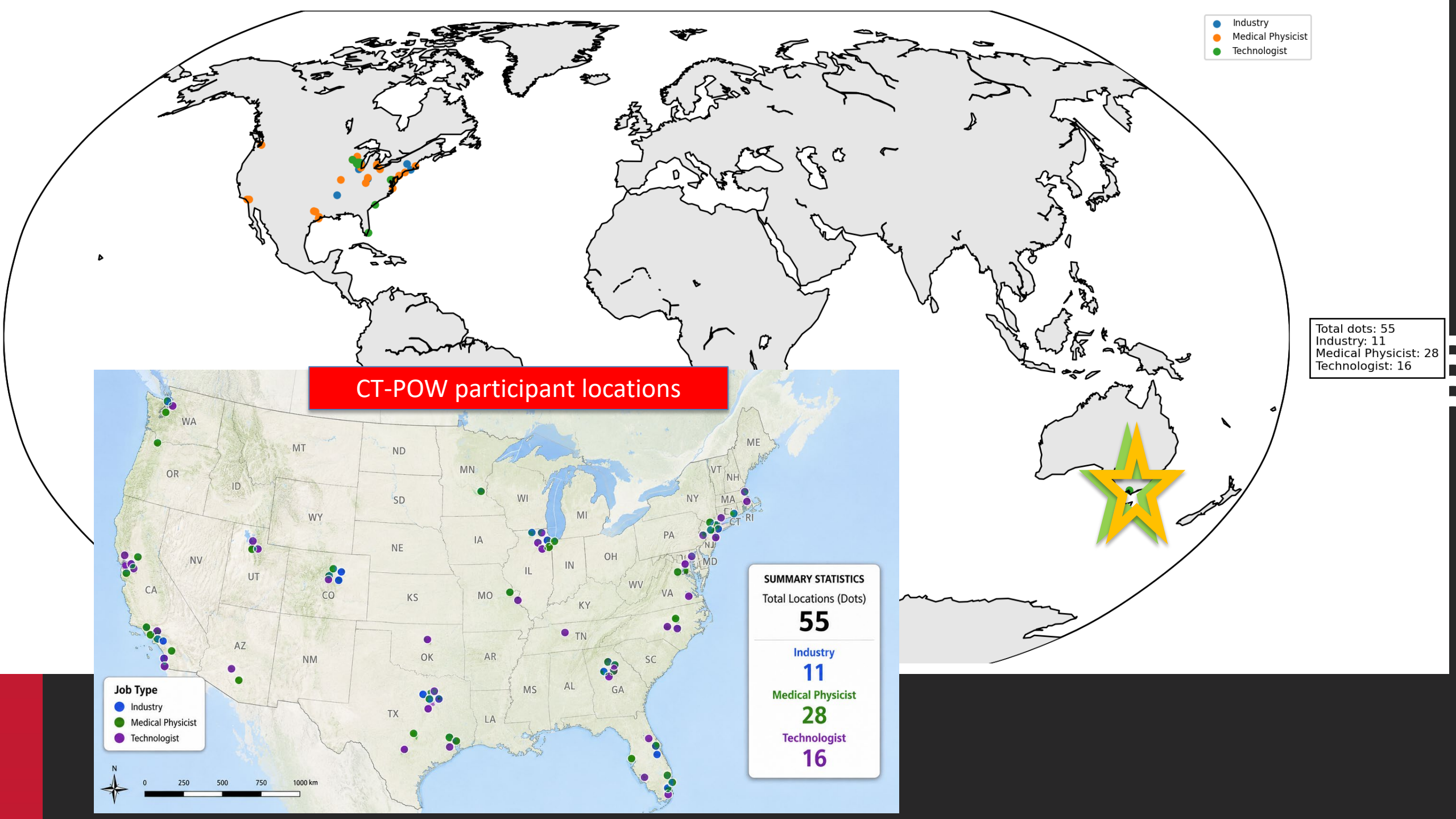




Welcome to the 2nd annual CT Protocol Optimization Workshop

CT -

