FORENSICS TTA PROGRAM

August 26, 2025

Strengthening the Medical Examiner-Coroner (ME/C) System Program Discussion Forum

Computed Tomography (CT) Machines and Casework

Facilitated by:

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Disclaimer

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Today's Agenda: Discussion Forum

- Introductions and Updates
- CT Use and Considerations for ME/C Offices, Dr. Lauren A. Edelman
- Open Discussion

Forensics Training and Technical Assistance (Forensics TTA) Program

- Led by RTI International in partnership with subject matter experts, practitioners, and researchers
- Provides TTA in support of grantees' strategic goals and objectives across forensic disciplines
- Proactively engages grantees to develop materials based upon agency needs
- Supports sustainability through TTA surrounding the implementation of new policies/practices and enhancement of existing policies/practices

ForensicsTTA.org

New Forensics TTA Resource Now Available!

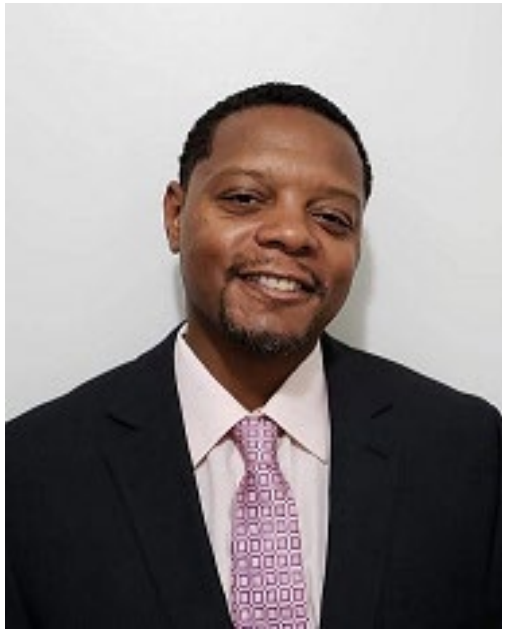
Accreditation Document Repository for ME/C Offices

- This web-based repository features policies, procedures, and other documents necessary for ME/C office accreditation
- International Association of Coroners & Medical Examiners (IACME) and National Association of Medical Examiners (NAME) accredited offices can share their documents to support offices seeking accreditation
- Features annual reports, mass fatality plans, family resource documents, and more

Scan to access the Accreditation Document Repository!

BJA – ME/C Team

Alan Spanbauer
Senior Policy Advisor



Monte Evans
State Policy Advisor

Lindsay DePalma
Associate Contractor

Updates from the BJA ME/C Team

- We need your help – we ask grantees to please continue to contact us with your success stories! Also, continue to make us aware of any webinar or annual virtual grantee training topics of interest.
- Remember that your views are important to enhancing other grantees' efforts, and the overall ME/C Program as well.

Bureau of Justice Statistics' Census of Medical Examiner and Coroner Offices (CMEC)

- Covers budget, staffing, salary, caseload, and additional measures and practices (e.g., where autopsies are performed, number of investigations).
  - CMEC is the primary data collection at DOJ to help understand MEC offices.
  - The 2023 data collection has been extended.

If you have already completed the survey, we thank you for your participation!

If you have yet to do so, please complete your survey.

Your data are essential and cannot be replaced!

For questions or assistance on the 2023 CMEC, you can contact RTI at: CMEC@rti.org or 866-509-7470.

