5	10.00	120	60DR	Std	SS40: Slice	12.37	185.48	147.50		cine scan of lesion localization for radiology therapy plan.

Abdomen

Table 3-6 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
26.1	Abdomen Pelvis 0.8sec.		Helical	Large	1.375 27.5	0.80	5	20.00	120	135DR	Std	SS40: Slice	6.95	301.51	400.00	Body 32	Evaluation for abdominal abnormalities.
26.2	Abdomen Pelvis 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=225 135DR	Std	SS40: Slice	6.95	301.51	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.3	Abdomen Pelvis 0.6sec.		Helical	Large	1.375 27.5	0.60	5	20.00	120	180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation for abdominal abnormalities.
26.4	Abdomen Pelvis 0.6 sec. SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=300 180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.5	Abdomen Pelvis 0.8sec. SmartmA 1.25mm IQE/ DMPR		Helical	Large	1.75 35	0.80	1.25	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=225 135DR	Std	SS40: Slice	5.46	233.94	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.6	Abdomen Pelvis 0.6sec. SmartmA 1.25mm IQE/ DMPR		Helical	Large	1.75 35	0.60	1.25	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=300 180DR	Std	SS40: Slice	5.46	234	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.7	Abdomen Pelvis 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	135DR	Std	SS40: Slice	6.95	301.51	400.00	Body 32	Evaluation for abdominal abnormalities.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
26.8	Abdomen Pelvis 0.8 sec. Full Mode SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=225 135DR	Std	SS40: Slice	6.95	301.51	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.9	Abdomen Pelvis 0.6 sec. Full Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation for abdominal abnormalities.
26.10	Abdomen Pelvis 0.6 sec. Full Mode SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=300 180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.11	Abdomen Pelvis 0.8 sec. Plus		Helical	Large	1.375 27.5	0.80	5	20.00	120	105DR	Std	SS40: Slice	5.41	235.25	400.00	Body 32	Evaluation for abdominal abnormalities.
26.12	Abdomen Pelvis 0.8 sec. Plus Mode SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=175 105DR	Std	SS40: Slice	5.41	235.25	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.13	Abdomen Pelvis 0.6 sec. Plus Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	140DR	Std	SS40: Slice	5.41	235.29	400.00	Body 32	Evaluation for abdominal abnormalities.
26.14	Abdomen Pelvis 0.6 sec. Plus Mode SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=230 140DR	Std	SS40: Slice	5.41	235.29	400.00	Body 32	Evaluation for abdominal abnormalities with SmartmA.
26.15	Renal Stone 0.8 sec. SmartmA		Helical	Large	1.375 27.5	0.80	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=220 130DR	Std	SS40: Slice	6.70	290.34	400.00	Body 32	Evaluation of kidney for renal stones with SmartmA.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
26.16	Renal Stone 0.6 sec. SmartmA		Helical	Large	1.375 27.5	0.60	5	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=300 180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation of kidney for renal stones with SmartmA.
26.17	Renal Stone 0.8 sec. Full Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	130DR	Std	SS40: Slice	6.70	290.34	400.00	Body 32	Evaluation of kidney for renal stones .
26.18	Renal Stone 0.6 sec. Full Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	180DR	Std	SS40: Slice	6.95	301.56	400.00	Body 32	Evaluation of kidney for renal stones .
26.19	Renal Stone 0.8 sec. Plus Mode		Helical	Large	1.375 27.5	0.80	5	20.00	120	100DR	Std	SS40: Slice	5.15	224.04	400.00	Body 32	Evaluation of kidney for renal stones .