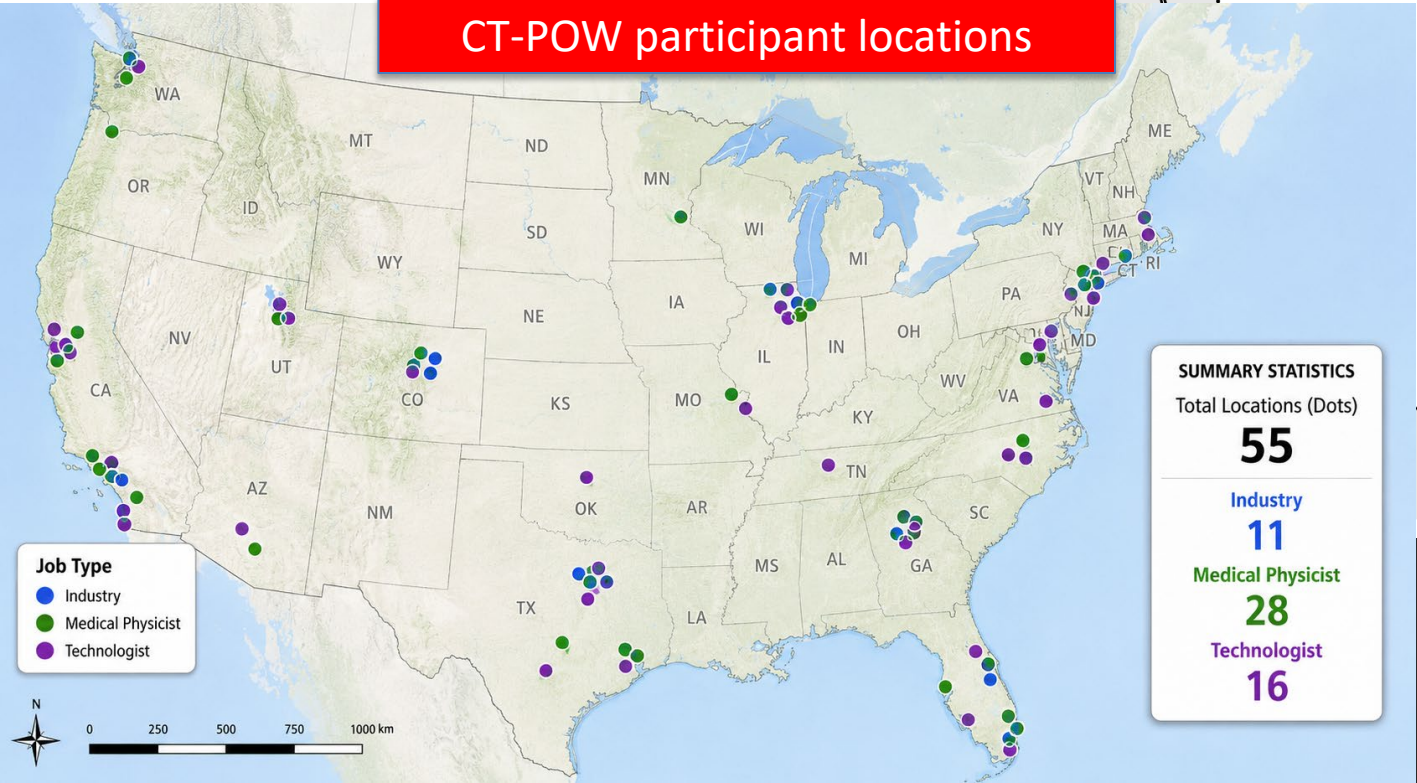




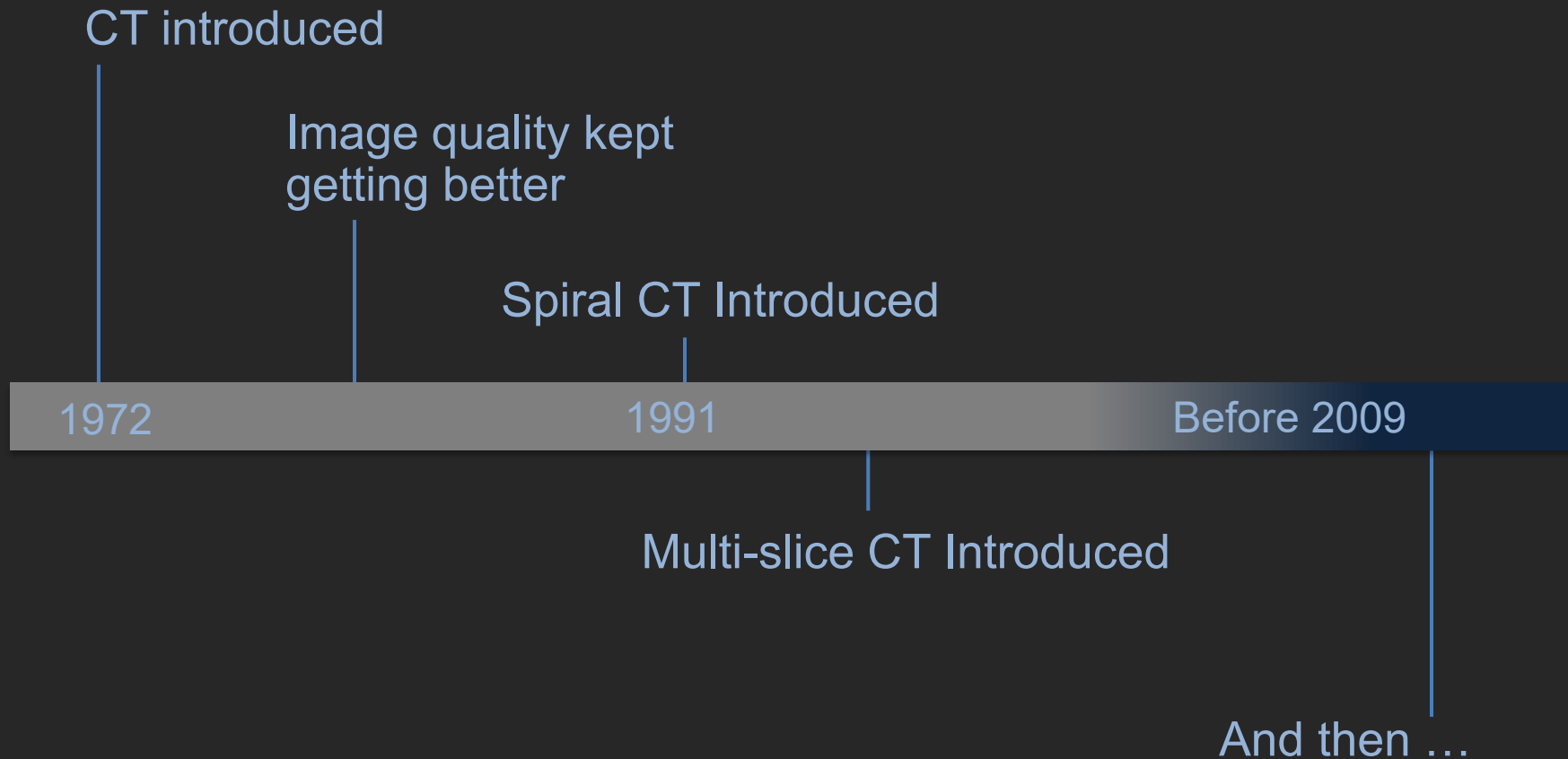
- Industry
- Medical Physicist
- Technologist

