



CT POW
2025

Protocoling: from family physician to sub-specialty radiologist

CARRIE BARTELS RT(R)CT

KELSEY SCHLUTER BS RT(R)CT

BIOS



UW GE CT PROTOCOL PROJECT

At the University of Wisconsin – Madison, the Departments of Radiology and Medical Physics have been collaborating with the hospital staff to refine CT imaging protocols in an effort to reduce dose, enable the acquisition of more clinically useful images, and reduce the frequency of repeat scans. The UW CT protocols have been in a...

CARRIE BARTELS RT(R)CT

- UW Hospitals and Clinics for 28 + years
- Lead CT Technologist for 25 + years: Specialized in CT protocols, 3D Lab Imaging, New Technologist Training, Implemented New Software and Hardware, i.e., CT Motion Injectors
- Hometown: Madison, WI
- Accomplishments & Achievements: Guest lectures, Ochsner Consortium go-live, Publications and Meeting Abstracts
- Email address: cbartels2@uwhealth.org



KELSEY SCHLUTER BS RT(R)CT

- Worked at UW Hospital and Clinics for 8 years, 3 of them as a Lead CT Technologist before transitioning to the School of Medicine and Public Health.
- CT Technologist for 10 + years
- Specializes in Continuing Technologist education and new Technologist training by managing mandatory in-services.
- Lead CT Technologist on the Canon CT system at UW.
- Email: KSchluter2@uwhealth.org



Objectives



Understand how the orders are placed.



Understand what happens after the orders are placed.

- Understand how the orders are protocolled.
- Go through protocoling process by Radiology
- Go through WIKI overview



Understand what happens day of when patient arrives in CT.

Orderable vs Protocol.

PROTOCOL (n.) – A written tool of delegation that allows a Registered Nurse, Registered Dietitian, Registered Pharmacist, or other licensed, credentialed, or certified medical professional to START, MODIFY, or STOP an order on behalf of a Licensed Independent Practitioner (LIP), Advanced Practice Registered Nurse (APRN) / Nurse Practitioner (NP), Resident Physician or Physician Assistant (PA).

1. All **protocols** must be activated by either :

a. **AN ORDER** (synonyms: Provider-driven protocol) – For 'on-off'-type protocols which must be initiated or discontinued for a particular patient (*e.g. Heparin titration, Ventilator Liberation, etc.*)

i. *E.g. "Initiate Heparin Titration Protocol", "Discontinue Heparin Titration Protocol", etc.*

- Orderable or Order= Individual items within a protocol or order set that can be ordered for a patient, such as medications, lab tests, or imaging studies (i.e., CT, MRI, US, PET.....)

- Protocol= Within each modality there is specific predetermined set of parameters and instructions

Understand how an orderable is placed in the Electronic Medical Record (EMR)

I am hungry and want something to eat.



Go to your primary care physician and tell them you have pain in the stomach.



Understand how an orderable is placed in EMR

What sounds good to eat?
Hamburger, Pizza, Tacos?



Based on patient's symptoms the physician
orders the best suitable procedure.

Order Search	
CT ABDOMEN	
CT ABDOMEN PELVIS W & W/ O IV CONTRAST	R07033
CT ABDOMEN PELVIS W IV CONTRAST	R07416
	R07005
	R74170
	R74160
	R74150
	R74175
CT ANGIO ABDOMEN	

Choosing the correct information

Ordering provider needs to fill out as much information as possible.

What specific Pizza place to order from: Glass Nickel, Ian's, Rosati's or Novanta.



Novanta

CT ABDOMEN PELVIS W IV CONTRAST										<input checked="" type="checkbox"/> Accept	<input type="checkbox"/> Cancel
Timing:	Expected Date:		Today	Tomorrow	1 Week	2 Weeks	1 Month	3 Months	6 Months	<input type="checkbox"/> Approx.	
			1 Year								
	Expires:	9/17/2026	1 Month	2 Months	3 Months	4 Months	6 Months	1 Year	18 Months		
Priority:	<input checked="" type="button" value="Routine"/> <input type="button" value="ASAP"/> <input type="button" value="STAT"/>										
Class:	<input type="text" value="Normal"/> <input checked="" type="button" value="Normal"/> <input type="button" value="Outside"/>										
Dx association:	<input type="text" value="Search for diagnosis"/> <input checked="" type="button" value="+ Add"/>										
Modifiers:	<input type="text"/>										
CC Results:	<input checked="" type="button" value="+ Free Text 4"/> <input checked="" type="button" value="+ My List 5"/> <input checked="" type="button" value="+ Classes 6"/> <input checked="" type="button" value="+ Pools 7"/>										
	<input type="text" value="Add recipients"/>										
Can pt be given oral contrast?	<input checked="" type="button" value="Yes - by mouth, per protocol"/> <input type="button" value="Yes - route other than by mouth"/> <input type="button" value="No - not indicated per protocol"/> <input type="button" value="No - not indicated STAT"/> <input type="button" value="No - Other (specify in comments)"/>										
What specific question(s) would you like answered by this exam? Please include relevant recent/past history.											
<input type="text"/>											
Pt needs creatinine level w/in 30 days of exam? (Diabetes managed w/ meds [optional], using metformin combinations, hist of renal disease [incl tumor, surg, kidney transplant, dialysis])	<input checked="" type="button" value="Yes"/> <input type="button" value="No"/> <input type="text"/>										
Last creatinine value? (will auto pull in date and value in comment)	<input type="text" value="No Creatinine within last 30 days"/>										
For Scheduling purposes, is the patient claustrophobic or require any form of sedation? Note: ordering provider is responsible for prescribing oral anxiolytic or ordering sedation services.	<input type="text"/> <input checked="" type="button" value="No"/> <input type="text"/>										
Last patient weight? (will auto pull in value and date in comment)	<input type="text"/>										
Appropriate use of contrast per Radiologist?	<input checked="" type="button" value="Yes"/> <input type="button" value="NO CONTRAST PER ORDER"/> <input type="button" value="USE CONTRAST PER ORDER"/> <input type="button" value="WITH AND WITHOUT CONTRAST PER ORDER"/>										
Obtain Creatinine if no results in last 30 days or if needed per policy?	<input checked="" type="button" value="Yes"/> <input type="button" value="No"/> <input type="text"/>										
Release to patient	<input checked="" type="button" value="Immediate"/> <input type="button" value="Manual release only"/>										
Will this patient be admitted post procedure?	<input checked="" type="button" value="Yes"/> <input type="button" value="No"/> <input type="text"/>										
Comments:	<input type="text"/>										

Entering all pertinent information

Putting in the pertinent and correct information, ultimately helps Radiology figure out what CT imaging to obtain.