BJS BUREAU OF JUSTICE STATISTICS

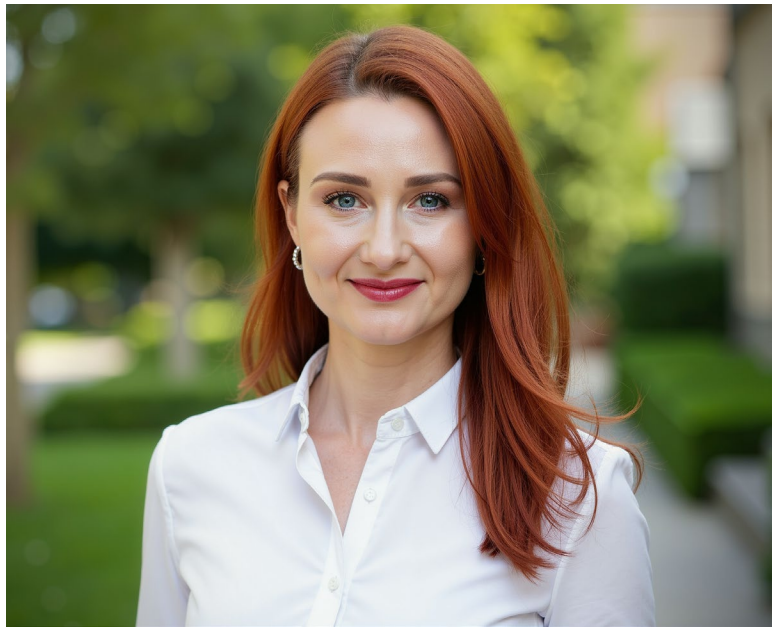
CMEC CENSUS OF MEDICAL EXAMINER & CORONER OFFICES

CT Use in ME/C Offices

Presenter: Lauren A. Edelman, MD
Travis County Medical Examiner's Office

Lauren A. Edelman, MD

- Deputy Chief Medical Examiner for Travis County Medical Examiner (TCME) in Austin, TX
- Board-certified Anatomic, Clinical, and Forensic Pathologist
- Chair of the Committee on Postmortem Imaging for the National Association of Medical Examiners
- TCME was one of the first local/regional offices in the country to establish Postmortem Computed Tomography (PMCT) program in 2018
- Director of Forensic Imaging for TCME with expertise in:
    - Implementation – site preparation, scanner and software selection, and purchasing
    - CT scanner protocols
    - Scanner and viewing software troubleshooting
    - Data management
    - Image interpretation and staff development and education



Overview

- What is Postmortem Computed Tomography (PMCT) and why do you want it?
- Practical considerations for implementation of PMCT
- Comparing PMCT and autopsy
- Case triage

What is PMCT and Why is it Useful?

- PMCT is advanced imaging of a deceased individual which allows for visualization of the internal organs and structures
  - Uses x-rays (generates radiation)
- Can guide case management (external only vs partial autopsy vs full autopsy)
- Serves as an indelible record of the decedent's physical state prior to autopsy

Practical Considerations for Implementing PMCT

- Facility space requirements and building out the room
  - Average space requirements are about: 20 x 25-30 sqft with 10-15 ft tall ceilings
  - Adjacent space for the control room with operator's equipment and computer controls
  - Lead or concrete shielding for walls, floors, and ceilings (protect from radiation exposure)
    - Lead-lined sheetrock can work well in these situations and is very cost effective
  - Appropriate electrical, HVAC and water supplies
  - Lead-lined viewing window and door between control room and CT room
  - Stabilized flooring (equipment is heavy!)
  - Can either build out a space inside the office near the refrigerators/morgue or a portable building can also be retrofitted if space inside is limited
    - Consider workflow!

Practical Considerations for Implementing PMCT *(continued)*

- Purchasing a CT scanner
  - Slice number: the number of images that are obtained per rotation of the gantry
    - Partially dictates speed at which scans can be obtained
  - Bore size and field of view:
    - Bore size: size of the hole that will dictate how big of a decedent can fit through the scanner
    - Field of view: the amount of space within the bore that will actually be seen in the acquired images
    - The bigger the bore and field of view the bigger a decedent can be and the greater amount of the body that will be visible on imaging
  - Slice thickness: image resolution
    - The thinner the slice, the higher resolution = better image quality
    - This can also play a role in speed of image acquisition
  - There are MANY other questions to ask when purchasing a scanner

Practical Considerations for Implementing PMCT *(continued)*

- Developing/implementing protocols in the CT hardware for workflow
  - Allows program settings to tailor images for multiple case types/scenarios:
    - Routine
    - Pediatric
    - Decomposed remains
    - Skeletal remains
    - Charred remains
    - Bariatric decedents
    - Dental x-rays
  - Parameters can be programmed by the CT vendor upon installation

Practical Considerations for Implementing PMCT *(continued)*

- Training staff to scan
  - Not necessary to hire specialized staff
  - Training typically provided by the CT scanner vendor
  - Current technology is fairly straightforward to learn
  - Depends on your local/state regulations but since most offices have standard radiographs (x-rays), this is the same technology
    - May already have required training such as a Radiation Safety Officer

What PMCT Can/Can't Do:

- PMCT and autopsy are complimentary
  - They each have certain features and limitations that makes the combination of autopsy and PMCT more accurate than either when used independently
- PMCT is not a replacement for examination by a board-certified forensic pathologist
- Can guide case management/triage

Comparing PMCT and Autopsy

- Autopsy
  - Better for diagnosing soft tissue and organ trauma and natural disease
- PMCT
  - Better for diagnosing bony trauma, collections of fluid and air

Case Triage

- Which cases benefit most from PMCT?
  - Blunt trauma
  - Gunshot wounds – identification of projectiles is especially helpful
  - Elderly with concern for injury from fall (e.g., hip fracture or head bleeds)
- Which cases don't benefit as much from PMCT?
  - Natural or drug deaths in kids or young adults
- How much or little of the decedent do you want to look at?
  - TCME scans every decedent from head to toe
  - Could elect to scan only anatomic locations suspected of being involved by trauma

Who Reads All the Imaging?

- Forensic pathologists with experience in PMCT (becoming more common)
  - Many offices around the country are adopting PMCT leading to increased numbers of fellowship graduates with experience interpreting PMCT
  - PMCT training courses for those without experience
  - Reach out to offices/forensic pathologist with PMCT experience
- Diagnostic radiologists with experience in the forensic or postmortem setting (uncommon)

Contact Information

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Open Discussion

Microsoft 365 Stock Photo

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