CT-POW participant locations

Total dots: 55
Industry: 11
Medical Physicist: 28
Technologist: 16



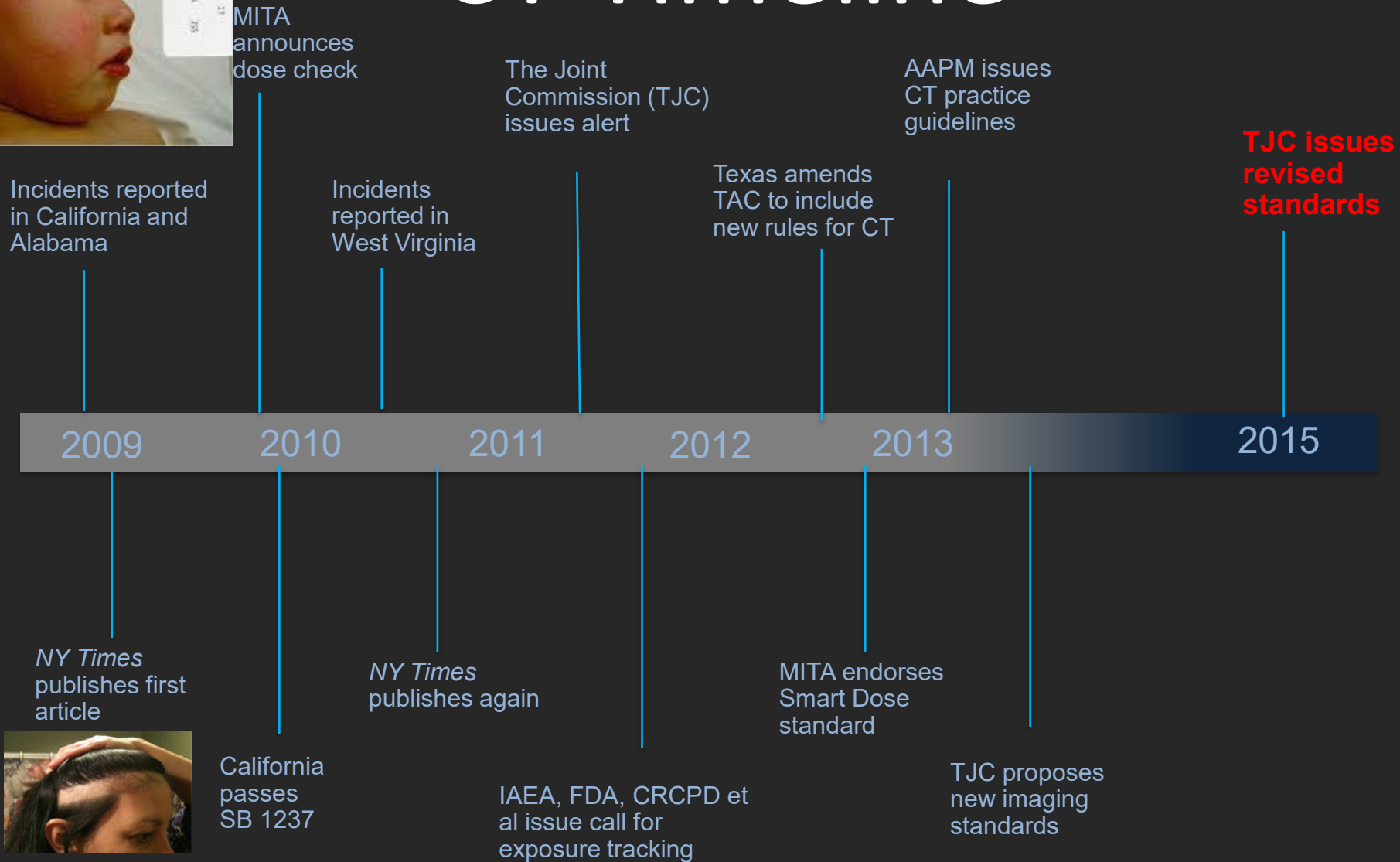
CT Timeline



CT Timeline



Jacoby
Roth, 151
CT scans
over 58
minutes!