Dx association:

Modifiers:

CC

Routine Diagnoses

Other

- + Gestational diabetes mellitus (GDM)
- + Diabetes mellitus, type 2 (HCC)
- + Diabetes mellitus type 1 (HCC)
- + Obesity (BMI 30-39.9)
- + Severe obesity (BMI >= 40) (HCC)
- + Obesity peds (BMI >=95 percentile)
- + Obesity, pediatric, BMI 85th to less than 95th percentile for age
- + Obesity with body mass index (BMI) in 99th percentile for age in pediatric patient
- + CKD (chronic kidney disease) stage 1, GFR 90 ml/min or greater
- + CKD (chronic kidney disease) stage 2, GFR 60-89 ml/min
- + CKD (chronic kidney disease) stage 3, GFR 30-59 ml/min (HCC)
- + CKD (chronic kidney disease) stage 4, GFR 15-29 ml/min (HCC)
- + CKD (chronic kidney disease) stage 5, GFR less than 15 ml/min (HCC)
- + ESRD (end stage renal disease) (HCC)
- + ESRD (end stage renal disease) on dialysis (HCC)
- + Acute HFrEF (heart failure with reduced ejection fraction) (HCC)
- + Acute on chronic HFrEF (heart failure with reduced ejection fraction) (HCC)
- + Chronic HFrEF (heart failure with reduced ejection fraction) (HCC)
- + Acute heart failure with preserved ejection fraction (HFpEF) (HCC)
- + Acute on chronic heart failure with preserved ejection fraction (HFpEF) (HCC)
- + Chronic heart failure with preserved ejection fraction (HFpEF) (HCC)
- + COPD (chronic obstructive pulmonary disease) with chronic bronchitis (HCC)
- + COPD (chronic obstructive pulmonary disease) with emphysema (HCC)
- + Dependence on continuous supplemental oxygen

Do they need oral contrast?

Can pt be given oral contrast?

Do they need labs?

Pt needs creatinine level w/in 30 days of exam? (Diabetes managed w/ meds [optional], using metformin combinations, hist of renal disease [incl tumor, surg, kidney transplant, dialysis])

Do they need IV contrast?

Appropriate use of contrast per Radiologist?

Understand what happens after the orders are placed.

Abd/Pelvis (Dual Energy) -Under 250lbs
Abd/Pelvis
Trauma - Abd/Pelvis
Penetrating Abdominal Trauma
High Image Quality Cancer Follow-Up Abd/Pelvis
Abd/Pelvis - Flank Pain
Limited Follow-Up Kidneys Only
Abd/Pelvis - Colonography
Abd/Pelvis - Colonography with IV Contrast
Abd/Pel - Urography (Dual Energy) -Under 250lbs
Abd/Pelvis - Urography
Abd-Liver - Biphasic (Dual Energy)-Under 250lbs
Abd-Liver - Biphasic
CTA Abd-Liver - Triphasic (Dual Energy)-Under 250lbs
CTA Abd-Liver - Triphasic
Abd-Adrenal Gland - Adenoma (Dual Energy)-Under 250lbs
Abd-Adrenal Gland - Adenoma
CTA Abd-Liver - Donor Work-up
Abd-Pancreas Cancer (Dual Energy)-Under 250lbs
Abd - Pancreas Cancer (Neoplasm Screening)
CTA Abd-Pancreas - Transplant
Abd/Pelvis - Kidney Tumor (Dual Energy)-Under 250lbs
Abd/Pelvis - Kidney Tumor
CTA Abd - Renal Donor
Abd-Small Bowel Enterography (Dual Energy) -Under 250lbs
Abd-Small Bowel Enterography
CTA Abd - Mesenteric Ischemia (Dual Energy)-Under 250lbs
CTA Abd - Mesenteric Ischemia
Urothelial Tumor Follow-Up (Dual Energy) -Under 250lbs
Urothelial Tumor Follow-up

Radiology then must choose what abdomen/pelvis protocol they need. This is based off the patient's symptoms/chief complaints that the ordering provider provides.

Choosing the correct specialty pizza that the place has to offer.
No substitutions!



Abdominal (and CAPs)

Protocols

Chest/Abd/Pelvis with IV Contrast	5.4/5.5/5.6
Chest/Abd/Pelvis without IV Contrast	5.7/5.8/5.9
CTPA for PE with Abd/Pelvis	5.19/5.20/5.21
Trauma - Chest	5.22/5.23/5.24
Trauma - Chest/Abd/Pelvis	5.25/5.26/5.27
Abd/Pelvis (Dual Energy) -Under 250lbs	6.1
Abd/Pelvis	6.1/6.2/6.3
Trauma - Abd/Pelvis	6.4/6.5/6.6
Penetrating Abdominal Trauma	6.4/6.5/6.6
High Image Quality Cancer Follow-Up Abd/Pelvis	6.7/6.8/6.9
Abd/Pelvis - Flank Pain	6.10/6.11/6.12
Limited Follow-Up Kidneys Only	6.13/6.14/6.15
Abd/Pelvis - Colonography	6.16/6.17/6.18
Abd/Pelvis - Colonography with IV Contrast	6.19/6.20/6.21
Abd/Pel - Urography (Dual Energy) -Under 250lbs	6.22
Abd/Pelvis - Urography	6.22/6.23/6.24
Abd-Liver - Biphasec (Dual Energy)-Under 250lbs	6.25
Abd-Liver - Biphasec	6.25/6.26/6.27

Chest

Protocols

- Chest - (Routine and High-Resolution)
- Chest - Low Dose Follow-up/Screening
- Chest - CTPA for PE
- Chest - Esophagram
- Chest - Dynamic 3D Airway