26.20	Renal Stone 0.6 sec. Plus Mode		Helical	Large	1.375 27.5	0.60	5	20.00	120	135DR	Std	SS40: Slice	5.22	226.89	400.00	Body 32	Evaluation of kidney for renal stones .
26.21	Grand Trauma SmartmA Plus Mode		Helical	Large	1.375 27.5	0.60	3.75	20.00	120	SmartmA 50-440mA NI=11.57 Avg mA=270 160DR	Std	SS40: Slice	6.18	361.01	551.25	Body 32	Emergency protocol for the abdominal trauma abnormalities evaluation with Smart mA.
26.22	Grand Trauma Plus Mode		Helical	Large	1.375 27.5	0.60	3.75	20.00	120	160DR	Std	SS40: Slice	6.18	361.01	551.25	Body 32	Emergency protocol for the abdominal trauma abnormalities evaluation.
26.23	AAA 0.625mm D3D		Helical	Large	1.375 13.75	0.60	0.625	10.00	140	230DR	Std	SS40: Slice	16.04	517.70	309.38	Body 32	Evaluation for abdominal aortic aneurysm.
26.24	AAA 1.25mm D3D		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	105DR	Std	SS40: Slice	5.86	250.00	400.00	Body 32	Evaluation for abdominal aortic aneurysm.
26.25	AAA 1.25mm Fast IQE/D3D		Helical	Large	1.75 35	0.60	1.25	20.00	140	120DR	Std	SS40: Slice	5.26	225.27	400.00	Body 32	Evaluation for abdominal aortic aneurysm.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
26.26	Dual Liver		Helical	Large	1.375 27.5	0.80	5	20.00	120	120DR	Std	SS40: Slice	6.18	101.94	130.00	Body 32	Non contrast of upper abdominal structures for liver.
26.26	Dual Liver		Helical	Large	1.375 13.75	0.60	2.5	10.00	120	200DR	Std	SS40: Slice	8.95	131.23	130.00	Body 32	Arterial phase for the evaluation of liver with contrast medium enhancement.
26.26	Dual Liver		Helical	Large	1.375 13.75	0.60	5	10.00	120	150DR	Std	SS40: Slice	6.71	282.28	400.00	Body 32	Venous phase for the evaluation of liver with contrast medium enhancement.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	5	10.00	120	130DR	Std	SS40: Slice	7.76	71.14	70.00	Body 32	Non contrast of upper abdominal structures for pancreas.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	2.5	10.00	120	200DR	Std	SS40: Slice	11.93	198.78	150.00	Body 32	Arterial phase for the evaluation of pancreas with contrast medium enhancement.
26.27	Dual Pancreas		Helical	Large	1.375 13.75	0.80	5	10.00	120	155DR	Std	SS40: Slice	9.25	314.91	320.00	Body 32	Venous phase for the evaluation of pancreas with contrast medium enhancement.
26.28	CT Perfusion Body Tumor	CT Perfusion	Helical	Large	1.35 13.5	0.80	5	10.00	120	85DR	Std	SS40: Slice	5.21	63.47	100.00	Body 32	Non-Enhance abdominal scan.
26.28	CT Perfusion Body Tumor	CT Perfusion	Cine	Large	4i	1.00	5	20.00	120	120DR	Std	SS40: Slice	519.68	1039.36	15.00	Body 32	CT Perfusion using Cine scan mode, Evaluation of abdominal tumor.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
26.29	CT Colonography	Advantage CTC	Helical	Large	1.375 13.75	0.50	1.25	10.00	120	70DR	Std	SS40: Slice	2.61	108.24	400.00	Body 32	Helical scan mode, Supine acquisition for evaluation of the colon with colonography
26.29	CT Colonography	Advantage CTC	Helical	Large	1.375 13.75	0.50	1.25	10.00	120	70DR	Std	SS40: Slice	2.61	108.24	400.00	Body 32	Helical scan mode, prone acquisition for evaluation of the colon with colonography.
26.30	Runoff 2.5mm		Helical	Large	1.375 27.5	0.60	2.5	20.00	140	175DR	Std	SS40: Slice	9.76	1005.28	1000.00	Body 32	Helical scan mode 2.5mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities
26.31	Runoff 1.25mm		Helical	Large	1.375 27.5	0.60	1.25	20.00	140	210DR	Std	SS40: Slice	11.72	1203.27	998.75	Body 32	Helical scan mode 1.25mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities
26.32	Runoff SmartmA 1.25mm IQE		Helical	Large	1.375 35	0.60	1.25	20.00	140	SmartmA 50-380mA NI=23.14 Avg mA=210	Std	SS40: Slice	9.21	945.43	998.75	Body 32	Helical scan mode 1.25mm, Evaluation of vasucular structures of abdomen, femurs and lower extremities with SmartmA.