NEMA XR 29-2013 / MITA Smart Dose standard

requires that a CT system include four key features:

DICOM Radiation Dose Structured Reporting

- Enables recording of post-exam dose information in a standardized electronic format.

CT Dose Check

- Incorporates two features—dose notifications and dose alerts—that warn operators and physicians when dose will exceed established thresholds.

Automatic exposure controls (AEC)

- Automatically adjust the amount of radiation within prescribed bounds as needed to achieve the desired image quality. Studies of AEC procedures have demonstrated dose reductions when used properly.

Pediatric and adult reference protocols

- A set of pre-loaded parameters on a CT system that can be selected by the operator to complete a particular clinical task, such as capturing an image of the abdomen.

CT JCAHO Standards

Environment of care

- Quarterly occupational dose review by RSO
- Activities to maintain quality of diagnostic images
- Annual measurement and verification of displayed CTDIvol
- Annual equipment quality check
- Annual testing of image acquisition display monitors
- Shielding design assessment pre-installation
- Shielding survey post-installation

Human resources

- Qualifications for physicists
- Annual training for technologists

Provision of care

- Documentation of radiation dose index for every study in a retrievable format
- Pre-scan verification of patient info and protocol
- Consider patient's age when deciding on exam type
- Adoption of protocols based on current standards of care
- Periodic review of protocols

Performance improvement

- Identify incidents where radiation dose index exceeds expectations
- Review and analyze
- Compare to external benchmarks



Prepublication Requirements

• Issued January 9, 2015 •

The Joint Commission has approved the following revisions for prepublication. While revised requirements are published in the semiannual updates to the print manuals (as well as in the online E-dition®), accredited organizations and paid subscribers can also view them in the monthly periodical *The Joint Commission Perspectives®*. To begin your subscription, call 877-223-6866 or visit <http://www.jcinc.com>.