Abd - Venogram with Pre-IVC Filter Removal	6.7/6.8/6.9
Abd/Pelvis - Venogram (Pre-IVC Filter Removal)	6.73/6.74/6.75
CTA Abd/Pelvis - Active Bleeder (Dual Energy)-Under 250lbs	6.79
CTA Abd/Pelvis - Active Bleeder	6.79/6.80/6.81
Abd-Liver HCC (Dual Energy)-Under 250lbs	6.82
Abd-Liver - Hepatocellular Carcinoma (HCC)	6.82/6.83/6.84
CTA Abd-Liver - Transplant Recipient Workup (Dual Energy)-Under 250lbs	6.85
CTA Abd-Liver - Transplant Recipient Workup	6.85/6.86/6.87
Abdominal Wall Flap CTA	6.88/6.89/6.90
Lower Extremity CTA and Trauma-Chest/Abd/Pelvis	
Cystogram	8.10/8.11/8.12
Body Pelvis (Dual Energy) -Under 250lbs	8.16
Body Pelvis	8.16/8.17/8.18
Neck/Chest/Abd/Pelvis	
Trauma -- CTA Head/Neck/Chest/Abd/Pelvis	
Abd/Pelvis - R/O Hernia (Use routine Abd/Pelvis protocol)	6.1/6.2/6.3
Abd/Pelvis - Upper GI (UGI) (Use routine Abd/Pelvis protocol)	6.1/6.2/6.3

Neuro

Protocols

Brain - Routine (Helical Mode)	1.1
Brain - Helical Scan with Angled Axial	
Brain - Routine (Axial Mode)	
Brain Post Thrombolysis Helical (Dual Energy)	
3D CT (Craniosynostosis, Congenital)	
Stroke Deluxe -- Total Cerebrovascular	
CTA Head Only (Stenosis, Aneurysm, Dissection)	
CTA Head Only (Dual Energy)	
CT Venography Head & Neck	
Stereotactic Head	
EMO Stroke Deluxe - Total Cerebrovascular	
Neck (Salivary Gland)	
CTA Neck Only (Cerebrovascular Disease)	
Neck (Hypervascular Papillary Thyroid Mass)	
Adult Cervical Spine (without Metal)	
Adult Cervical Spine (with Metal)	
Adult Lumbar Spine (without Metal)	
Adult Thoracic Spine (without Metal)	
Stereotactic Spine	7.8
Adult Lumbar Spine (with Metal)	7.10/7.11/7.12
Adult Thoracic Spine (with Metal)	7.13/7.14/7.15

	CT1	CT2	Canon	CT4	ER	AFCH	DHC
	CT1	CT2		CT4	ER	AFCH	DHC

Cardiovascular

Protocols

CARDIAC								
Coronary	5.37/5.38/5.39		CT2	Canon	CT4	ER		
Calcium Score	5.37/5.38/5.39		CT2	Canon	CT4	ER		
TAVI	5.42/5.43/5.45		CT2	Canon	CT4	ER		

Musculoskeletal

Protocols

Shoulder/Humerus (with or without Metal)	4.1/4.2/4.3	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Gout Upper Extremity (Dual Energy)	4.4		CT2		CT4	ER		
Zimmer/Biomet Shoulder	4.5	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Elbow/Forearm (without Metal)	4.6	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Elbow/Forearm (with Metal)	4.7	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Wrist (without Metal)	4.8		CT2	Canon	CT4	ER	AFCH	DHC
Wrist (with Metal)	4.9	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Chest Wall/Claicle/AC Joint/SC Joint/Sternum/Ribs	4.10/4.11/4.15	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Gout Spine/Shoulder (Dual Energy)	7.16/7.17/7.18				CT4	ER		
Bony Pelvis/Hips/SI/Femur/FAI (without Metal)	8.0/8.2/8.3	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Bony Pelvis/Hips/SI/Femur/FAI (with Metal)	8.4/8.5/8.6	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Hip Preservation CT	8.13	CT1	CT2		CT4	ER	AFCH	DHC
Mako Hip	8.14	CT1	CT2		CT4	ER		DHC
Ankle/Foot/Distal Tibia (without Metal)	9.1	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Ankle/Foot/Distal Tibia (with Metal)	9.2	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Knee/Tibia (without Metal)	9.3	CT1	CT2	Canon	CT4	ER	AFCH	DHC
Knee/Tibia (with Metal)	9.4	CT1	CT2	Canon	CT4	ER	AFCH	DHC
BODYCAD Lower Extremity	9.5		CT2	Canon	CT4	ER		DHC
Gout Lower Extremity (Dual Energy)	9.6		CT2		CT4	ER		
Mako Knee	9.7	CT1	CT2		CT4	ER	AFCH	DHC
Femoral Anteversion/Lower Extremity Rotational Study	9.8/9.9/9.10	CT1	CT2		CT4	ER	AFCH	DHC
Pre-op Prophecy/S+N	9.16				CT4	ER		
Soft Tissue Extremity with IV Contrast	9.24/9.25/9.26	CT1	CT2	Canon	CT4	ER	AFCH	DHC

Groin or Gluteal Active Bleed	5.28/5.29/5.30	CT1	CT2	Canon	CT4	ER	AFCH	DHC
EXTREMITY								
Upper Extremity	4.10/4.11/4.12		CT2	Canon	CT4	ER		DHC
Thoracic Outlet	5.83/5.84/5.85	CT1	CT2		CT4	ER	AFCH	DHC
Lower Extremity	9.13/9.14/9.15		CT2	Canon	CT4	ER		
Fibular Flap	9.13/9.14/9.15		CT2	Canon	CT4	ER		

Understand how the CT orders are protocolled

Body Protocol Quick Guide

When in doubt, please ask/double check/call referring provider!