L-Spine

Table 3-7 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	120	95DR	Std	SS40: Slice	19.65	58.95	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	120	95DR	Std	SS40: Slice	19.65	58.95	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.1	L-Spine 3 Level		Axial	Large	2i	2.00	5	10.00	140	110DR	Std	SS40: Slice	32.85	98.56	25.00	Body 32	Axial scan mode, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	120	SmartmA 80-380mA NI=14.27 Avg mA=320 190DR	Std	SS40: Slice	38.96	116.89	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	120	SmartmA 80-380mA NI=14.27 Avg mA=320 190DR	Std	SS40: Slice	38.96	116.89	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.
27.2	L-Spine 3 Level SmartmA		Axial	Large	4i	2.00	2.5	10.00	140	SmartmA 80-380mA NI=14.27 Avg mA=360 215DR	Std	SS40: Slice	68.73	206.18	27.50	Body 32	Axial scan mode with SmartmA, Evaluation of soft tissue and bone structures lumbar spine.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
27.3	L-Spine Survey		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	180DR	Std	SS40: Slice	28.33	569.11	175.00	Body 32	Helical scan mode 2.5mm (1sec), evaluation of lumbar spine
27.4	L-Spine Survey SmartmA		Helical	Large	0.562 11.25	1.00	2.5	20.00	120	SmartmA 100-440mA NI=14.27 Avg mA=300 180DR	Std	SS40: Slice	28.33	569.11	175.00	Body 32	Helical scan mode 2.5mm (2sec) with SmartmA, evaluation of lumbar spine

Pelvis

Table 3-8 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
28.1	Pelvis for Fracture		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	210DR	Bone	SS40: Slice	13.52	161.26	100.70	Body 32	Evaluation of pelvis bone structures for fracture, 3.75mm.
28.2	Pelvis for Fracture Smart mA		Helical	Large	1.375 13.75	0.80	3.75	10.00	120	SmartmA 100-440mA NI=12.35 Avg mA=350 210DR	Bone	SS40: Slice	13.52	161.26	100.70	Body 32	Evaluation of pelvis bone structures for fracture with SmartmA, 3.75mm.

Lower Extremity

Table 3-9 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy)w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
29.1	Lower Extremity		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	145DR	Std	SS40: Slice	26.43	122.09	35.00	Body 32	Helical scan mode in 0.625mm, evaluation of lower extremity for abnormalities.
29.2	Ankle 1.25 mm		Helical	Large	0.562 5.625	0.80	1.25	10.00	120	50DR	Std	SS40: Slice	7.29	34.89	35.00	Body 32	Helical scan mode 1.25 mm, Evaluation of soft tissue and bone anatomy of the ankle.
29.3	Ankle 1.25 mm Smart mA		Helical	Large	0.562 5.625	0.80	1.25	10.00	120	SmartmA 50-200mA NI=19.30 Avg mA=60 50DR	Std	SS40: Slice	7.29	34.89	35.00	Body 32	Helical scan mode 1.25 mm, Evaluation of soft tissue and bone anatomy of the ankle with SmartmA.
29.4	Ankle 0.625 mm		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	100DR	Std	SS40: Slice	18.23	84.20	35.00	Body 32	Helical scan mode 0.625 mm, Evaluation of soft tissue and bone anatomy of the ankle.
29.5	Ankle 0.625 mm Smart mA		Helical	Large	0.562 5.625	1.00	0.625	10.00	120	SmartmA 50-200mA NI=19.89 Avg mA=165 100DR	Std	SS40: Slice	18.23	84.20	35.00	Body 32	Helical scan mode 0.625 mm, Evaluation of soft tissue and bone anatomy of the ankle with SmartmA.

Pediatric Head

Table 3-10 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
31.1	PED HEAD TO 18 MONTHS		Axial	Ped	2i	1.00	5	10.00	120	70DR	Std	SS40: Slice	14.12	169.40	115.00	Head 16	Routine head for infant (up to 18 months) 5mm
31.2	PED HEAD 18 MOS TO 5YRS		Axial	Head	4i	1.00	3.75	15.00	120	100DR	Std	SS40: Slice	18.83	225.97	116.25	Head 16	Routine head (1.0sec) for children (18 months to 5 years) 3.75mm
31.3	PED HEAD TO 5YRS TO 18 YRS		Axial	Head	4i	1.00	2.5	10.00	120	200DR	Std	SS40: Slice	40.33	80.67	17.50	Head 16	Routine head (1.0sec) for children (5 years to 18 years) 2.5mm
31.3	PED HEAD TO 5YRS TO 18 YRS		Axial	Head	2i	1.00	5	10.00	120	95DR	Std	SS40: Slice	19.16	134.11	65.00	Head 16	Routine head (1.0sec) for children (5 years to 18 years) 7.5mm

Pediatric Chest

Table 3-11 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
35.1.1	RC 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	70DR	Std	SS40: Slice	1.93	20.78	75.00	Body 32	Weight and height based routine chest protocol.