Revised Requirements for Diagnostic Imaging Services

APPLICABLE TO HOSPITALS AND CRITICAL ACCESS HOSPITALS
Effective July 1, 2015

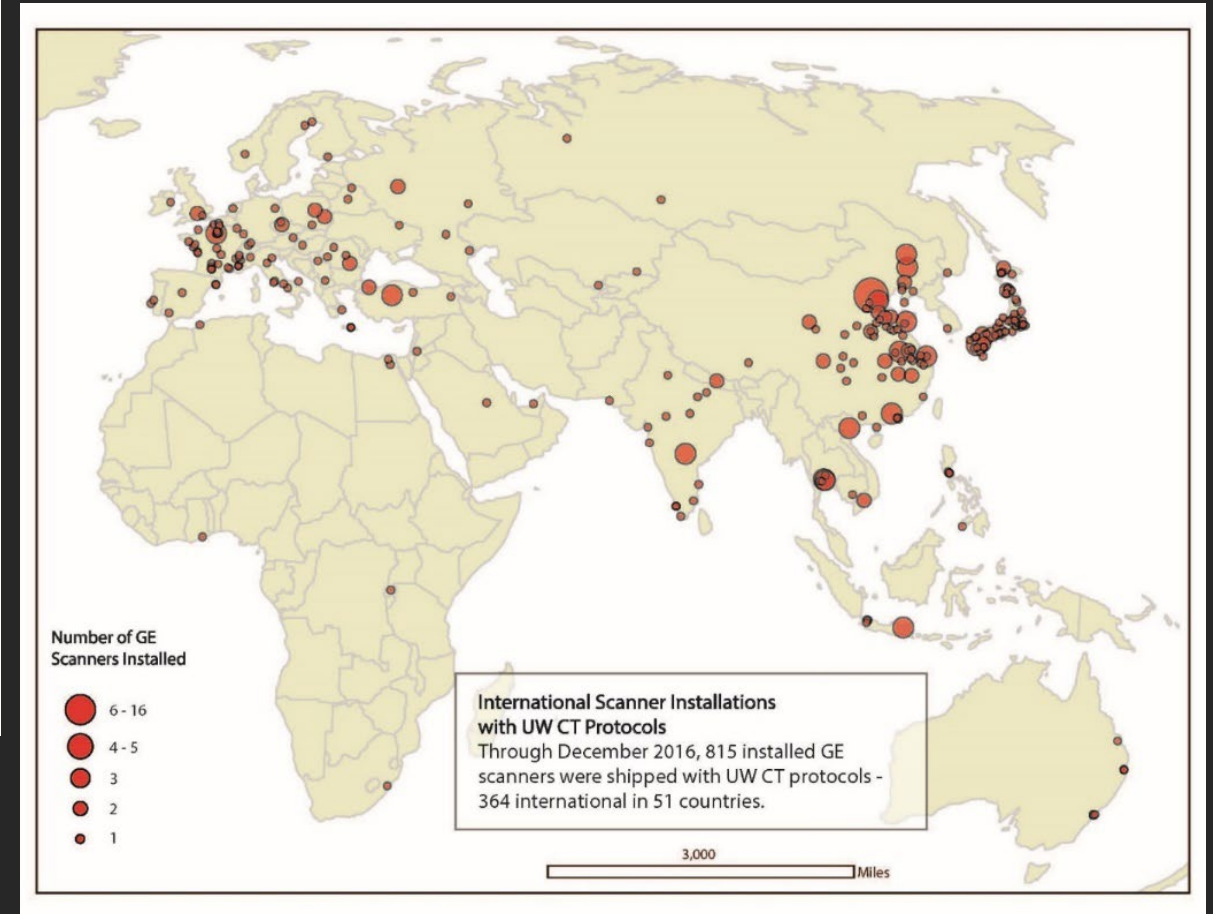
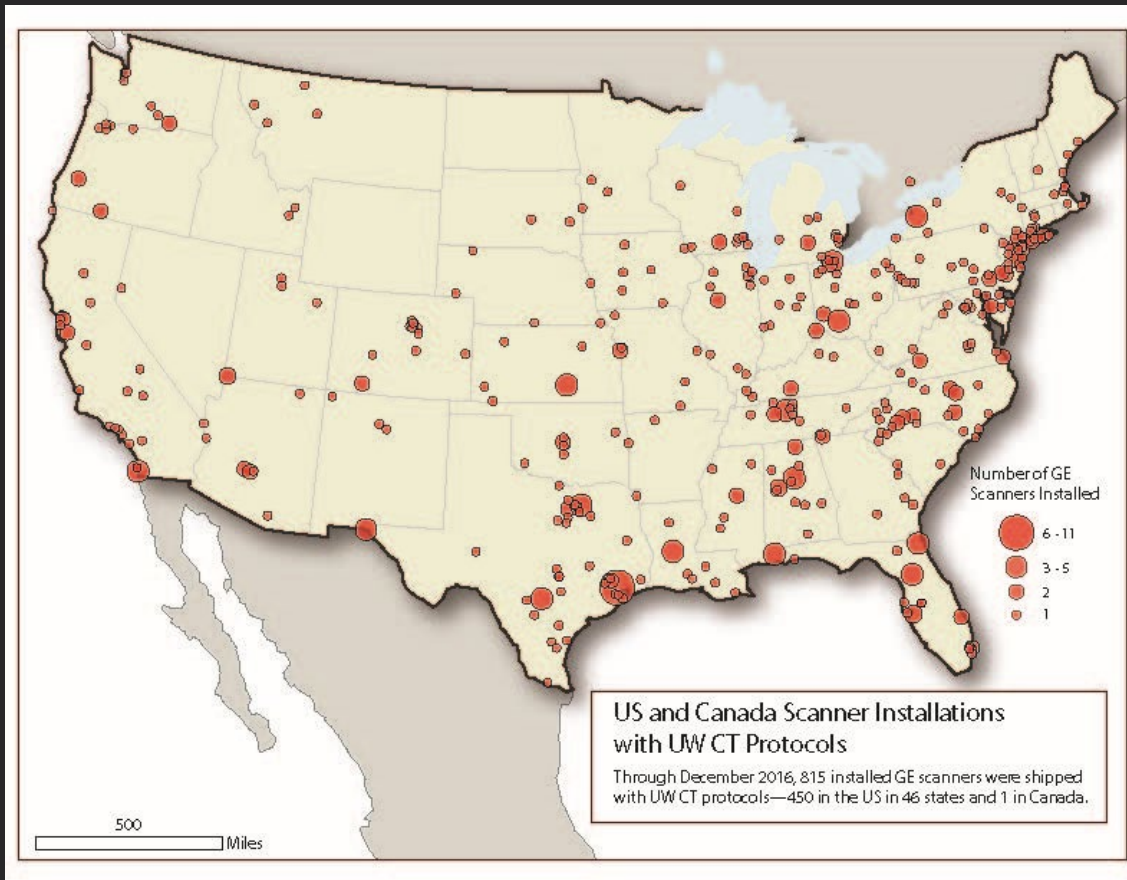
Environment of Care (EC)