Protocol Name	Protocol Number	Indication(s)	Phases	Oral Contrast	Design Philosophy
Chest/Abd/Pelvis with IV Contrast	5.4/5.5/5.6	Evaluate for adenopathy, abscess and Neoplasm, infection	Chest (with or without IV per protocol) & A/P (Portal Venous)	Oral	This protocol is most commonly applied to patients with neoplasm that may affect the entire torso, but is not expected to affect the head and neck.
Chest/Abd/Pelvis without IV Contrast	5.7/5.8/5.9	Evaluate for adenopathy, abscess and Neoplasm, infection	Chest (without IV) & A/P (without IV)	Oral	This scan is usually performed for the evaluation of tumor or other
CTPA for PE with Abd/Pelvis	5.19/5.20/5.21	Pulmonary Emboli and any intraabdominal pathology	Chest (CTA) & A/P (Portal Venous)	Oral	Co
Trauma - Chest	5.22/5.23/5.24	Emergency evaluation for aortic injury or organ disruption. Routine creatinine cut-off for IV contrast administration does not apply in a trauma.	CTA	None	inj
Trauma - Chest/Abd/Pelvis	5.25/5.26/5.27	Emergency evaluation for aortic injury or organ disruption. Routine creatinine cut-off for IV contrast administration does not apply in a trauma.	CTA Chest, Portal Venous A/P, Optional 7 min Delay through A/P	None	En
Abd/Pelvis	6.1/6.2/6.3	Evaluate for abdominal pathology other than hypervascular tumors. Increasing Erythema, Abscess, infection, sepsis, Leukocytosis, Abdominal pain, distention, obstruction, Acute sided abdominal TTP, Fournier's gangrene, Pancreatitis (chronic or Necrotizing), Abdominal wall drainage, fistula, Nausea, vomiting, Chron's with acute pain/complication	Portal Venous	Oral	Th
Abd/Pelvis- Bariatric protocol	6.1/6.2/6.3	Post-Op Bariatric Surgery.	Without or Portal Venous	150 ml Oral	Th
Abd/Pelvis-Without	6.1/6.2/6.3	Used for Retroperitoneal Bleeds, or when IV contrast can not be given.	Without	Oral	For patients where it is contraindicated to get IV contrast.
Trauma - Abd/Pelvis	6.4/6.5/6.6	Emergency evaluation for aortic injury or organ disruption. Routine creatinine cut-off for IV contrast administration does not apply in a trauma.	Portal Venous & Optional 7 min Delay	None	Emergency evaluation for traumatic organ disruption. This is usually reserved for a direct blow to the abdomen or low velocity MVA. Note: Routine creatinine cut-off for IV contrast administration does not apply in a trauma.
Penetrating Abdominal Trauma	6.4/6.5/6.6	Emergency evaluation for penetrating injury to the abdomen (i.e. knife). Routine creatinine cut-off for IV contrast administration does not apply in a trauma.	Portal Venous	Rectal	If there is concern for bowel injury due to penetrating injury (like a knife wound), rectal contrast helps identify this. Otherwise the survey looks for any other traumatic injury that we would otherwise see on the standard trauma – abd/pelvis protocol.

Based off indication, symptoms and history by ordering provider
Radiology then picks the best suited protocol that will hopefully answer as many of those questions as possible.

After using protocoling resources, the protocol is then entered into the CT order by Radiology (Technologist or Radiologist)

CT Protocol

Protocols section:

Abdominal Cardiovascular Chest MSK Neuro Peds Community Swedish American

CT Protocol:

Body Chest CV Msk Neuro Spine VC

UWHC Protocol Wiki Link

CT Protocols Reference

Body Protocol:

Routine High Image Quality Cancer Follow-up Liver Pancreas GI GU CTA Body Abdominal Wall Flap Misc Trauma

Body Regions:

Chest Abdomen Pelvis

Body Liver Protocol Options:

Bi-Phasic R/O HCC Tri-Phasic Liver Transplant Recipient Workup Liver Donor Workup



CT Protocol

Protocols section:

Abdominal

Cardiovascular

Chest

MSK

Neuro

Peds

Community

Swedish American

CT Protocol:

Body

Chest

CV

Msk

Neuro

Spine

VC

UWHC Protocol Wiki Link

CT Protocols Reference

Body Protocol:

Routine

High Image Quality Cancer Follow-up

Liver

Pancreas

GI

GU

CTA Body

Abdominal Wall Flap

Misc

Trauma

Peds Appy

Body Regions:

Chest

Abdomen

Pelvis

Body Pancreas Protocol Options:

Pancreas Cancer

CTA-Pancreas Transplant

CT Protocol

Protocols section:

CT Protocol:

UWHC Protocol Wiki Link

Body Protocol:

Body Regions:

Body GI Protocol Options

Abdominal Cardiovascular Chest MSK Neuro Peds Community Swedish American

Body Chest CV Msk Neuro Spine VC

[CT Protocols Reference](#)

Routine High Image Quality Cancer Follow-up Liver Pancreas **GI** GU CTA Body Abdominal Wall Flap Misc Trauma Peds Appy

Chest Abdomen Pelvis

Hernia Small Bowel Enterography Colonography Bariatric Post OP Bi-Phasic Upper GI Limited Hernia

Pizza was food of choice → Picked a Pizza joint → A specialty pizza was picked → Now pizza is getting cooked



Order was placed → Radiology protocolled the order per patient symptoms → Patient gets scheduled for CT → Patient gets confirmation for CT scan date and time.

UWH RAD CT - Health Link TST

Search (Ctrl+Space)

Re: Patient (not to ch... 8 +14

Log Out

Technologist Work List: Carrie Arrived, Patients: 1, Appointments: 1

Filter by modality

PI	Stu	INP	ISO	Recent Event	Time	C I Time	Pager	MRN	Patient Name	Age	Procedure
					7:55	07:51		2959127	ZztestDFM,	75	CT ABDOMEN PELVIS W IV CONTRAST

No orders to display.

Orders in Exam

CT ABDOMEN PELVIS W IV CONTRAST

Reason For Exam

Dix Pain [R52 (ICD-10-CM)]

Questions

Can pt be given oral contrast?	Yes, Per Protocol
Pt needs creatinine level w/in 30 days of exam? (Diabetes managed w/ meds [optional], using metformin combinations, hist of renal disease [incl tumor, surg, kidney transplant, dialysis])	Yes
Last creatinine value? (will auto pull in date and value in comment)	No Creatinine within last 30 days
Last patient weight? (will auto pull in value and date in comment)	190 lbs (Comment: 7/12/23)
Appropriate use of contrast per Radiologist?	Yes
Order Whole Blood Creatinine (HCWBCRET) per "Prevention of Contrast	Yes

Order Date

Date and Time: 9/17/2024 7:51 AM

Department: UWH RAD CT

Protocol Summary

Protocolled on 9/17/2024 7:53 AM CDT by Carrie M Bartels, Imaging Spec

Protocolling section:	Abdominal
CT Protocol:	Body
Body Protocol:	Routine
Body Regions:	Abdomen, Pelvis
IV Contrast Options:	With Contrast
IV Contrast Material:	Iohexol
Oral Contrast Material:	Iohexol 300
Delays?	No
Sched. Changes:	None

Patient Information

Accession #: 622217172

MRN: 2959127 E-MRN: 53182146

Patient Name	Gender Identity	DOB	Age
ZztestDFM, Shelly	Female	08/10/1949	75 yrs
Phone	Allergies	PCP w/ Phone	Order Priority
H: 999-999-9999	Ephedrine, Guaifenesin, Fish Oil	BODERMAN, BRIANNA (608-263-7577)	Routine
Pref Language	Meth of Transport	Isolation	Current Location
Spanish			UWH RAD CT
Height	Weight	Last BMI (<30 days)	BP
1.651 m (5' 5")	86.2 kg (190 lb)	None	100/80