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
35.2.1	RC 7.5-9.5 kg (16.5-20.9lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	75DR	Std	SS40: Slice	2.07	22.26	75.00	Body 32	Weight and height based routine chest protocol.
35.3.1	RC 9.5-11.5 kg (20.9-25.4lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	80DR	Std	SS40: Slice	2.20	24.57	78.75	Body 32	Weight and height based routine chest protocol.
35.4.1	RC 11.5-14.5kg (25.4-32.0lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	55DR	Std	SS40: Slice	1.77	22.15	90.00	Body 32	Weight and height based routine chest protocol.
35.5.1	RC 14.5-18.5kg (32.0-40.8lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	55DR	Std	SS40: Slice	1.77	22.15	90.00	Body 32	Weight and height based routine chest protocol.
35.6.1	RC 18.5-22.5kg (40.8-49.6lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	70DR	Std	SS40: Slice	2.25	28.19	90.00	Body 32	Weight and height based routine chest protocol.
35.7.1	RC 22.5-31.5kg (49.6-69.5lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	75DR	Std	SS40: Slice	2.41	28.99	85.00	Body 32	Weight and height based routine chest protocol.
35.8.1	RC 31.5-40.5kg (69.5-89.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	80DR	Std	SS40: Slice	2.58	39.94	120.00	Body 32	Weight and height based routine chest protocol.
35.9.1	RC 40.5-55.0kg(89.3-121.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	85DR	Std	SS40: Slice	2.74	50.65	150.00	Body 32	Weight and height based routine chest protocol.

Pediatric Abodmen

Table 3-12 Optima CT540 with ASiR

Protocol Number	GE Protocol Name	Post Process	Scan Type	SFOV	Pitch Table Speed Row	Rotation Time (Seconds)	Thickness	Beam Collimation (mm)	kV	mA Min-Max, NI Avg mA	Recon Type	ASiR (%)	CTDIvol (mGy) w/ ASiR	DLP (mGy-cm)w/ ASiR	Scan Length (mm)	Phantom (cm)	Description
36.1.1	Abd 6.0-7.5 kg (13.2-16.5 lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	95DR	Std	SS40: Slice	2.62	29.18	78.75	Body 32	Weight and height based routine abdominal protocol.
36.2.1	Abd 7.5-9.5 kg (16.5-20.9lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	100DR	Std	SS40: Slice	2.75	33.81	90.00	Body 32	Weight and height based routine abdominal protocol.
36.3.1	Abd 9.5-11.5 kg (20.9-25.4lbs)		Helical	Small	1.375 27.5	0.50	3.75	20.00	120	110DR	Std	SS40: Slice	3.03	40.60	101.25	Body 32	Weight and height based routine abdominal protocol.
36.4.1	Abd 11.5-14.5kg (25.4-32.0lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	70DR	Std	SS40: Slice	2.25	32.69	110.00	Body 32	Weight and height based routine abdominal protocol.
36.5.1	Abd 14.5-18.5kg (32.0-40.8lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	75DR	Std	SS40: Slice	2.41	35.03	110.00	Body 32	Weight and height based routine abdominal protocol.
36.6.1	Abd 18.5-22.5kg (40.8-49.6lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	80DR	Std	SS40: Slice	2.58	42.52	130.00	Body 32	Weight and height based routine abdominal protocol.
36.7.1	Abd 22.5-31.5kg (49.6-69.5lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	85DR	Std	SS40: Slice	2.74	50.65	150.00	Body 32	Weight and height based routine abdominal protocol.
36.8.1	Abd 31.5-40.5kg (69.5-89.3lbs)		Helical	Large	1.375 27.5	0.50	5	20.00	120	90DR	Std	SS40: Slice	2.90	53.63	150.00	Body 32	Weight and height based routine abdominal protocol.
36.9.1	Abd 40.5-55.0kg(89.3-121.3lbs)		Helical	Large	1.375 27.5	0.5	5	20.00	120	95DR	Std	SS40: Slice	3.06	71.90	200.00	Body 32	Weight and height based routine abdominal protocol.

Lexicon

Lexicon

For the CT technologist who operates multiple scanner models, perhaps from multiple manufacturers, the variability in names for important scan acquisition and reconstruction parameters can lead to confusion, reduced comfort and an increased potential for error. The intent of this CT terminology lexicon is to allow users to translate important CT acquisition and reconstruction terms between different manufacturers' systems.