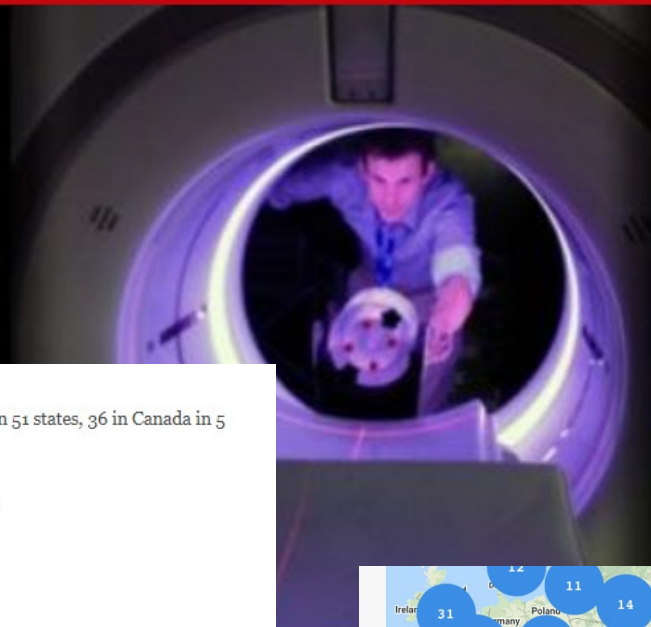
Standard EC.02.01.01
The [critical access] hospital manages safety and security risks.

the scanner room and the area that immediately precedes the entrance to the MRI scanner room.

- Making sure that these restricted areas are controlled by and under the direct supervision of staff trained in MRI safety.
- Posting signage at the entrance to the MRI scanner room that conveys that potentially dangerous magnetic fields are present in the room. Signage should also indicate that the magnet is always on.

UW Protocol sites





Standardizing CT protocols worldwide...

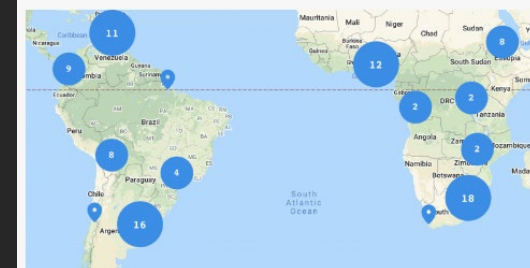
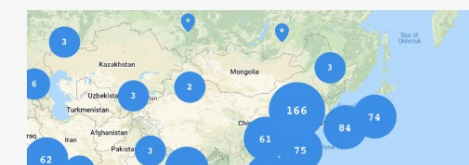
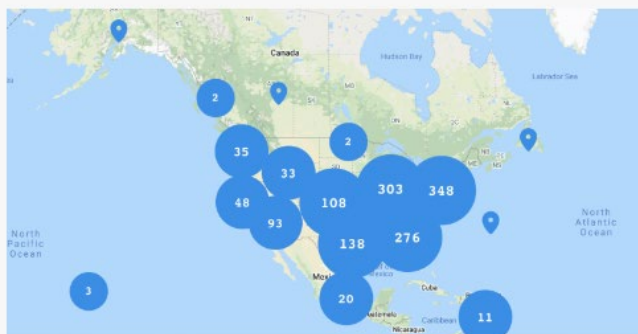
Scanner Installations with UW CT Protocols:

Through June 2021, 3,497 installed GE scanners were shipped with UW CT protocols – 1,508 in the US in 51 states, 36 in Canada in 5 provinces and 1,953 internationally in 114 countries.

Note, the markers are only accurate to the level of city, state in the US and a similar level internationally.

[CT Protocol Installation Maps PowerPoint](#)

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



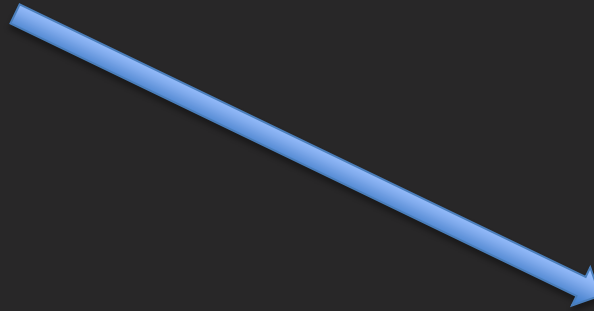
**HAVE IT
YOUR
WAY[®]**

BURGER KING





UW GE CT Protocol Partnership
Department of Radiology



CT EDUCATION AND COLLABORATION COLLECTIVE



The C-TECC (CT Education and Collaboration Center) is a forward-thinking program focused on educating and collaborating with radiology professionals—radiologists, technologists, physicists, and trainees—on the latest CT scanner technologies, with an emphasis on Photon Counting Detector (PCD) CT.