Understand Day of CT:

Day of technologist needs to

- Identify the protocol on the EMR
- Review protocol on resource page
- Choose correct protocol on scanner

Delivery driver must follow directions to find your house, to deliver you pizza



CT Protocol

Protocols section:

CT Protocol:

UWHC Protocol Wiki Link

Body Protocol:

Body Regions:

Abdominal Cardiovascular Chest MSK Neuro Peds Community Swedish American

Body Chest CV Extrem MSK Chest Neuro Spine VC

CT Protocols Reference

Routine High Image Quality Cancer Follow-up Limited Hernia Liver Pancreas GI GU CTA Body Abdominal Wall Flap Misc

Trauma Peds Appy

Chest Abdomen Pelvis

User Adult abdomen

Protocol List

6.1	ABD/PELVIS W/IVC SMALL ADULT 6/24/21
6.2	ABD/PELVIS W/IVC MEDIUM ADULT 6/24/21
6.3	ABD/PELVIS W/IVC LARGE ADULT 6/24/21
6.4	LOW DOSE RENAL STONE SMALL 6/24/2021
6.5	LOW DOSE RENAL STONE MEDIUM 6/24/2021
6.6	LOW DOSE RENAL STONE LARGE 6/24/2021
6.7	[DC]AP W/IVC Lymphoma PICCS (MED) Pickhardt Protocol
6.8	TRIPHASIC LIVER
6.9	BIPHASIC LIVER SMALL ADULT 6/24/2021
6.10	BIPHASIC LIVER MEDIUM 6/24/2021
6.11	BIPHASIC LIVER LARGE ADULT 6/24/2021
6.12	FLAIR
6.13	FLAIR SMALL 6/24/2021
6.14	FLAIR MEDIUM 6/24/2021
6.15	FLAIR LARGE 6/24/2021

Adult Protocol Table of Contents

Link to Table of Contents for Pediatric Protocols

Contents [hide]

Abdominal (and CAPs)

Protocols

Appendix

Neuro

Protocols

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Chest

Protocols

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Cardiovascular

Protocols

Appendix

Musculoskeletal

Protocols

Appendix

Special PETCT/High Resolution/Dual Energy/Ablation/Biopsy Protocols

Abdominal (and CAPs) [edit]

Protocols [edit]

Chest/Abd/Pelvis with IV Contrast	5.4/5.5/5.6	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
Chest/Abd/Pelvis without IV Contrast	5.7/5.8/5.9	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
CTPA for PE with Abd/Pelvis	5.19/5.20/5.21	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
Trauma - Chest	5.22/5.23/5.24	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
Abd/Pelvis	6.1/6.2/6.3	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
Penetrating Abdominal Trauma	6.4/6.5/6.6	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
High Image Quality Cancer Follow-Up Abd/Pelvis	6.7/6.8/6.9	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC
Abd/Pelvis - Flank Pain	6.10/6.11/6.12	CT1	CT2	CT3	CT4	ER	AFCH	DHC	TAC

Contents [hide]

Clinical Instructions

Indication

Oral Contrast

Pre-Scan Instructions

IV Contrast: Select Option 1 or 2 - based on concentration available at your site

Option 1: IV Contrast Parameters 350 mgI/mL

Option 2: IV Contrast Parameters 300 mgI/mL

Field of View

Scan Description

Billing

Reformat Instructions

Reformats

Networking

Miscellaneous

Acquisition Parameters

Series 1, Scout

Series 2, Smart Prep


Series 2, Scan Phase

Series 2, Recons

Clinical Instructions

Indication

Evaluate for abdominal pathology other than hypervascular tumors.

Video for this protocol 

Oral Contrast

Oral Contrast: Dilute (1) 20 ml cup of Iohexol 300 mgI/mL in 800 ml clear liquid, flavoring may be added but no ice or carbonation.

Administer to Outpatients: 200mL every 15 minutes over one hour.

Administer to Inpatients: 200mL every 30 mins over two hours.

IV Contrast: Select Option 1 or 2 - based on concentration available at your site

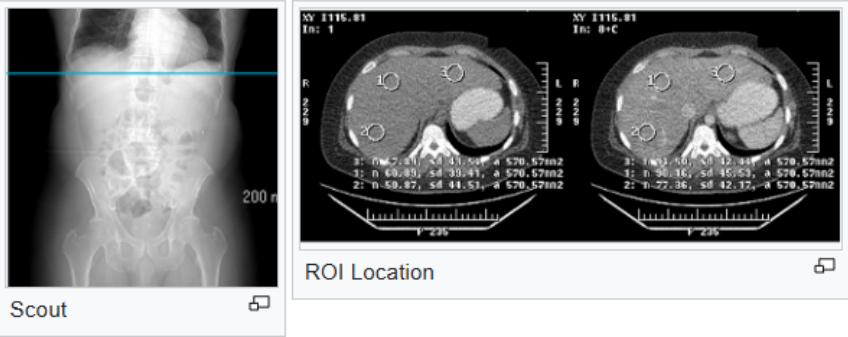
Option 1: IV Contrast Parameters 350 mgI/mL

Select the Ulrich Weight-Based Adult 3mL protocol which will load the following settings: Saline Test Bolus 3mL/sec Weight based volume 3mL/sec (see below) Saline Flush 50 mL 3mL/sec Iohexol (Omnipaque) 350 mg/mL injection at a rate of 3 mL/sec

For sites without the Ulrich use Medrad p3T or refer to the weight based contrast tables included with the protocol booklet. [Click here to access these tables](#)

Scan Description

- Series 1 - PA & lateral scout: from diaphragm through iliac crest or pubic symphysis
- Series 2 – With IV Contrast. Scanned at approximately 70 seconds from the start of the injection, based on Smart Prep time/density graph. Start scan just above the diaphragm, end just below pubic symphysis. If no pelvis is ordered/ indicated, end scan at iliac crests.
 - Smart Prep- Monitor Phase: Center over the liver. Put ROI (3) in the liver. Threshold 50 Hounsfield units. No less than 60 and no more than 80 second delay.