The following tables provide the SABMI (Scout Adjusted Body Mass Index) terminology for GE and is a result of the AAPM CT Terminology working group. It identifies relevant terms from established lexicon (e.g., Radlex and DICOM) and other relevant literature published.

The AAPM website will provide updates when changes in standardization of terminology occur. Visit www.aapm.org, search CT Protocols, and select Lexicon for full listing of terminology across various manufactures of CT equipment.

The generic descriptions or terms in the first column are intended to orient the user to the relevant concepts; they are not consensus "preferred terms." The generic descriptions are not based on any single existing or pending terminology standard; however the references cited below were consulted in developing the generic descriptions.

A number of individuals and groups have advocated for terminology standardization in CT, including at a March 30-31, 2010 FDA public meeting entitled "Device Improvements to Reduce Unnecessary Radiation Exposure from Medical Imaging" (transcripts available at the FDA website: www.fda.gov in Medical Devices). Participants proposed a cooperative effort among professional organizations (AAPM, ASRT, ACR, etc.), industry, and the FDA.

Scan Acquisition and User Interface Basics

Table A-1 Scan acquisition and user interface terms

Generic Description	GE Name
The portion of the user interface where scans are prescribed	Exam Rx
Other portions of the user interface , such as where reconstructed images are viewed	Desktop
CT localizer radiograph (i.e. the scanned projection radiograph, often acquired by the CT system to allow the user to prescribe the start and end locations of the scan range)	Scout
Axial scan mode: Data acquisition while the patient table remains stationary; the table position may be incremented between X-ray exposures to collect data over a longer z axis range.	Axial
Helical or Spiral scan mode: Data acquisition while the patient table is continuously moving along the z axis.	Helical
Dynamic scan mode - single detector width: Data acquisition at multiple time points over the same anatomic location(s) while the patient table remains stationary; X-ray exposure can be continuous or intermittent	Cine or zero interval Axial
Interventional CT - Intermittent X-ray exposures	SmartStep
Interventional CT - Continuous X-ray exposures	SmartView
Table increment (mm) per 360 degree rotation of the X-ray tube (axial scan mode)	Interval
Table feed per 360 degree rotation of the X-ray tube (helical scan mode)	Speed (mm/rot)
Field of measurement: Diameter of the circular region within the scan plane over which projection data are collected. Nominally equal to the diameter of the primary beam at isocenter in the axial plane.	Scan Field of View (SFOV, cm)

Generic Description	GE Name
Tube current: Number of electrons accelerated across an X-ray tube per unit time, expressed in units of milliamperes (mA)	mA
Tube potential: The electric potential applied across an X-ray tube to accelerate electrons towards a target material, expressed in units of kilovolts (kV)	kV
Pitch: Unitless parameter used to describe the table travel during helical CT; equal to table travel (mm) per gantry rotation ÷ total nominal beam width (mm)	Pitch
Automated patient instructions	AutoVoice

Dose Modulation and Reduction Tools

Table A-2 Dose modulation and reduction tool terms

Generic Description	GE Name
Automatic exposure control (AEC): A scanner feature that automatically adapts the X-ray tube current to the overall patient size to achieve a specified level of image quality	Available in AutomA and SmartmA
Longitudinal tube current modulation	AutomA
Angular and longitudinal tube current modulation	SmartmA (x, y, z)
ECG-based tube current modulation	ECG Modulated mA
Image quality reference parameter for AEC	Noise Index

Multi-slice Detector Geometry

Table A-3 Multi-slice detector geometry terms

Generic Description	GE Name
Multi-slice detector array design	Fixed
Detector configuration	Detector Configuration

Figure A-1 Detector Coverage and Slice Thickness - Detector rows (N) and slice thickness (T) selection console screen image