Training and
education



Vendor show
site and clinical
experience
opportunities

Research
collaboration

GE HealthCare CT Research Org direct interaction with UW



Supported by GE Healthcare Global Product and Technical Resources



UW Collaborators



UW-GEHC Deep Silicon Photon Counting Research



Feb 2023 → Feb 2025 we conducted 41x1hour image reviews

Spring 2026 Milestone Evaluation Scanner installed in WIMR

~2027 Fully released Scanner installed in Hospital

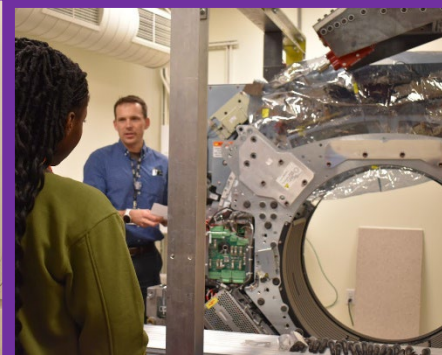
March → September 2025 We conducted 32x1 hour image feedback reviews

April → August 2025 We scanned ~50 human subjects

Fall 2022 1st prototype installed

Spring 2025 2nd prototype installed

November 2022 → October 2024 We scanned 89 human subjects



C-TECC visiting scholars

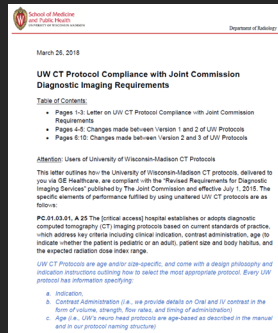


Hiroki Kawashima, PhD Associate Professor at Kanazawa University, Japan.

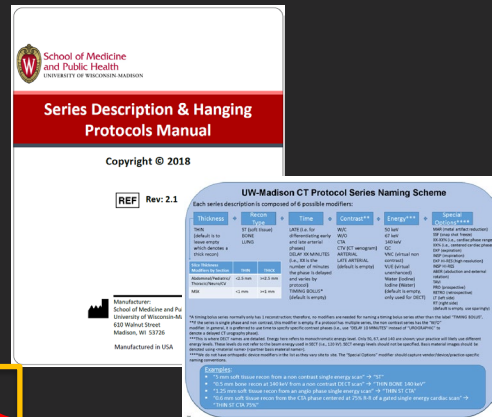


Michael Brun Andersen, MD, PhD, Associate Professor at Copenhagen University Hospital Herlev and Gentofte.

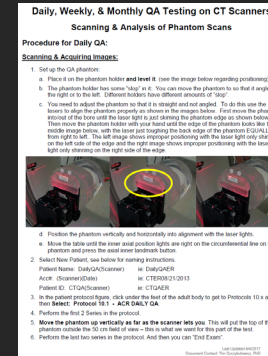
Help with complying with accreditation/regulatory requirements



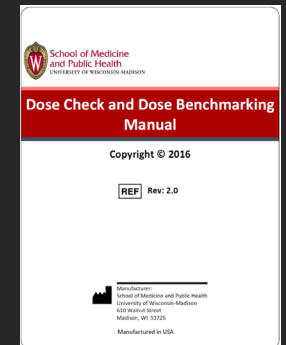
Series Description Uniformity



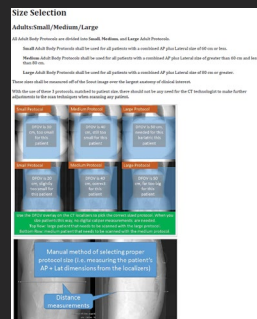
We provide detailed quality assurance instructions



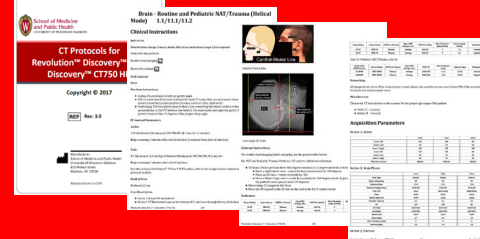
Dose Check is set-up for you!



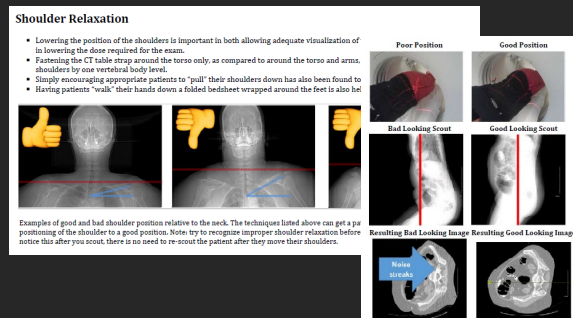
Quick guides to size patients small/medium/large



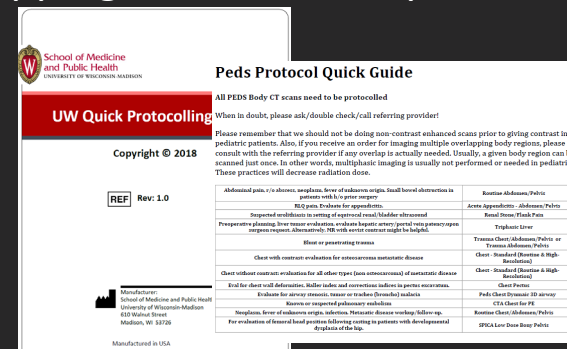
UW Protocol clinical instructions and technical parameters