Billing

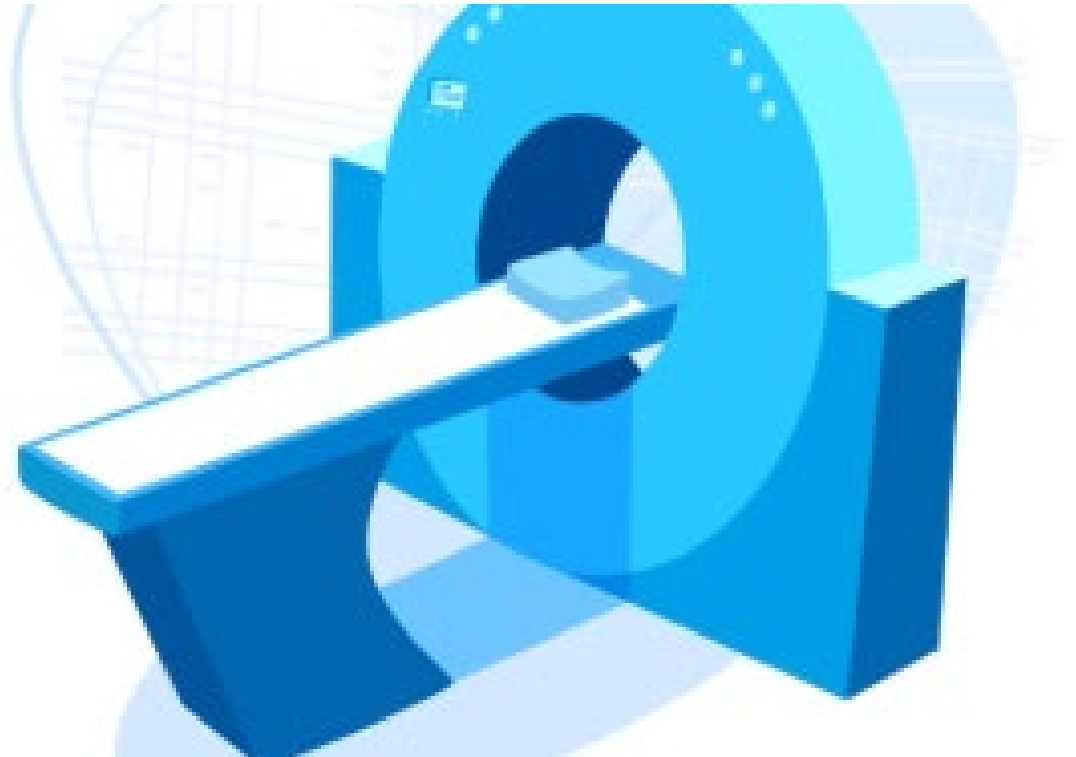
CT Abdomen and/or Pelvis (however it was scanned) and contrast if used.

Reformat Instructions

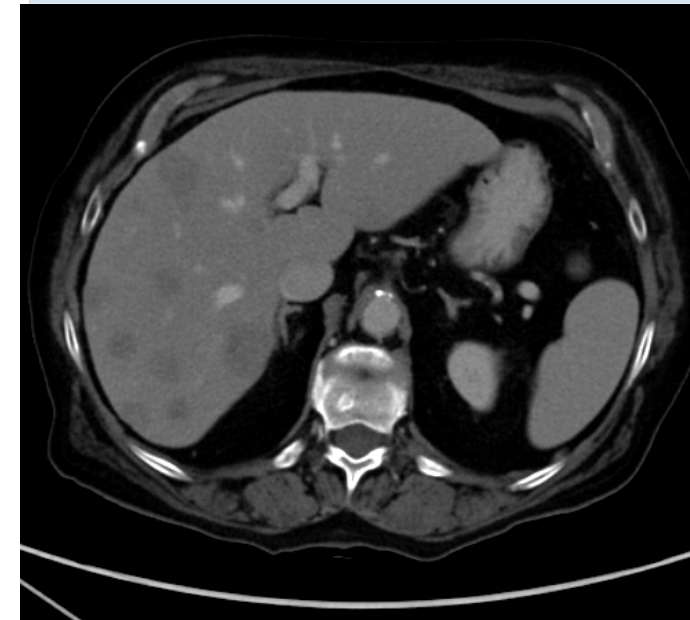
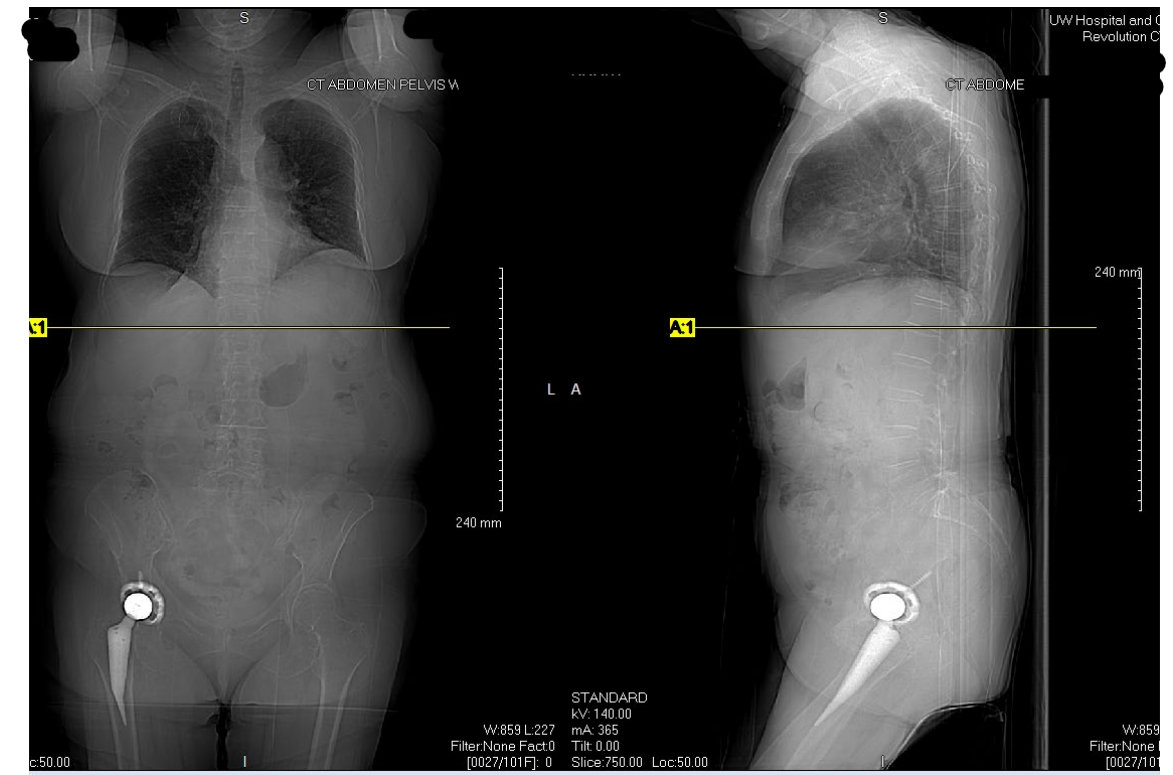
Use DMPR on THIN ST.