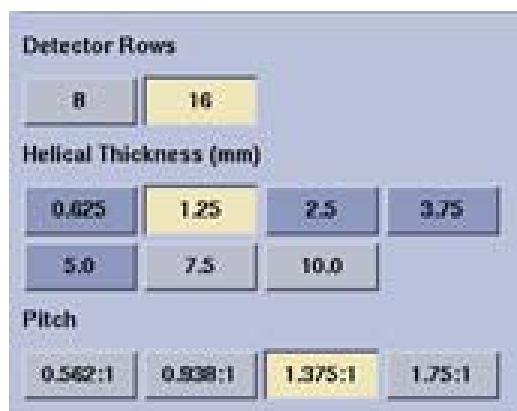


Image Reconstruction and Display

Table A-4 Image reconstruction and display terms

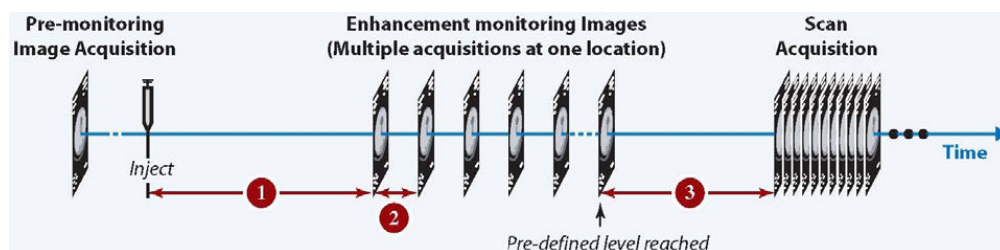
Generic Description	GE Name
Window width: Range of CT numbers (maximum - minimum) that are distributed over the viewable grey scale of the display device or film	Window Width
Window center: The CT number in the center of the viewable grey scale	Window Level
Reconstruction field of view: Width of the square region mapped to the reconstructed image matrix	Display Field of View (DFOV) (cm)
Prescribing the reconstruction parameters prior to scan acquisition	Prospective recon
Prescribing the reconstruction parameters after scan acquisition	Retrospective recon
Reconstruction property that determines sharpness or smoothness of image in the axial plane	Algorithm
Helical interpolation options to achieve a wider or narrower section sensitivity profile	Full (narrower) or Plus (wider) mode
Nominal width of reconstructed image along the z axis	Thickness (mm)
Distance between two consecutive reconstructed images	Interval
Off-center reconstruction coordinates are called	RL Center AP Center
Flip or rotate the image orientation is called	Flip/rotate
Image modifications to alter sharpness or smoothness (done in image space without reconstructing images)	Image Filters

Contrast Media Tools

Table A-5 Contrast media tool terms

Generic Description	GE Name
Bolus tracking: Scanner feature to automatically initiate a prescribed axial, helical or dynamic scan when a threshold level of contrast enhancement is reached at a specified region of interest	Smart Prep
Test Bolus: Scan mode used to measure the contrast transit time using a small injection of contrast media	Take axial scans at zero table feed and process with MIROI
Time-attenuation curve (TAC): Graph of the contrast enhancement versus time	Smart Prep graph or MIROI graph
Threshold: CT number (HU) where bolus tracking tool will trigger the system to begin the scan	Transition ROI Threshold
Scanner feature used to quantitatively evaluate the TAC	MIROI (multiple image region of interest)
Monitoring delay: Time from injection to the start of monitoring scans (Time 1 in figure below)	Monitoring Delay
Monitoring interval: Time between consecutive monitoring scans to (Time 2 in figure below)	Monitor ISD (InterScan Delay)
Scan delay: Time from when threshold is reached and prescribed axial, helical or dynamic scan begins (Time 3 in figure below)	Diagnostic delay

Figure A-2



Multi-planar Formats and 3D Processing

Table A-6 Multi-planar formats and 3D processing terms

Generic Description	GE Name
Reformatted image at an oblique plane (not an axial, coronal, or sagittal)	Oblique reformat
Saving images at various viewing angles about a volume or surface rendered object	Batch Loop
Saving images at various planes through a volume	Batch Reformat
Surface-rendered object	3D
Volume-rendered object	Volume Rendered image (VR)

Service and Application Tools

Table A-7 Service and application tool terms

Generic Description	GE Name
X-ray tube warm up	Tube Warm-up (tube warm up)
Daily calibrations	Fast Cals (done in daily prep)
Application information	Learning Solutions or User Manual
Application support assistance	Insite or Iling

Workflow

Table A-8 Workflow terms

Generic Description	GE Name
Scheduled (but not yet scanned) patient list is called	Patient Schedule
Already scanned patient list is called	List/Select
User comments or text added to an image is called	User annotation
Filming tools are called	Auto/manual film composer
Data page summarizing scan parameters, CTDIvol and DLP	Exam Text Page or Series Text Page
Sorting patient list	Sort

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