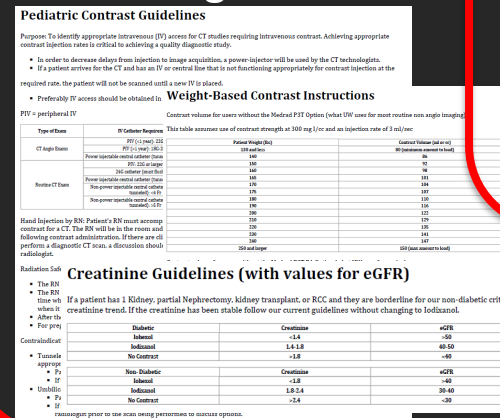
Patient Positioning tutorials



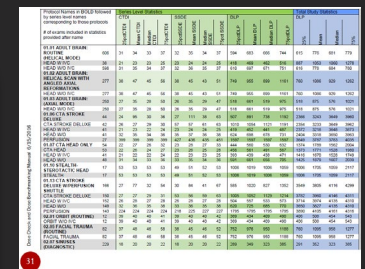
Mapping indications to protocols



Contrast guidance



We provide doses for all protocols, based on real patient scans



AAPM outputs TG reports that are often not in line with clinical reality

Major conferences offer CE credits with academic lectures presenting people's active research → low clinical applicability

Motivation for a better way to do a meeting

Technologists fear changes, so ANY change management for acquisition/reconstruction/practice culture MUST appreciate clinical workflow

Radiologists want more from physics, but physicists are ACR/TJC robots w/o training in protocol optimization

Large meetings make it easy to check email or Social Media instead of “locking in”

Solution

CT-



CT-POW (Computed Tomography – Protocol Optimization Workshop)

Accreditation and Credit Designation Statements



Accreditation Statement

In support of improving patient care, this activity has been planned and implemented by the University of Wisconsin–Madison ICEP and Epic. The University of Wisconsin–Madison ICEP is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

American Medical Association (AMA)

The University of Wisconsin–Madison ICEP designates this live activity for a maximum of 14.00 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Medical Physicist – CAMPEP Accreditation

This activity has been approved by CAMPEP for 14.75 MPCEC credit hours.

ASRT-Approved Category A Continuing Education

Approved by the ASRT for ARRT Category A continuing education credit. The learners could earn up to 12.50.

Continuing Education Units

The University of Wisconsin–Madison ICEP, as a member of the University Professional & Continuing Education Association (UPCEA), authorizes this program for 1.40 continuing education units (CEUs) or 14.00 hours.

You're invited to a

CT-POW SOCIAL

MONDAY, AUGUST 10

5PM-7PM

*Cafe Hollander
701 Hilldale Way*

*Heavy apps &
drinks provided*

REVIEW AGENDA

10:00-10:30am <i>Group 1</i>	<u>Lecture Block 1</u> : CT Contrast Agents & Enhancement Principles	Zahra Alyani Nezhad MS	HSLC 1309
10:30-11:00am <i>Group 1</i>	<u>Lecture Block 1</u> : CT Images: What Do These Values Mean and How Can We Use Them?	Aria Salyapongse MS	HSLC 1309
10:00-11:00am <i>Group 2</i>	<u>Lab 1</u> : Hands-on CT Protocol Optimization	Martin Wagner Dr. sc. hum. Rachel Bladorn BS RT(R)(CT)	Mobile Imaging Lab
10:00-11:00am <i>Group 3</i>	<u>Lab 2</u> : Multi-Material Phantom Scanning & Spectral Decomposition	Giuseppe V. Toia MD, MS Kelsey Schluter BS RT(R)(CT)	WIMR CT Scanner
10:00-11:00am <i>Group 4</i>	<u>Classroom activity</u> : WHAM!: Workflow hurdles and methodology.	Carrie Bartels RT(R)(CT) Courtney Goetsch RT(R)(CT) Ran Zhang PhD Meghan Lubner MD, FSAR	HSLC 1306
10:00-10:30am <i>Group 5</i>	<u>Lecture Block 2</u> : CT Dose: Are we really giving people cancer?	Tim Szczykutowicz PhD, DABR	HSLC 1203
10:30-11:00am <i>Group 5</i>	<u>Lecture Block 2</u> : Avoiding CT Pitfalls	Tim Szczykutowicz PhD, DABR	HSLC 1203
11:00-12:00pm <i>All Groups</i>	Rotation of Groups (Group 1= <u>Lab 1</u> , Group 2= <u>Lab 2</u> , Group 3= <u>Classroom Activity</u> , Group 4 = <u>Lecture Block 2</u> , Group 5 = <u>Lecture Block 1</u>) <u>Lecture Block 1</u> is in Room HSLC 1309 <u>Lecture Block 2</u> is in HSLC 1203 <u>Classroom Activity</u> is in HSLC 1306 <u>Lab 1</u> is in Mobile Imaging Lab <u>Lab 2</u> is in WIMR CT		