Reformats

Name	Source Series Name	DMPR or Manual	Type (MIP, Average, etc.)	WW/WL	Slice Thickness (mm)	Interval (mm)	Orientation
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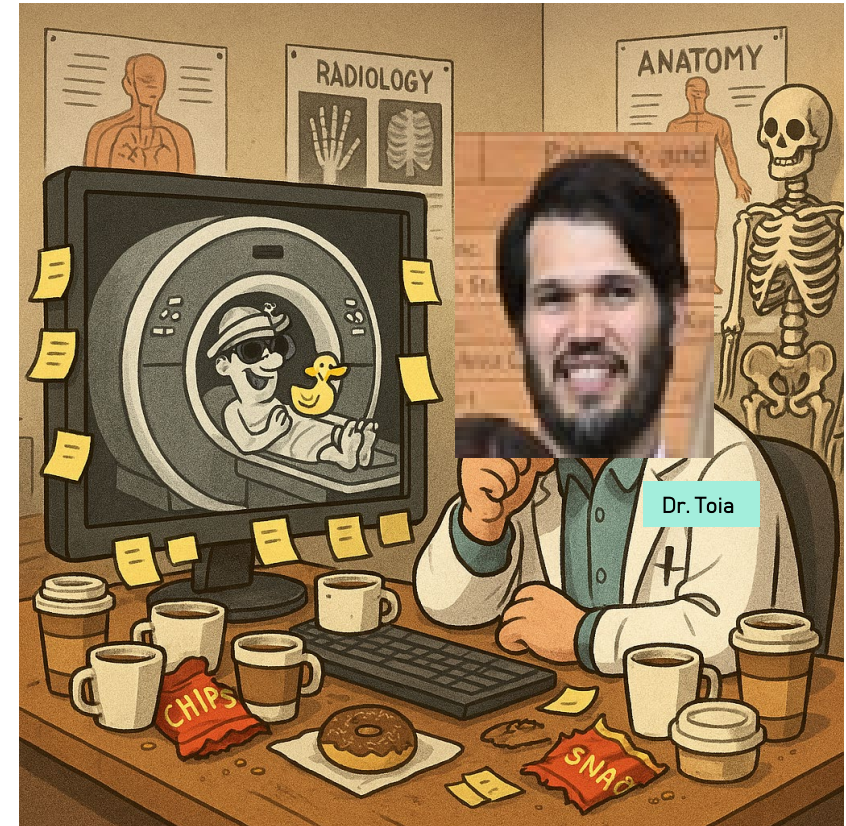
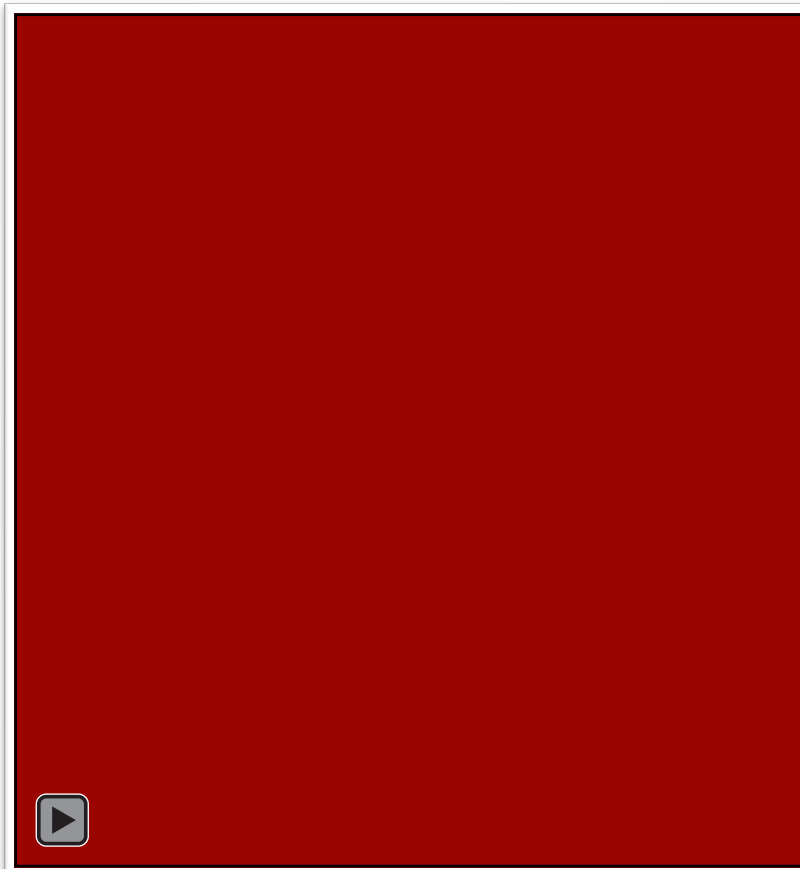
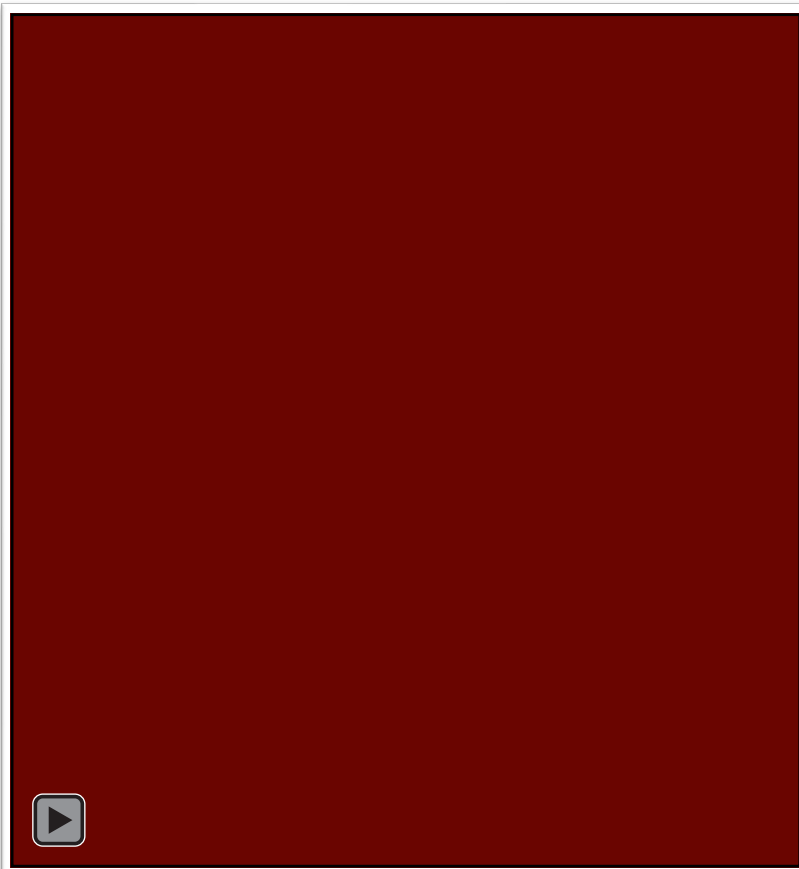


CT Scan is completed



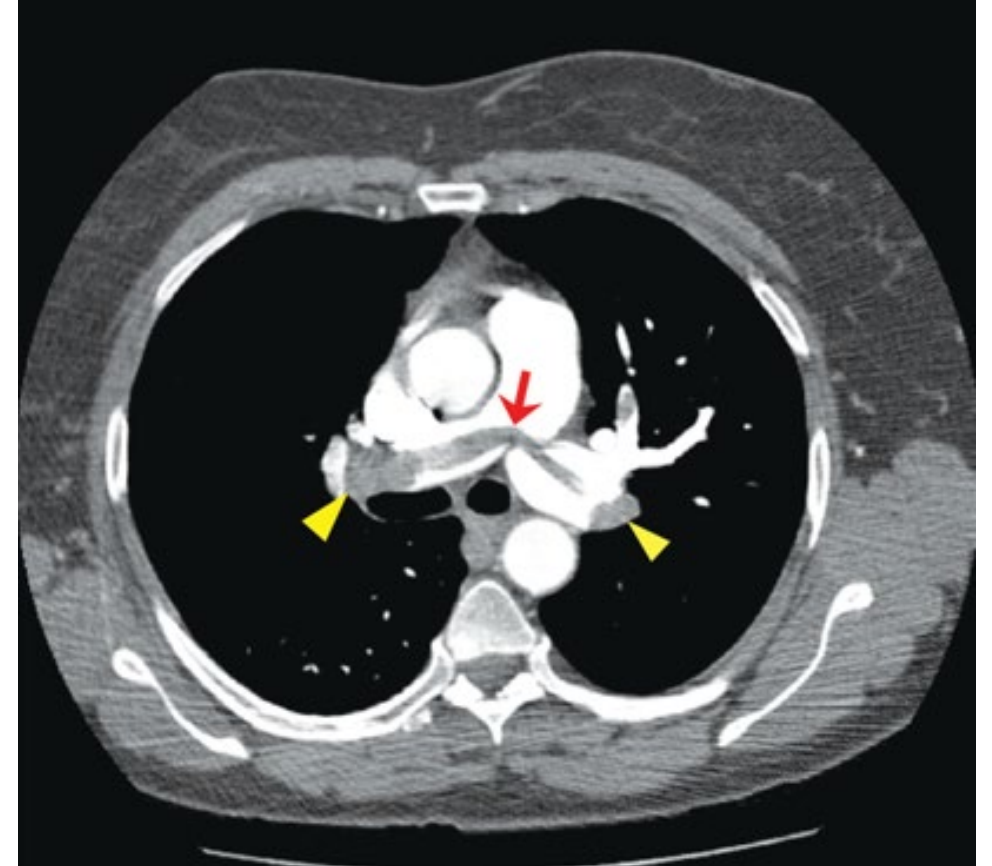
Post processing and Networking Images

- Patient is finished but Technologist must take the raw data and perform additional reformats or views for the Radiologist to assist in image review and interpretation.
- Images are then sent to PACS (Picture Archiving and Communication System). This is where the Radiologist view and interpret the images for you and your referring provider.



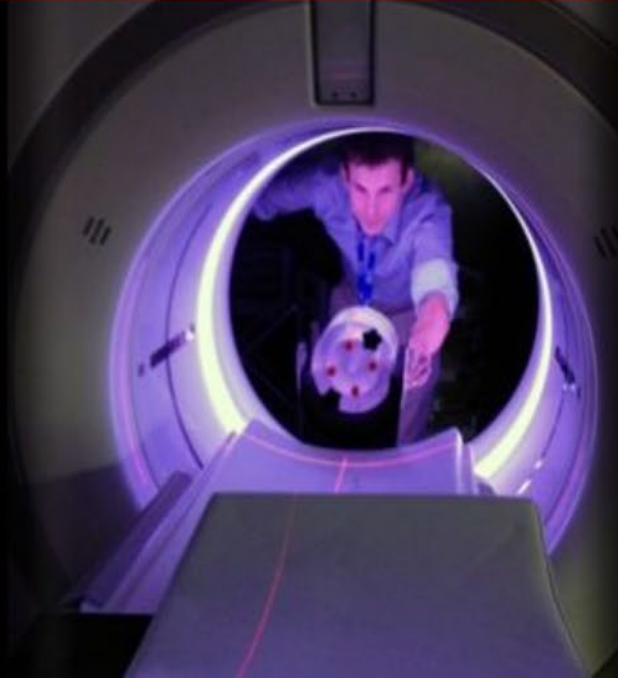
Example 1:

1. Patient presents to ED with Chest pain and abnormal blood work.
2. Based off patient's symptoms and lab work, Emergency Doctor enters an orderable: CT Angio Chest PE into the EMR (electronic medical records)
3. Order populates on Technologist and Radiologist worklist.
4. Orderable is then protocolled by Technologist or Radiologist.
5. Patient comes to CT department.
6. Technologist selects correct protocol on the console of the CT scanner.
7. CT is performed.
8. Raw data is post processed and sent to PACS
9. Radiologist reviews and interprets images.
10. Interpretations are entered into the EMR and available for Emergency Doctor to view.





Standardizing CT protocols worldwide...



...to image *gently* and image *well*.

Next Up:

A Comprehensive Guide to Interventional CT: Technology, Workflow, & Dose Considerations

MARTIN WAGNER DR.SC.HUM

